

THE
TEACHER'S TEXT BOOK.

BY
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“Train up a child in the way he should go ; and when he is old, he will not depart from it.”—PROVERBS xxii. 6.

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TO
THE HON. WILLIAM YOUNG,

Chief Justice of Nova Scotia.

SIR,—

I BEG LEAVE TO INSCRIBE TO YOU THE FOLLOWING PAGES ON THE SUBJECT OF EDUCATION. I DO SO, NOT BECAUSE OF THE FRIENDSHIP THAT HAS EXISTED BETWEEN US EVER SINCE I LANDED ON THESE SHORES, NOR BECAUSE OF MY APPOINTMENT TO THE SITUATION OF SUPERINTENDENT OF EDUCATION, AND PRINCIPAL OF THE PROVINCIAL NORMAL INSTITUTION, BY A GOVERNMENT OF WHICH YOU WERE PREMIER; BUT ENTIRELY BECAUSE OF YOUR EARLY ADVOCACY, AND THAT OF YOUR LAMENTED BROTHER, OF THE CAUSE OF POPULAR EDUCATION IN THIS COUNTRY, AND THE ZEAL WHICH YOU HAVE ALL ALONG MANIFESTED IN THE ENLIGHTENMENT AND AMELIORATION OF THE MASSES.

IT IS MY EARNEST DESIRE AND PRAYER THAT YOU MAY BE LONG SPARED TO PATRONIZE AND SUPPORT ALL THOSE SCHEMES THAT HAVE FOR THEIR OBJECT THE EMBODIMENT OF THE PRINCIPLE "PREVENTION BETTER THAN CURE;" AND, BY THE EXTENT OF YOUR JURIDICAL LORE, AND THE EQUITY AND SOUNDNESS OF YOUR JUDGMENTS, TO ADORN THAT BENCH OVER WHICH IT IS YOUR HONOUR TO PRESIDE.

I AM,

FAITHFULLY YOURS,

ALEX. FORRESTER.

PREFACE.

THE educational views, presented in the following pages, were originally delivered, in the shape of lectures, to the students of the Normal School of Nova Scotia; and are now published in the hope that they may still be of use to some of these individuals, as well as to others, who may hereafter attend that or any similar institution, and to all interested in the general cause of the education of the young.

We have often been requested by the pupil-teachers, leaving the Normal School, to furnish them with a list of professional books, by which they might, on future occasions, refresh their memories, or which they might consult in cases of doubt or uncertainty, or peruse for their general benefit and encouragement. In complying with this request, we have experienced no small difficulty in recommending books exactly adapted to their circumstances, or whose educational views accorded with those in which they had just been indoctrinated. There is no book, for example, to which we feel more indebted, or which we could more cordially recommend, than *Stow's Training System*; and yet, one-half, at least, of that admirable work is intended and fitted to meet the educational wants of densely peopled and morally sunken large cities or manufacturing districts. Excellent publications on the business of teaching have, also, from time to time, appeared in the neighbouring Republic, but these, to a certain extent, at least, both in their inner and outer arrangements, are unsuitable for these colonies. In these circumstances, a Text-book for teachers, adapted to the educational condition of the country, has long appeared to us a desideratum; and to supply this defect is one of the leading objects of this volume. Every one, at all acquainted with the history of method in the educational process, will readily perceive that the views we advocate, are substantially those embodied in the publication, to which reference has just been made. These views we have endeavoured to systematize and elaborate, both in their theoretical and practical bearing. If these views are sound,—and sound we consider them to be,—whether brought to the touchstone of philosophy, or revelation, or experience, then, verily, they are worthy the support, the exposition, and the illustration of every enlightened and progressive educationist. This has been our aim; and if we have succeeded in reducing these views to a more systematic form, or in adapting them to the external circumstances of these colonies, and thereby commending them to the calm and earnest consideration of our fellow-labourers in the educational field, we have our reward.

Another reason influencing us in the publication of this volume, is the benefit likely to arise from being able to put into the hands of students attending Normal Schools a professional Text-book. However carefully prepared the prelections of a teacher or professor, however calmly delivered or well understood, and copiously noted down, these prelections may be by the great majority of the pupils, there will generally be found inaccuracies and imperfect views on the part of some, and a vague comprehension on the part of others, even in reference to essential points. To obviate all this is the grand object of a Text-book, composed either by the professor himself, or by some one whose views are, as nearly as possible, in accordance with his own. Prescribing a certain portion of said book for preparation by the pupils every night, and thoroughly examining them the following day, with the explanations and illustrations of the professor, is, in our view, vastly the best mode of arriving at a clear understanding of the subject in hand. Now and again, some advantage may arise from a well digested and condensely delivered lecture on some one branch of the subject under review, but the grand leading features will be far more clearly comprehended, and more thoroughly incorporated into the students' minds by the diligent perusal of a Text-book, than by an entire dependence upon the *viva voce* utterances of the professor or teacher, however profound and eloquent.

But there are hundreds of our teachers who have never had an opportunity of attending a Normal School. Many of these persons are skilful and successful teachers, possess much of the spirit of their calling, and are sincerely desirous to advance in their professional attainments. To such, the following pages may prove of some benefit, if not in the theoretical, at least, in the practical department. Whatever the system pursued, there are many suggestions and directions in the latter, which, to a painstaking teacher, may be of use. At all events, the perusal of such a treatise may help to elevate their conceptions of the importance of the work in which they are engaged, and thereby bring them under a more realizing sense of their responsibility and privilege.

But there are other reasons besides the local or provincial, that have prompted to the publication of this volume. There is not, perhaps, a more substantial proof of the improvement at present going on in educational matters, than is furnished by the large and increasing number of books on the business of teaching, that have recently issued from the press. And yet, notwithstanding the number of such publications, we know none that professes to reduce the whole subject of education to a scientific or systematic form. In some, we have the principles or theory discussed; in others, the practice or the art; and in others, some one branch of the inner or outer work of education. But in the best and most copious of these works, there are oftentimes great and palpable defects. An undue prominence is given to some points to the all but total neglect or underrating of others; and, generally speaking, there is wanting a grand, leading, all pervading principle, moulding, and fashioning, and weaving all the parts, according to their rela-

tive value into one harmonious whole,—one reigning system. And this is what we have attempted and aimed at in the following treatise. If it possesses any merit, it consists in presenting a compendious, consecutive view of the whole subject, in all its various compartments and proportions.

It cannot, of course, be expected, that, on some points, there should be the same minuteness of detail, as is to be found in some books all but exclusively devoted to their discussion and illustration. Still, it is believed, there is no essential point omitted in any one department. And, when further information regarding it is deemed desirable, reference is made throughout to the source whence it may be derived. This is the claim we advance on behalf of our Text-book, in so far as its relation to the general interests of education is concerned; and on this ground we fondly hope, it may serve as a book of reference not only to teachers and others directly engaged in the work, but to educational philanthropists in general, as well as to enlightened statesmen,—such statesmen as are possessed of discernment enough to see, that, in the promotion of a sound popular education, they are pursuing a course most directly securing the diffusion of that righteousness which alone exalteth a nation.

We have already expressed our obligation to Stow, the great pioneer of all modern improvements in the inner life of education. Within these ten years, we have visited the most celebrated Normal Schools in the United States of America, in Canada, Britain, and on the continent of Europe, as the best exponents of method, and yet, notwithstanding the reluctance of not a few to give honour to whom honour is due, no where have we met anything in theory or practice, the germ of which is not embedded in Stow's training system; and that, simply, we apprehend, because that gentleman received all his lessons in the school of experience, and sat a close and humble student at the foot alike of nature and of revelation. Nay, we hesitate not to aver, that we have seen but few schools, indeed, professedly conducted on the training system, where anything like justice is done to that system in its leading peculiarities, as laid down by its distinguished founder; and that when the day dawns upon any country in which it shall be fairly and universally, and, in all its length and breadth, carried into effect, it will be the brightest and most glorious in the annals of its history.

But there are other educational works to which we are also much indebted, especially for their practical suggestions. Those, on the inner life of education, which we have principally consulted, and from which we have derived the largest benefit, are the following:—belonging to Britain, Morrison's *School Management*, Currie's *Common School Education*, the Reports of H. M. School Inspectors, both in Scotland and England; and, belonging to America, Page's *Theory and Practice*, Potter and Emerson's *School and Schoolmaster*. And, on the outer work, or the external machinery, the best and most reliable are, Barnard's *National Education in Europe*, Barnard's *American Journal*, Horace Mann's *Lectures*, and Cousin's *Report on Schools in France*, Reports of Dr. Egerton Ryerson on Schools of Upper Canada, Reports of

Royal Commissioners of Great Britain, Reports of the Committee of Council on Education, State of Educational enterprises by Rev. William Frazer, Paisley, &c.

But whilst we have perused these and similar publications with profit, it must not be supposed that the contents of the following pages are made up of mere compilations, of conjectural statements, or of speculative theories. There is scarcely a recommendation made on any one of the topics discussed, that has not been tested experimentally, and found not only practicable and satisfactory, but eminently successful in the accomplishment of the object contemplated. Our great regret is, that our opportunities of exemplifying the views propounded have been so limited and circumscribed. But, believing, as we do, that the principles advanced, and the practical directions founded thereon, are in accordance with sound philosophy and the plain dictates of revelation, and that they only require to be weighed and exhibited to demonstrate their excellence and utility, we have been all the more emboldened to contribute our quota, with a view to their wider dissemination. However feeble or imperfect our advocacy, we trust our readers will not, thereby, be debarred from giving to them a fair and candid consideration, or, what to us would be still more gratifying, subjecting them to the crucible of a severe and testing experiment.

ALEXANDER FORRESTER.

TRURO, NOVEMBER, 1867.

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THE TEACHER'S TEXT-BOOK.

BOOK I.

THE NATURE OF EDUCATION.

Under this leading division, we shall, first, explain and define a few of the more common terms employed in the treatment of our subject, and, then, as briefly as possible, unfold its object and importance. Grievous ignorance and misapprehension prevail on these fundamental points. Not a few entertain the most inadequate and imperfect views of the end of education, and these views, necessarily, lead to the most erroneous and absurd notions, as to the means best adapted for the accomplishment of that end. With others, there is a sad confounding of the means and end, of the inner and outer departments, of the province of the statesman, on the one hand, and of the schoolmaster, on the other; and from these and similar sources have sprung almost all the contentions, the difficulties and collisions, that have obstructed the carrying out of national systems, as well as the furtherance of the general cause. In the minds of others, there exist the most selfish and contracted ideas relative to the results of education, as if these appertained to the recipients alone, and conferred no benefit on the surrounding community—the state, or the church; and, hence, the lack of combined, catholic effort, to secure, at once, the largest quantity, the best quality, and, at the lowest cost. It is hoped, then, that a few observations on these topics, introduced at this early stage, will be instrumental in removing, at least, some of these misconcep-

tions, and elevating our theme to its appropriate and rightful position; thus laying a solid foundation for the discussion of the burden of our work—the science and art of education.

CHAPTER I.

EXPLANATION OF TERMS AND EXPRESSIONS.

EDUCATION.—INSTRUCTION.—TRAINING.—PUBLIC AND PRIVATE EDUCATION.—SCHOOL, COLLEGE AND UNIVERSITY.—THE COMMON SCHOOL, THE MIXED OR MISCELLANEOUS AND GRADED, THE GRAMMAR OR HIGH SCHOOL, THE ACADEMY.—THE INDUSTRIAL, REFORMATORY AND RAGGED SCHOOL.—MIDDLE AND FIRST CLASS SCHOOLS OF ENGLAND.—NORMAL SCHOOL OR COLLEGE, WITH MODEL AND PRACTISING SCHOOLS.

In considering any subject, it is of essential moment, that we have clear and definite views of the meaning of its leading terms. Though these, strictly speaking, may not be technical, they are, nevertheless, used in a wider or more limited sense; and it is right that that sense be fixed and steadily adhered to, as it will afterwards save much misapprehension and confusion. Now, there are few subjects in reference to which there obtains greater vagueness or indefiniteness of conception than the one under review, or whose terms are used in a more loose and indiscriminate acceptance. Hence, it is desirable, that we devote a few pages to the derivation and exposition of the words, in more general use, in educational matters. We begin with the word *education* itself.

EDUCATION.—This is plainly the Latin word *educatio* anglicized by appending the letter *n*. This is derived from *educō-avi-atum-āre*, to bring up, to nurture, and not, as some have supposed, from *educō-xi-ctum-ēre*, to lead, draw or bring out, however closely allied the roots of these verbs may be. Education thus, according to its derivation, signifies the act of bringing up, nurturing, fostering, training. When used in reference to mankind in general, as in the following passage: “The people in the British Colonies are not yet very self-reliant; they require to be educated up to it;” it means that our powers or energies are drawn out, exercised and strengthened, relative to any particular object or thing. When applied to the young, however, it signifies the whole of that work by which all the parts of their compound nature, in its essential elements, its indissoluble relations, its wide-spreading influences and tendencies, are nurtured, developed, and

strengthened, and thus rendered subservient for the purposes intended. In common usage, it comprehends not merely the end contemplated, but all the means and appliances necessary thereto.

INSTRUCTION.—This noun is derived from the Latin word *Struere-structus*, to *build* or *raise*, with the prefix *in, into*, and affix *ion*, the *act of doing*; and thus means, according to its primary signification, the act of building into the mind, the act of communicating knowledge; and it seems further to imply that this is done, not confusedly or indiscriminately, but in systematic order. When used in reference to the young, it means the infusing into their minds of certain facts, or truths, or pieces of information, and the doing of this in a way adapted to their age, measure of capacity and attainment. In this sense, it is synonymous with the terms *teaching* or *telling*, and evidently implies two things—the subject-matter or the knowledge itself, and the mode in which it is given. In all its fulness, it signifies the means employed for the accomplishment of the high end of the education of the young.

TRAINING.—This word is often used in connection with education, and, not unfrequently, with much vagueness and indefiniteness.—Though of Saxon origin it is by some considered a derivative of the Latin word *trahere*, to *draw*; and, hence, in its general acceptation it signifies to *draw* or *drag along by enticement or allurements*. “For this cause,” says Shakespere, “I trained thee to my house.” Somewhat more definitely, it is used to describe the employment of the gardener, in nailing the bush or tree to the wall or trellis, and in forming it to a proper shape by topping, or pruning, or such like appliances. He is then said to *train* the bush or tree. In pretty much the same sense, it is applied to animals,—dogs or horses, for example; when by a repetition of acts in any one employment or pursuit, they acquire proficiency therein, they are said to have been *trained* to it. In this sense, too, it is used in reference to apprentices, who, by steady and unwearied reiteration in the various branches of their calling, arrive at such skill and dexterity, as to entitle them to be considered superior tradesmen; and these, again, are spoken of as having passed through a *training* process. But in no pursuit is the term more frequently employed than in education; and with peculiar appropriateness, seeing it is the term made use of in the sacred Scriptures to characterize the whole upbringing of the young:—“Train up a child in the way he should go, and when he is old, he will not depart from it.” Hence, Normal Schools are sometimes called Training Schools, because, if true to their character, they prepare the students in attendance for their life-work, not merely by

extending and consolidating their scholarship and imparting a theoretical knowledge of their future calling, but by requiring them practically to teach and to manage a school; and to persevere in this exercise, even until they arrive at proficiency—a mode of procedure, evidently implying that Model or practising schools form an integral part of all such institutions. When regarded in this aspect, Normal Schools, whatever the educational system or the method of teaching pursued in them, are appropriately styled *Training Schools*.

But the term under consideration is employed to characterize a particular method of teaching, which though, in its essential elements, most strictly accordant with philosophy and revelation, was never fully developed or matured, till about forty years ago, by the distinguished philanthropist and *amateur* educationist, David Stow, of Glasgow, Scotland. This is called, pre-eminently, *The Training System*, in contradistinction to all other systems, because it professes to develop and strengthen the various parts of the child's nature by exercise, that is, by a repetition of the same act. Instead of solving his difficulty, it merely puts the scholar on the way of doing it himself; instead of telling him what to do at every stage of his progress, it only directs him into the right track; and, by a series of legitimate appliances, constrains him to pass, by the use of his own powers, from the region of the known into that of the unknown, and to deduce, from the narrative or subject in hand, the lessons intended to be taught. In this sense, the term is nearly synonymous with nurture, discipline, tutorage, pointing not so much to effects or results, as to a special mode or way of bringing them about.

The three terms, thus explained, stand in the following relation to one another:—*Education* is the bringing up, or the nurturing, the growth or expansion of all the parts of the child's compound nature; *instruction* is the food or nourishment, the material or subject suited for the production of that growth or expansion; and *training* is the mode or way in which the food is administered or the subject presented. The first mainly points to the end we ought to have in view, the second and third, to the means.

PUBLIC AND PRIVATE EDUCATION.—The expression *private education* has two meanings attached to it. It is sometimes used to signify a school not receiving public or governmental money, conducted on the teacher's own adventure; but more frequently, it is taken in the sense of private or domestic, where the children of only one family receive education. The question,—Whether a public or private education, as thus explained, is to be preferred? is one that has been

long and keenly agitated. Each side has had its advocates, and, sometimes, the controversy has been waged with considerable talent and warmth. The ablest writer in support of private education, in modern times, is Isaac Taylor, in his treatise on Home Education, and, of public, Horace Mann of America. The former mode can only be carried into effect by those parents who happen to be possessed of sufficient means to enable them to keep a teacher for their children, under their own roof, called a Tutor or Governor, or, if a female, a Governess. The tendency of the age is decidedly in favour of public education, the highest and wealthiest in every land giving their children, at least, a certain amount of it, and the first class schools being constructed and regulated in adaptation thereto. This, in our opinion, is, as it ought to be. All the advantages arising from a private education, can and ought to be served in a public, and there are innumerable benefits in the latter, arising from the sympathy of numbers, which do not and cannot belong to the former.

THE SCHOOL, THE COLLEGE, AND THE UNIVERSITY.—Though these three educational institutions are perfectly distinct in their objects and aims, they are but too often blended together and confounded, or, at all events, the most vague and indefinite notions obtain relative to their respective functions. The *School* is intended to awake or beget a desire for knowledge, and to provide the means and methods of acquiring it; the *College*, to confer that intellectual and moral information and discipline, which is the common basis of all liberal culture; and the *University*, to qualify for particular occupations, and, especially, for the learned professions. The maintenance of this distinction would operate beneficially in advancing the general cause of education. It would, at any rate, evince the inutility and absurdity of what are designated *Collegiate Schools*, and, still more, of decently-equipped *Academies* being dignified with the appellation of *Colleges*, or, of *Colleges* assuming the pretentious title of *Universities*.

THE COMMON SCHOOL, MIXED OR MISCELLANEOUS AND GRAD-ED, THE GRAMMAR SCHOOL, AND THE ACADEMY.—These are different grades of the *School* in contradistinction to the *College* or the *University*. The first, or *Common School*, lies at the foundation of the whole of the educational fabric, and, in common phraseology, embraces, in branches taught, reading, writing and cyphering; and is either miscellaneous or graded, meaning by the former, a school with all ages of pupils, and by the latter, one divided into departments according to the age and attainment of the pupils,—beginning with the *Infant*, then, the *Primary* or *Initiatory*, and then, the *Intermediate*

or *Juvenile*, and lastly, the *High* or *Grammar School*. This, in Common Schools, is one of the most important improvements of modern times. It is just the application of the division of labour to education, and is admirably fitted to further its highest end. The *Grammar School*, sometimes called the *High School*, differs from the *Common School* by the addition of the higher departments of Grammar, Mathematics and Classics. The *Academy*, when conducted in accordance with its position in the school series, occupies a higher platform than the *Grammar* or *High School*, even a kind of intermediate place between the *Grammar School* and *College*. In Britain and on this Continent, it corresponds with the *Gymnasium* in Germany and several European States.

THE INDUSTRIAL, REFORMATORY AND RAGGED SCHOOLS.— Though these have one common object, by which they are distinguished from the other schools already referred to, viz., *the combined discipline of the intellectual and manual powers, the development of the mental faculties and the training to habits of industry at one and the same time*; yet they are all, in some respects, different.

The first, or *Industrial School*, possesses great latitude of meaning. It is applied to all schools where manual employment exists, however limited in extent. Even a female school, where sewing, knitting, &c., are practised, sometimes passes under this designation. More appropriately, it is applied to any educational establishment where manual labour is resorted to—where young females are taught the various household employments, or males, some trade or worldly calling.

The *Reformatory School* is much more specific in its character. It is designed to promote, by a training and industrial process, the reformation of the juvenile—vicious and criminal. *Reformatories* have existed on a small scale in all Christian lands, sometimes maintained by the Church, and sometimes by private individuals or corporations. In more modern times, they have assumed a much more systematic form. Nations have passed statutory enactments by which provision has been made for the reclaiming of youthful offenders, either in connection with the penitentiary, or jail, or otherwise, by the combination of mental and moral culture, and of manual labour in some one trade or pursuit according to their own choice. In less aggravated cases, laws exist by which magistrates are empowered, after the period of the incarceration or hand labour in Bridewells, of young criminals, is over, to consign them, for a period of years, to industrial schools or reformatories, supported either by private individuals, or by the State, or, partially, by both. The benefits conferred

by these institutions, when judiciously and religiously conducted, it is impossible to overestimate. "No one," says Mr. Frazer, "can visit the Glasgow House of Refuge and witness some 400 or 500 boys, at one time earnestly prosecuting their education, and at another toiling at their respective trades, without profoundest thankfulness for the social and moral light resting so richly on these outcasts, and for the gleams of hopefulness it throws over their future." Still the most enlightened nations are but experimentalizing on this vastly important subject. Many modifications and alterations for the improvement of these institutions, both in the matter of legislation and management, will yet, we believe, be found to be necessary.

The *Ragged School* is of this class, and, to us, the most important and interesting. It professes to give a sound physical, intellectual, moral and religious education, along with a thorough, industrial training, to those children who either have no parents, or whose parents are too vicious or indifferent to care for their education, and who, in consequence, are allowed to grow up in indolence and ignorance, in raggedness and vice. These are generally laid hold of before they have committed any actual depredations, which would subject them to the sentence of the law, and safely deposited in the Ragged School. They are clothed and fed during the day, and, if they are houseless or have no proper accommodation at home, provision is made for their comfortable shelter and protection at night. The following is the general plan on which the original Ragged School of Edinburgh is conducted:—

"To give the children an allowance of food for their daily support.

To instruct them in reading, writing, and arithmetic.

To train them to habits of industry, by instructing and employing them daily in such sorts of work as are suited to their years.

To teach them the truths of the Gospel, making the Holy Scriptures the groundwork of instruction.

On Sabbath, the children shall receive food as on other days, and such religious instruction as shall be arranged by the acting committee."

Such is the nature and design of the *Ragged School*; and however brief our statement, enough has surely been said to invest it with much deeper interest and importance than the *Reformatory*, seeing that it acts more upon the preventive than the restorative, presenting thereby a far finer field of Christian philanthropy, and far more likely to be productive of benign and substantial results.

MIDDLE AND FIRST-CLASS SCHOOLS OF ENGLAND.—This class of Schools exists only in England, and evidently owes its origin to

the different grades or ranks of society. The former is intended for the children of parents in the middle ranks of life, such as master-mechanics, farmers, shopkeepers, and the like. The latter, the principal of which are Eton, Winchester, Westminster, Charterhouse, St. Paul's, Merchant-Tailor's, Harrow, Rugby, and Shrewsbury, is intended for the children of the princely merchants, the wealthy proprietors, and the nobles of the land. Mathematics form the staple branch of the middle class schools, classics of the first class.

NORMAL SCHOOL OR COLLEGE, WITH ITS MODEL AND PRACTISING SCHOOLS.—The Normal School, of comparatively modern date, has for its grand object the professional qualification of the teacher, on which account, as already stated, it is sometimes called the Training School. It derives its name from a Latin word, which signifies a fixed principle, or law, or standard, thereby indicating that whatever is the educational method adopted, it must pervade the whole organization and management, all the branches taught must be in accordance with that one system. Whilst this institution endeavours to consolidate and enlarge the scholarship of the pupils in attendance, and for this purpose is provided with teachers or tutors for the English and Classical and Mathematical departments, its main object is to qualify its pupils for being teachers. When this object receives justice, it is generally divided into two compartments, the theoretical and the practical; the former, consisting of a course of lectures on the science and art of education, delivered by a greater or less number of teachers in the Normal School proper, or as it should rather be styled Normal College, and the latter consisting of the best exemplification of the system pursued and the actual practise. For this exemplification a suite of Model Schools is provided, attended by children in the locality and presided over by the best teachers. For the other,—a practising or experimentalizing school is also provided, furnishing the best specimen of the common school of the country, and in which the Pupil-teachers steadily practise, both in the management of the school, and in the imparting of instruction.

RECAPITULATION OF CHAPTER.

The terms explained refer either to the nature, mode or place of education. The term education, as we use it, is of extensive signification, comprehending every preparation made in youth for the sequel of our life, or, more specifically, it means, the formation of character through the cultivation of the body, the intellect, the emotions and

the conscience. In the carrying out of this process or cultivation certain things are requisite. There is knowledge itself, sometimes called instruction; there is the act of imparting it, sometimes also called instruction, or tuition or teaching; there is also the mode of imparting it, and when this mode has a reference to the developing or unfolding of the various parts of our being by a repetition of the act, on the part of the scholar, till the habit is acquired, it is called *training* or *nurturing*, or, more vaguely, *disciplining*.

The generic term given to all places where this educational process is carried on is a *school*,—a word denoting, originally, leisure, time given to sports and, afterwards, to literary studies,—a word, according to modern usage of the most extensive signification, comprehending all places of education, though ordinarily applied to Seminaries inferior to Colleges or Universities, and sometimes also indicating the collective body of pupils assembled in any place of instruction. The nature of the instruction in any school, the age, the arrangements, and the design, are all generally indicated by the word prefixed.

CHAPTER II.

OBJECT OR END OF EDUCATION.

DEFINITION OF EDUCATION.—END OF EDUCATION OF TWO-FOLD ASPECT.—

1. HARMONIOUS GROWTH OF ALL THE PARTS OF CHILD'S NATURE;
2. RIGHT DIRECTION OF THESE PARTS.—MEANS OF EDUCATION.—EXERCISE, MAINLY CARRIED ON BY THE IMPARTING OF KNOWLEDGE.—MEANS PROPORTIONATE TO THE END.

This is a theme of transcendent importance. It is so in itself, involving, as it does, the best and highest interests of man, individually and collectively, in time and eternity; affecting more deeply and extensively, than any other instrumentality, the fulfilment of the grand purpose for which he was made. It is so relatively, inasmuch as the views entertained respecting the end must influence the whole matter of the instrumentality. The *What* must necessarily fashion and mould the *How*, the *Who* and the *Wherewithal*. But whatever be its importance, it is but too apparent that the most vague and degraded views prevail respecting it, not amongst the illiterate or unenlightened merely, but even amongst the educated and intelligent. It were no very difficult task to expose and refute these views. But we prefer, at this stage, simply to exhibit and pourtray the truth on the subject,

when these views will appear in their true character, as alike derogatory to the dignity of our nature, tarnishing to the glory of the all-wise and bountiful Creator, and subversive of the highest destiny of the species. Keeping in view, then, the primary signification of the term, perhaps the best and simplest definition that can be given of the education of the young is the following;—*The use of all appropriate means for securing the gradual development and growth, as well as the right direction, of all the parts of their compound being.* This definition, it will be observed, is limited in its application to the young. The term, however, takes a wider range. Man, from the time his observational powers come into operation to the termination of his earthly career, is passing through an educational process. New objects, new truths and new scenes are, ever and anon, presented to his vision, and, if rightly exercised thereby, he must daily be adding to his stock of knowledge, and growing in his capacity of apprehension and investigation; nay, we believe, that throughout eternity, his education will be progressing apace and opening up to him fresh sources of gratification and glory. This, however, is not the sense in which the word is taken in the following pages. It is used strictly in reference to the young,—that stage of human existence, when all the organs, faculties and sensibilities of our compound nature are plastic, most susceptible of cultivation and improvement,—the stage, too, more especially, when the key of self-education is put into our hands; and, just as it is used, will the treasure-house of future riches be unlocked and rendered available both for our comfort and usefulness. But it will also be observed, that this definition is confined to the school-room, though this is not the only place where the educational process is carried on, even during this season. It is begun and continued within the hallowed precincts of the domestic circle; and it is only when the closest sympathy and co-operation subsist between that circle and the school-room, that the latter will fully accomplish its high and ennobling purpose.

But to return. If, as defined, the grand end to be aimed at in the school-room is the growth of all the parts of the compound nature of the young, then it is clear that all these parts exist, however rudimentary,—that they are to be found in the young, the same in kind though different in degree. How beautifully is this illustrated in the vegetable and animal kingdoms! Take, first, the seed or bud of the plant. It is now, we believe, very generally admitted by physiologists, that the whole of the future plant is embedded in the embryo or germ of the seed, and that with a sufficiently powerful

microscope, the root, stem, and leaf, if not the parts of fructification, may be discerned. And so it is with the leaf, or flower-bud. The leaves or petals are all wrapped up there, and only await the genializing influence of spring to be evolved, or expanded. And this phenomenon is equally well illustrated in the new-born young of the animal kingdom. Take the infant. All the physical features of an individual of the human species are there. Some, it is true, are more prominent than others; in one, the eye; in another, the nose; in another the mouth, and so on; but in every one, in a normal condition, all the parts are there, though in a state of miniature, requiring a long course of nursing, or training, before they reach the maturity of their being.

And as it is with man physically, so it is intellectually. All the essential powers or faculties of the intellect exist in every individual of the human species. Some of these are more conspicuously displayed in one than in another. One has his observational powers more prominently developed; another, his reasoning; another, his imaginative; and another, his abstractive; but they are all substantially there, and only await the proper external appliances for their continuous growth, their symmetrical advancement from a state of zero to that of perfection. And all this is equally the case with man's moral nature.

Again, the terms of our definition plainly imply that these parts, — the leading characteristics of the child's nature, will not reach the perfection of their being, spontaneously. They may grow after a fashion, but their whole appearance too palpably demonstrates that the great end for which they exist will not be served, save for the nourishment and treatment they receive in an adolescent state. The acorn contains within itself, though to us in an occult and inscrutable manner, the possibilities or conditions of a perfect oak; and by no process within our power can we evolve from an acorn anything else than an oak. In order, however, to effect the development, and instrumentally, perfect, as it were, the nature of the acorn, we must bring to bear upon it circumstances external to itself; and it depends on the knowledge and skill with which we regulate and adapt, in conformity with the nature of the acorn, the external circumstances which operate upon it, whether we educe from it a dwarfed, stunted, warped and unsightly shrub, or a noble oak — the lord and monarch of the forest.

And so it is with the animal kingdom, and especially with the human species, physically regarded, whose young are the most delicate and helpless of all animals. The infant grows into childhood, child-

hood into youth, and youth into mature manhood; but as to the physical frame of the individual, much, under God, depends on the treatment received from the mother, when yet in an infantine condition. There is the most intimate and indissoluble relationship between the nourishing and fostering care of the mother of the child and the future bodily frame of the man. Withhold or supply that and the physical stamina and strength will wax or wane. And what are the appliances requisite to produce, instrumentally, a perfect physical frame? First, the mother must provide the food and other articles congenial to the nature and circumstances of the child; and, secondly, she must administer them in such a way as will best secure their digestion and assimilation. And so it is with the educator in reference to the mental nature of the children placed under his care. His external appliances are instruction and discipline, or knowledge and training; and these, to be effectual, must be in accordance with the nature of the faculty or sensibility intended to be exercised, with a view to its enlargement and refinement; and not only so, but imparted in the way best fitted to accomplish this important end.

The difference between the end of education and the means to be employed for its accomplishment, must now be palpable to all. The real end of education is, we again repeat, the growth, the harmonious growth and legitimate direction of all the parts of the complex nature of the young, with the requisite provision for their onward, never-ending progression. It is so to foster and nurture, so to admonish and control all the capabilities of the child's nature as that they shall serve the end for which they were intended; as that when the child shall have reached the prime of his days he may be able to think, and feel, and speak, and act, like a man, in a manner becoming the dignity of his being and the destiny awaiting him. It is, in one word, to mould and form character, through the cultivation of all our physical, intellectual and moral energies. It is so to educate the child, that when he becomes a man, he shall be able to educate himself.

Now the *means* by which this end may be most extensively accomplished, is the appropriate exercise of the constituent parts of the nature of the young, by the imparting of sound knowledge. We say the *imparting* of knowledge, for there is a marked difference between the knowledge itself, and the way in which it is communicated. Every possible variety of information may be presented to the child, and presented with every species of garnishing, dressed with every kind of condiment that can render it palatable; and the recipient may thus become a perfect encyclopædia of learning, and yet, withal, the end

may not be attained; the mind, save for its own spontaneous, spasmodic working, may remain all the while in a state of dormancy and insensibility. All depends on the way in which this knowledge is imparted. The instruction is thus but a part, and a subordinate part, too, of the means. The grand thing to be attended to, is the *modus operandi*, or, the mode of its conveyance; and that mode is unquestionably the best, which most extensively awakes and stimulates mind, which lays most deeply the foundations of human character. What signifies the most dainty and wholesome food if it is not digested and assimilated? And what, in like manner, availeth the best instruction, unless it be incorporated with the very core of our mental frame-work? And the only specific for all this is **EXERCISE**. You may range, if you will, throughout creation; you may scan the loftiest heights and descend into the lowest depths; you may devise this scheme and that; but nowhere will you find an expedient for one moment to be compared with *exercise* in developing and strengthening either the organs of the body or the faculties of the mind. This is the ordinance of heaven. How to ply such an agent constitutes the grand educational problem.

And now, is it asked, which of these is the more important—the *end* or the *means*? Unquestionably, here as elsewhere, the end is of infinitely greater importance than the means. And it is in connection with this very point, that much of the vagueness and many of the mistakes respecting educational matters originate. The means and the end are confounded, or rather the means take the precedence of the end, and are accounted the all in all of education. Three-fourths even of the more enlightened in every population, seem to regard instruction and education as synonymous terms. And hence, with them, a great scholar or a learned man must of necessity be thoroughly educated, and in every way qualified to teach the rising generation. These defective and erroneous views prevail to an extent far beyond what is generally imagined, and deeply affect the whole inner processes of the educational work. Surely there is here as in every other department a broad line of demarcation between the end and the means—a line that ought to be drawn by every one who possesses any pretensions to scholarship. And that end, who can scan its magnitude, who can adequately realize its results? Verily, it has a height and a depth, a length and a breadth, which transcend our finite comprehension. But because the end to be aimed at, in the education of the young, is so exalted, do we, in consequence, slight or undervalue the means? Quite the reverse. As in all great undertakings, we

estimate the means according to the end, so ought we to do in the matter of education. The object the farmer has in view in all his operations, is the securing of an adequate return for the expenditure of his time, his resources and energies; but he is persuaded that, in ordinary circumstances, it would be nothing short of infatuation to expect such a return without the utmost assiduity in fertilizing the soil and sowing the seed. And so ought it to be with the educational husbandman.

It is now, we trust, sufficiently apparent, what education really is and what it is not. It is not the possession of mere mechanical accomplishments—nor the communication of mere knowledge, however valuable or useful—nor the cultivation of a certain part of the child's nature merely, whether leading or subordinate—nor the qualifying for a certain trade or profession—nor the equipment for the duties and trials of time merely; it is all this, but it is far more, even the cultivation of his whole nature in all its diversities and subdivisions, physical, intellectual and moral—the acquisition of all substantial accomplishments founded upon solid principle—the fitting and qualifying of the child for all the duties and trials before him—his preparation and maturation for the felicities and joys of a higher sphere of being—in one word, it is the putting of the recipient in a position in which he shall be fully qualified to educate himself, both here and hereafter.

RECAPITULATION OF CHAPTER.

Many definitions have been given of the object or end of education. These vary according to the views of their author, respecting the subject-matter of education. If these views are narrow and circumscribed, low and secular, so will be their definition. If they are elevated and commanding, commensurate with the aspirations of our nature, reaching forward into a boundless eternity, so will be the end of education, in their estimate. We might here cite the definitions of Luther, Pestalozzi and Fellenner; or of Locke, Milton, Arnold; or of Wood, Galt, Stow, Morrison and Currie, but this were unprofitable. The definition given covers, in our apprehension, the whole ground. It consists of two parts; first, the development, the harmonious growth of all the parts of our complex nature, of all the organs of the body and of all the powers and sensibilities of the mind. This evidently implies on the part of the teacher, a knowledge of the *material* on which he operates—a knowledge of the parts, in themselves, in their relations, in their diversity of phase, periods or epochs of unfolding.

How can he otherwise adapt his appliances? How can he ascertain whether his work is prospering? How can he aim at its accomplishment? But the intelligent teacher has not only to regard the growth, but the right direction of these parts. This is unquestionably the more important of the two. Of what avail is the enlargement of all our powers or sensibilities, unless they are properly directed, unless they serve the purpose for which they were intended. The whole educational process becomes then not only useless but positively hurtful, like the putting of a sword into the hand of a madman. Would that parents and teachers and others but pondered, as they ought, but habitually remembered this fact!

But these parts of our nature will neither grow themselves, nor take the right direction themselves. And here comes in the whole apparatus of human instrumentality, of external appliances—emphatically the educational process. Now as the metal preserves its lustre by being used, so does the physical and mental framework. Exercise is not only the grand panacea against all rust, but the specific for keeping all the mental armoury duly furnished. This is the educator's task, how, by his varied appliances, he is to secure the co-operation of his scholars, how he is to make them do the work. '*Hic labor, Hoc opus est.*'

CHAPTER III.

THE IMPORTANCE OF EDUCATION.

EDUCATION REGARDED INSTRUMENTALLY.—ITS IMPORTANCE APPARENT FROM THE BENEFITS IT CONFERS ON THE INDIVIDUAL, THE STATE, AND THE CHURCH.—I. BENEFITS TO THE INDIVIDUAL: *a*, PLACES ALL PARTS OF COMPLEX NATURE IN LEGITIMATE POSITION; *b*, QUALIFIES FOR DUTIES OF LIFE; *c*, OPENS UP SOURCES OF GRATIFICATION; *d*, ENNOBLES AND DIGNIFIES HUMANITY; *e*, AUGMENTS ETERNAL FELICITY.—II. BENEFITS TO STATE: CIVIL GOVERNMENT AN ORDINANCE OF HEAVEN.—PROSPERITY OF STATE ON THREE ELEMENTS: 1, INTELLIGENCE; 2, INDUSTRY; 3, MORALITY.—1, WHAT INTELLIGENCE DOES? *a*, DISSIPATES THE EVILS OF POPULAR IGNORANCE; *b*, ADDS PRODUCTIVENESS TO HUMAN LABOUR; *c*, RENDERS ALL RESOURCES OF NATURE SUBSERVIENT TO MAN.—2, WHAT INDUSTRY DOES? *a*, DEVELOPS AND APPLIES RESOURCES OF COUNTRY; *b*, LEADS TO ECONOMY; *c*, DRIES UP SOURCES OF PAUPERISM; *d*, GIVES OVERPLUS OF MEANS.—3, WHAT MORALITY DOES? *a*, MAINSPRING OF BODY POLITIC; *b*, LESSENS AMOUNT OF VICE AND CRIME, AND, BY CONSEQUENCE, PUBLIC EXPENDITURE; *c*, SECURES THE BLESSING OF THE GOD OF NATIONS.—EDUCATION NECESSARY FOR ALL THIS MUST DEVELOP, INTEREST AND TRAIN.—THESE ELEMENTS MUST CO-EXIST AND CO-OPERATE. III. BENEFITS TO CHURCH: *a*, EDUCATION MAKES ALL SUBSERVIENT TO

THE PROMOTION OF TRUTH AND RIGHTEOUSNESS; *b*, PERPETUATES TRUTH; *c*, PROMOTES HIGHEST INTERESTS OF CHURCH; *d*, ADDS LARGELY TO CHURCH'S USEFULNESS; *e*, EDUCATION BEST AND SPEEDIEST WAY OF EVANGELIZING THE NATIONS.

To delineate fully all the benefits of the education sketched in the preceding chapter, would require more space than can be allotted to the whole subject. Whether regarded directly or indirectly, in their individual or collective aspects, they are at once unlimited in extent, and eternal in duration. We apprehend, however, that our work would be, in a manner incomplete, did we not at this stage present a skeleton view of the importance of our subject, as the one paramount to all others, demanding, at once, the profound study, the devoted interest, and the loftiest panegyric of every patriot and philanthropist.

Let us then consider, as briefly as we can, the value of education in its bearing upon the individual recipient, upon the state, or man viewed as a member of the body politic, and, lastly, upon the church, or man regarded as a spiritual being.

And here, it is scarcely necessary to premise, that in the discussion of this subject, we look at education merely instrumentally. There is perhaps not one subject or pursuit, in which secondary agency or human means can be rendered more available, than in the education of the young. Its influence is deep and wide-spread. It not only stores up in the mind valuable knowledge, it cultivates and develops its faculties and energies; it moulds and fashions character, by operating on the innate principles of our being, and that at a time, when they are most susceptible of impressions. In the educational process, we may, by a repetition of the same act, establish a habit of thinking, feeling and acting, we may lay an arrestment on the overt wicked act, and thereby, considerably lessen the power of the principle whence it proceeds; and who does not perceive that all this will go far in the fashioning and forming of character? And yet, withal, we cannot impart to the young that real love of duty, which springs from a sense of obligation to their Creator and Saviour-God. We cannot so influence them as to give a right direction to their varied endowments and attainments, that their services shall bring down upon them the approbation of Heaven, or be accounted by the Searcher of hearts as a contribution to His Glory. This is the sole, the inalienable prerogative of Deity—the special work of the Holy Spirit. Let, however, this divine agent go forth either along with or subsequent to the use of this instrumentality, and how transcendent the result! Then will the benefits of well directed appliances stand forth in bold relief. Then will a sound and thorough education—an

education which has knowledge and training for its means, be felt and recognized and fully displayed. And who or what instrumentality has the best title—the highest warrant to expect the forth-going of this divine agent? Surely it must be that which most closely complies with His own requirements, as declared in that Book which He has Himself indited. He and he alone has a covenant right to expect the blessing of the most High who not only uses means, but the very means He has Himself enjoined. And what is that means? Not instruction merely, not example merely, but training:—“Train up a child.”

SECTION I.—THE BENEFITS OF EDUCATION TO THE INDIVIDUAL POSSESSOR.

Education exerts a mighty influence in placing all the parts of our compound nature in their legitimate position, subordinating the lower to the higher and harmonizing the whole. Man is possessed of an animal, intellectual, emotional and moral nature. Each of these parts, in its own sphere, has important functions to discharge; and it is, only, in so far, as these component parts are rendered subservient the one to the other, that man partakes of the happiness of which his nature is capable. All these parts, in consequence of the catastrophe that has befallen the species, are, as is well known, in a state of disorganization and anarchy. The animal but too often controls and domineers over the intellectual. The moral, intended to govern and preside over all, is but too often their willing servant,—their abject slave.

Education contributes largely to restore the proper equilibrium and to render one and all of them competent for the right discharge of their respective functions. It imparts a sound knowledge of the office performed by these parts, and brings home that knowledge with the most powerful and persuasive motives and considerations. It does more, it trains these parts to the practise of the duties belonging to them. It inspires, too, with a relish for their legitimate application, with a corresponding elevation of mind, and a determinate purpose to hold on in the same course with unflinching steadfastness and perseverance; and all this by reason of the force of habit. And, over and above all this, it provides the means and methods by which the possessor may carry into practical effect the knowledge he has acquired, and the resolution he has formed. It is thus manifest, that education does all that can be done, instrumentally, for the recovery of the equipoise of our being, and for the exhibition of man in all the symmetry and beauty of his nature.

Education prepares and qualifies man for a right discharge of the various duties of life. Every individual of the human family, whilst he has great and important general duties to discharge, has also a special work imposed upon him, a course to fulfil, an orbit in which to revolve, a particular part to play in the great drama of life. The Almighty Creator and Preserver hath not only assigned to each his place, but He hath given the endowments needed, as well as the means requisite for their development and enlargement. And what is education but this means,—the means of means? And, when of the right stamp, it prepares and qualifies for a befitting fulfilment of the course prescribed,—of the duties imposed.

It imparts valuable knowledge, and though much of that knowledge may not possess any direct bearing on his particular calling or the duties appertaining thereto, still it will prove of vast utility in some one department or other, and that oftentimes and in circumstances which he never anticipated. But another and greater benefit, arising from his previous educational training, is the habit of attention, of steady application, and of persevering industry, he has thereby acquired, all which has only to be transferred to his own special vocation to ensure success. The methods, too, he has pursued in all his scholarly attainments, are, in every respect, as applicable to his present employment and will form powerful auxiliaries in its successful prosecution.

Education opens up sources of highest gratification to the possessor. There is no reward so immediate, direct and satisfying, as that which attends mental effort. It matters not whether that effort is put forth in the walks of literature, or of science, or of any of the learned professions; or in feats of adroit diplomacy, of naval or military strategy or of mechanical invention; or whether it be by men of exalted genius, or of the ordinary average standard of talent;—we believe, generally, it will be found that, in very proportion to the magnitude of the effort, will be the glory of the triumph achieved. In all cases, where the æsthetic faculty is called forth, the gratification experienced is of a still higher character. Here, as in architecture, sculpture, painting and poetry, the mind soars into the loftiest regions. Out of the facts, truths, or principles already stored up in the mind, by the help of the observational or recollective faculty, new creations are formed, and receive a living embodiment in words and deeds. And what inexhaustible fountains of delight are here opened up, not merely to the imagination and taste of the fabricator, but to the thousands of fellow beings, whose intellects are regaled and whose tastes are

ravished by the contemplation of such works! But the noblest of all mental triumphs are those achieved within the domain of conscience. When the conflict between the moral faculty and the selfish or worldly inclination, is vehement and protracted, and the former obtains the victory; and, especially, when that victory consists in the maintenance of a truth or principle, which, instead of bringing along with it gain or sensible advantage, involves sacrifices or losses of immense value, then there is realized a serenity, an elevation and a blessedness, of which none but those who have been brought in contact with the world of spirits can have any appreciation. Now, for all these feats of mental prowess and genuine heroism, education, and education of a high order, can alone fit and qualify. Natural endowments are indispensably necessary, but these could never achieve anything of permanent worth, of imperishable glory, without their possessor passing through a process of thorough educational training, from whatever quarter derived. In confirmation of all this, we require not to contrast the wandering savage with the polished *savant*, but the partially with the thoroughly educated. And how striking the difference both as it respects their own condition and that of their fellow-creatures! The former is at the mercy of every wind that blows, restless as old ocean. The latter is calm, and tranquil and blessed in all situations and circumstances. The one derives all his happiness from his own selfish carnal indulgences, or from the society of those like-minded; the other rising into a loftier region—and altogether independent of his fellows, drinks copiously and with purest satisfaction, at the fountain-head of his own cultivated and accomplished mind.

Education ennobles and dignifies humanity in every sphere and walk of life. The real glory of man is mind. It is that which not only raises him above the lower animals but enables him to triumph over the material parts of creation, and to render the very elements of nature subservient to his happiness. It is mind that enables him to hold converse with the great and good of every age, and from their accumulated stores to add increasingly and indefinitely to his own stock of knowledge. It is mind that imparts the power of associating with Divinity, and, through His works and ways, to enjoy a sweet interchange of thought and sentiment. It is mind, too, that invests him with the ability of displaying, in part at least, the grand characteristic of the divine nature—diffusiveness, and thereby sharing in the blessedness of His declarative glory. And when is man, by the appliance of mind, enabled to accomplish these and similar results?

When educated ; and in very proportion to the nature and extent of that education will be his mental exploits. It is education and education alone, that imparts appetency to mental application and investigation. It is education and education alone, that supplies the means requisite for such work, that trains to a familiarity with those methods which give a right direction to all our intellectual and moral pursuits. If, then, mental exercise, in all its departments, constitutes the real glory of man, and if education alone qualifies him for such exercise, surely no farther argument is needed to render palpable to all the soundness of our position, that education ennobles and dignifies humanity.

Education largely augments the eternal felicity and glory of its possessor. The only object that can really meet the desires and satisfy the longings of the renovated mind is Deity. And just as mind is expanded and rendered capable of taking a wider and more thorough survey of that object, so will the individual rise to a broader and higher platform of serenity and bliss. It matters little as to the means by which this expansion-process has been effected;—whether in the study of subjects, or in the investigation of truths, or principles, more or less directly secular, or more or less directly religious, provided the end be gained, namely, the enlargement of the powers of the mind, and their capability of fixing attention continuously on any one subject, of tracing it out in all its properties, relations, and results. It only requires the touch of an omnipotent hand to direct these powers to the exploration of that theme in which their most healthful vigour and their highest bliss consist.

Now, it is substantially the same mind we carry with us into the heavenly world, it is the same glorious object that will there enchain our admiring contemplation, our most rapturous adoration. True, Deity Incarnate, as the very concentration of the divine perfections, the very masterpiece of the manifold wisdom of God, is there more fully unveiled and the mind is more spiritualized, entirely set free from all its worldly and sensible entanglements. But both are essentially the same; and, consequently, the more mind is now cultivated, the more capable of necessity of soaring in its contemplation into higher regions, of investigating, with more discriminating and penetrating powers, the glories of the Invisible One, and, thereby, of drinking in deeper draughts of the river of celestial bliss. And, if this is the case at the commencement of our heavenly career, it will go on progressively throughout eternity, so that when millions and millions of years have rolled round, the effects of the educational

process will be as palpable as ever. And in what an elevated and commanding aspect does this place the whole subject of the education of the young, when that education embraces all the powers and sensibilities of their compound nature, and aims at nothing short of their development and refinement? If the purely intellectual powers are exercised, even when brought in contact with purely secular subjects, the exercise and strength which they have thus received shall be rendered serviceable throughout eternity. All that is necessary is to transfer the mind from the study of one class of subjects to that of another; and every faculty of the immortal spirit that has been unfolded in the educational process, will thus stamp an indelible impress upon the whole of its eternal destiny, and inconceivably augment its felicity and glory.

SECTION II.—THE BENEFITS OF EDUCATION TO THE STATE.

In addition to the domestic circle, there are two grand associations of the human family—the State and the Church. That these two associations are of divine ordination, and that they are in every way calculated, as they are designed, to further man's best interests, are points all but universally admitted. Much, however, of the good intended to be effected by these associations, depends on the character which they respectively sustain. And we know not an instrumentality so well fitted to elevate and enhance that character, or to render these associations really serviceable to the end in view, as the diffusion of a sound system of education throughout every community. If, without education, man is a savage—a slave to his appetites and passions—what must the State, in similar circumstances, be but an army of despots and revolutionizers, which, if they do not utterly annihilate one another, are torn to pieces by intestine feuds, diabolic conspiracies and selfish intrigues. Again, just as education without religion, is stripped of its vitality,—its expansiveness, so religion without education, is bereft of its intellectual prowess and strength; and, thereby, instrumentally, at least, unfitted for its high and glorious mission. Hence, it is plainly, at once the duty and the interest of both these associations, to exert themselves to the uttermost in the furtherance of a sound education—the State, that it provide the adequate quantity,—and the Church, that it secure the right quality. However much may have been done by both these associations during the last half century, by the introduction of national and improved systems, the encouragement of Normal schools, the more adequate remuneration of teachers, the erection and equipment of school houses and the like :

yet we fear, these efforts have not been at all proportionate to the magnitude of the end in view, or the vastness of the interests at stake, or even of a character to secure the largest amount of permanent good. Much has no doubt been done by some nations for the amelioration of the sinking and sunken of their population, for the reclaiming and restoring of the vicious and criminal by the establishment of Industrial, Reformatory, and Ragged Schools; but alas, how little has been done for the prevention of crime of any description by the diffusion of an enlightened, moral and religious education! Much, too, has been done by the different branches of the Christian Church for the education of the young in connection with the spread of denominationalism; but, alas, how little has been done on the ground of high-toned benevolence, of disinterested Christian philanthropy, irrespective altogether of creeds or parties! And all this because of narrow, circumscribed views of the beneficial results of education, both in reference to the church, at large, and to the various denominations, in particular. And, withal, there is still a grievous ignorance and indefiniteness of view, as to the respective functions of Church and State in the matter of national education,—how they might and ought to co-operate in its promotion, with the greatest mutual advantage, without any interference with each other's appropriate jurisdiction. This last point, however, we must defer, till we come to that part of our course which treats of the exterior of education. We shall, now, briefly glance at the benefits of education, first, in reference to the State, and, then, to the Church. The subject is vast and interesting. We can only look at a few of its more salient points, and these, without attempting anything in the shape of lengthened illustration.

The benefits of Education to the State. And here a question meets us at the outset,—What constitutes the real prosperity or happiness of any district, or community, or Province, or State? To this question we, unhesitatingly, reply,—*the intelligence, the industry and morality of its people.* There may be boundless material resources, all, in short, that can contribute to wealth, independence, or external comfort; but if these three constituent elements are wanting, or if they exist only to a limited extent, or any one of them to the all but entire exclusion of the other, or, what is still worse, if the opposite vices prevail, that people is poor indeed, destitute of everything in which true social happiness consists.

But let us briefly glance at each of these constituents in their bearing on a nation's prosperity; and first as to *Intelligence.*

Intelligence dispels the gloom of popular ignorance, with all the evils and miseries that follow in its train. On these evils we have no intention to expatiate. We might enlarge on those superstitious notions regarding extraordinary natural phenomena, ascribing to direct and special supernatural agency, what can be very easily proved to proceed from the ordinary course of nature; such, for example, as an eclipse of the moon or sun, comets with their blazing tails, auroræ boreales, shooting stars, fiery meteors, lunar rainbows, the ignes fatui which hover above moist and fenny places in the night time, and other atmospherical appearances. We might refer, too, to the practise of judicial astrology—a practise arising from the belief, that the character and fates of men are dependent on the various aspects of the stars and conjunctions of the planets; or to the plaintive note of the mourning dove, the ticking noise of the little insect, called the death-watch, the howling of a dog in the night, the breaking of a looking-glass;—all which, with many other equally harmless occurrences, have been regarded with apprehensions of terror, as unfailling signs of impending disasters or of approaching death. Again, we might refer to the superstitious fears connected with the setting out on a journey, entering on a new work of any kind, beginning to plant or plow, or commencing a voyage on a Friday; or to the unfounded and ridiculous opinions entertained regarding the age of the moon, the killing of swine, the sowing of seed, the felling of trees, &c., during its decline. We might easily go a step farther, and point out the natural effects of these superstitions, not merely spreading a blighting and scorching influence over the mind of their victims, habituating them to false principles and erroneous processes of reasoning, enchaining the understanding and unfitting it for the appreciation of magnanimous and generous sentiments, but leading invariably to the perpetration of deeds of injustice and fanaticism, of cruelty and bloodshed. These are not mere conjectural statements, they have been substantiated by the whole past history of the species, and are verified and illustrated by the condition and character of nations and peoples at the present moment.

And need we say, that nought but a sound and an enlightened system of education, will dissipate these and similar evils. Let the mind be directed to the study of the phenomena and laws of the material universe, as these have been unfolded and settled in the various walks of natural philosophy and science, during the last three centuries, by such men as Newton and Davy, Dick and Lardner, and these erroneous and superstitious notions, with all their fanatical and

barbarous consequences, will be speedily and thoroughly eradicated. Let the knowledge of the uniformity of nature's operations and the regularity of her laws, be, generally, diffused among a people; and not only will confidence be inspired amid phenomena that may appear exceptional, but the most exalted conceptions of the perfections of the Almighty and benevolent Creator and Preserver, will obtain and reign.

But not only will *intelligence*, universally diffused, thus indirectly promote national prosperity, it will effect far greater direct results; and this brings us to our second remark regarding this national blessing.

That it largely enhances the productiveness of human labour throughout all ranks of the community. Every reflective mind can readily perceive the radical difference between mere brute force, and physical strength, directed by *intelligence* and skill. He sees this in his daily, hourly experience. A yoke of oxen will do more work at ploughing in one day than forty men can; yet the oxen may be had at 50 cents, while each man can earn a dollar. Physical exertion, in this case, combined with ordinary *intelligence* and skill, is eighty times more valuable than the same amount of brute force. As man's *intelligence* increases, so does his labour become more valuable. A small compensation is the reward of mere physical power, while skill, combined with a moderate amount of strength, commands high wages. The labour of an ignorant man is scarcely more valuable than the same amount of brute force, but the services of an intelligent person are a hundred fold more productive. Increase the practical and available education of the labourer, and you enable him to do more work and better, too, than his less informed associate.

The facts brought forward by Horace Mann go incontestibly to prove—other things being equal—that those who have been blessed with a good common school education, rise to a higher point in the character of the labour performed, and also, in the rate of wages received. And, hence, prove incontestibly, that education is not only a moral renovator and a multiplier of intellectual power; but that it is the most prolific parent of material riches. It has a right, therefore, not only to be included in the grand inventory of a nation's resources, but to be placed at the very head of that inventory. It is not only, the most honest and honorable, but the surest means of amassing property.

But it is not in *manufacture* alone that *intelligence* is fraught with so many blessings, it is equally signalized in the pursuits of *Agricul-*

ture. In this department of industry, we are brought constantly into contact with the forces of nature. As farmers, we are entirely dependent upon them for our pecuniary returns, and the profits of our investments; and hence the necessity of knowing what these forces are, and under what circumstances they will operate most efficiently, and, most bountifully, reward our original outlay of money and of time. Again, the Province yields a great variety of Agricultural productions; and this brings into requisition all the chemical and experimental knowledge which pertains to the rotation of crops and the enrichment of soils. If rotation be disregarded, the repeated demands on the same soil to produce the same crop, will exhaust it of the elements on which that particular crop will best thrive. If the chemical ingredients and affinities of the soil are not understood, an attempt may be made to reinforce by substances, with which it is already surcharged, instead of renovating it with those of which it has been exhausted by previous crops. But for these arrangements and adaptations, knowledge is the grand desideratum; and the addition of a new fact to a farmer's mind, will often increase the amount of his harvests more than the addition of acres to his estate.

The connection between *intelligence* and *the useful arts* is not less close and indissoluble. For the successful prosecution of the manufacturing and mechanical arts, if not for their very existence, there must be not only the exactness of science but skill in its application, either in the constructing of machinery, or in the transforming of raw materials into finished fabrics. This ability to make exact and skilful applications of science to an unlimited variety of materials, and, especially, to the subtle and most energetic agencies of nature, is one of the latest attainments of the human mind. This era has but just commenced, and already the abundance,—and what is of far greater importance,—the universality of the personal, domestic and social comforts it has created, constitute the most important events in the history of modern civilization.

But, farther still, *Intelligence renders all the forces of nature subservient to the promotion of man's truest interests.* Whatever may have been effected by wind, water and fire, far greater achievements have been made within the last fifty years by the agency of steam and electricity—their application to science, manufacture and machinery, and to all the pursuits and employments of life. Thousands of volumes could not delineate the triumphs of science during the last forty or fifty years, or tell the effects of these triumphs upon the whole social economy, upon the intellectual and moral well-being of

the human species. And yet these are destined to accomplish far more transcendent results, as their application progresses and becomes more and more widely diffused.

And need we add to all this, that *intelligence elevates and refines the whole tastes and sensibilities of a community or nation*. Let it prevail to any extent among a people, and in very proportion will they cease to derive gratification from mere corporal pleasures, from mere sensual delights. All their pastimes, and amusements, and recreations, would then spring from a loftier source and be directed to a higher and nobler aim. They would participate largely of the intellectual and moral element, and by consequence contribute to far purer and more permanent enjoyment.

Such are a few of the more prominent results of the general diffusion of *intelligence* throughout a community. And how is such a state of things to be brought about, how are the masses to be leavened with this all essential salt, with this vital element? In no other way, we positively affirm, than by a sound system of education practically and universally carried out. *Intelligence* consists of two things—knowledge and the culture of the intellectual faculties; and these can only be secured by education. Without instruction or teaching, little or no knowledge can be acquired; and, without education, there can be no cultivation of the mind. And thus it must appear patent to all that there can be no such thing as real national *intelligence* without universal education, and that of the highest and most efficient character.

The second constituent of a nation's prosperity and welfare is *Industry*. We have dwelt the longer on the attribute of *intelligence*, not merely because it lies at the foundation of a nation's advancement, but because it comes more directly within the range and control of the educational process. But however essential it may be as the basis of the whole superstructure, it is not in itself enough; and those who imagine, that when education has gone thus far, it can go no farther, or that no more can be expected from it, labour under a grievous misapprehension. *Intelligence* of itself will never make a nation prosperous and happy. How often do we see individuals possessed of no ordinary amount of *intelligence*, and yet that *intelligence*, in a great measure, unproductive of any decided beneficial results; and that simply because its out-goings, or the efforts it puts forth, are purely spasmodic in their character, made up of fits and starts; or however sound or well-directed, it lacks continuous diligence, steady, habitual application, unfaltering perseverance. Something

more, therefore, is necessary to constitute a nation's prosperity, and that is—*Industry*.

Industry, as is well known, is the opposite of sloth and indolence. It just means regular, assiduous and habitually steady application to business, or study, or to any employment or pursuit. When in exercise, and associated with the attribute we have already discussed, it is something more than a mechanical process, a mere perfunctory application of brute force. It consists of a steady, patient, persevering following out of the business of our calling, with a constant aim at improvement and advancement, arising from a growing acquaintance with the principle involved, with the theory or philosophy of the art. Let such a habit and spirit pervade a whole community, a whole Province, a nation; and marvellous will be the results on the whole of their social and economic welfare.

It will not only conduct to a thorough knowledge of the resources and capabilities of the country, both materially and mentally, but to their development, their legitimate and appropriate direction. It will convert the bleakest, the dreariest, and the most inhospitable desert into a garden, the most rugged rock into a busy mart of traffic,—and the briny wave, that laves and lashes the shores, into a highway for the export and import of merchandise. Those very obstructions, so formidable and apparently insurmountable to the wavering and unstable, seem but to stimulate energy, and to call forth more vigorous and determined effort, the victory won in one case but rendering them the more valiant and confident regarding the next; nay, and more than all, these very difficulties but furnishing greater facilities for every succeeding triumph. With every new effort put forth, their inventive powers are whetted. Men resort to new methods, try new tools, or make changes on the old ones, until, by a succession of inventions, they are competent to perform the same work with one half the amount of physical toil. The most abundant illustrations of the truth of these observations might easily be furnished. It is not much more than fifty years since Scotland was regarded as the most inhospitable of climates, and its soil as incapable of improvement for agricultural purposes. And what is its condition now? It stands in the very foremost rank in agricultural advancement and produces a larger quantity of bread-stuffs, in proportion to its extent, than any other country on the face of the earth. Its farmers are the most enlightened and most independent anywhere to be found, and its resources are multiplying at an immensely rapid ratio. And whence all this? It is the product of the *industry*, the plodding, the

patient, the persevering *industry* and skill of its people. It is the forthgoings of an energy rendered all the more indomitable by reason of the very difficulties encountered. It is the appropriate reward of the application of science, and skill, and perseverance to the cultivation of the soil. Again, need we bring forward, as another witness, the State of Massachusetts. Where was there a territory on the whole of this continent more unpromising or uninviting than the one in question, when the Pilgrim Fathers landed on its shores? And now its fields are capable of producing and bringing to highest perfection every sort of grain, and fruit, and stock,—its merchants are the most enterprising and patriotic in the world,—its mechanics and artizans, the most ingenious, and respectable and independent. And more than all this, where is the nation upon earth, that has been more successful than the New England States in the invention of machinery, of labour-saving implements, in all manufacturing, agricultural, and mechanical employments. And to what is all this to be traced, but to the industrial habits of the people, founded upon, and proceeding from sound, and practical, and well-balanced, generally diffused *intelligence*.

Industry also directly conducts to economy and the possession of worldly substance. It is of little service to an individual to be in possession of means, or in a position to accumulate wealth, unless he has acquired the art of discreetly using it, of exercising a wholesome economy, not in few but in all things. And who is the person most likely to manifest this character and to manifest it most extensively, who will most naturally husband the means he has laid up in store, who but the man who, from hard-earned experience, realizes its value, even the man of industrious habits? Spendthrifts are no doubt found in every walk and sphere of life, in all situations and circumstances, but these are the exceptions. Generally speaking, whenever a man toils hard in his calling, he is the most likely person to set a right value on his honestly won gain, to watch over it with care, and to make a wise and legitimate disposal of it.

Again, he who, by ordinary frugality, manages to live within his income, and to lay out a small capital at interest, is just the very person who will display the greatest providence and carefulness, in eking out the same by an annual addition. The very fact that he possesses a small amount of means at his service, inspires him with a feeling of comfortable independence, and stimulates him to greater diligence and industry in adding to his stock. His notions of what constitutes a decent and respectable competency, grow apace and expand into larger volume; and these are constantly fed and fostered,

by his wants and desires becoming more numerous, as well as more imperious in their demands. What was considered but a few years before a comfort and an indulgence, would not now meet and far less satisfy his cravings; and so he is necessitated, from the very law of his being, to redouble his diligence and multiply, with an ever increasing ratio, his industry and perseverance.

And let such views and feelings be generally diffused throughout a community, and the effects will soon be apparent in their manly independence, increasing comfort, advancing civilization and refinement; and still more, in the abundant and substantial provision and accumulation of the means requisite, to feed and extend them. And all this, again, will operate most beneficially on their onward strides in intellectual improvement, refined taste, and social elevation. But on these and similar topics we cannot enlarge.

It is more to our purpose that we briefly advert to the grand result of this economizing and self-provident spirit *on a nation's pauperism*. It will infallibly dry up the sources thereof—or, according to the expressive language of Sir J. Kaye Shuttleworth—"it will more effectually than anything else eradicate its germs." Though it is evidently the decree of heaven that the poor shall never cease out of the land—a decree which the Almighty will make good by the dispensations of his Providence,—still there is an immense difference between such poor and those who are in that condition, because of their own indolence and improvidence, their own intemperance and vice. And who does not know that three fourths of the pauperism of any country is traceable to one or other of these sources, drinking up, in too many instances, a nation's natural and acquired resources; and thereby rendering it, in a great measure, unfit for the fulfilment of the high errand for which the body politic was constituted. In England, for example, the sum expended in the support of pauperism is all but incredible, averaging annually, for the last ten years, five millions of pounds sterling. Properties in some cases have been so overburdened and oppressed, that they have been literally abandoned and consigned to the support of the poor within their bounds. This state of things would be in a great measure obviated by the prevalence of the industrious habits, to which we have just adverted. In very proportion to the extent to which *industry* bears sway in any land, will be the extirpation of pauperism; and who that knows anything of the mighty incubus, which such a state of things imposes upon the vital energies of any country, would not long, and pray and labour for its unreserved removal! The effects of all this upon communities or

nations, partially or wholly liberated, would be signal indeed. It would not only vastly lessen the weight of the public expenditure, and thereby diffuse a spirit of contentment, of high toned patriotism, and of genuine conservatism, throughout all ranks and degrees; but it would enable them to *devote their resources to the improvement or benefit of their fellow-creatures in other lands*; and, thereby, add to the lustre, and increase the usefulness of the body politic.

Such are a few of the more palpable and direct results of the second virtue in our list,—and, surely, every reflective mind must perceive, that nothing but a universal and enlightened system of education, will either give birth to, or cause such a virtue to bloom, and flourish, and fructify. Let the education be of the right sort,—let it attract and interest the minds of the rising generation; let it train to habits of steady and persevering industry, not by the force of sheer necessity, or of rigid discipline, but of a self-reliant spirit—a spirit that lives and breathes and expands in an atmosphere of conscious proprietorship; let it move all the inner sympathies and affections of their nobler being, and they have but to transfer the habits of self-dependence they have acquired to the avocations and pursuits of life; and, then, will their education occupy its right position, preparing and qualifying them for the active duties and difficulties of their future career—affecting, and affecting most deeply, all their modes of thinking, and feeling, and acting.

We come now to the last element in a nation's prosperity—*viz.*, *Public Morality*. By *Public Morality*, we mean the absence—the comparative absence, of all the more flagrant and enormous acts of wickedness, of all public, notorious vices and crimes. We say, *comparative*, because so long as man continues in his present condition of imperfection and sin, will his conduct be characterized by occasional outbursts of wickedness, and even the general current of morals will ebb and flow.

But in the state of things we are now contemplating, there will not only be the negative but the positive, the presence of all personal, social, and public virtues. These—such as contentment with our own condition and circumstances, temperance, moderation, sobriety, chastity, integrity, courteousness, generosity, universal benevolence and beneficence, downright honesty and truthfulness, subjection to parents, subordination to our superiors and to all lawfully constituted authorities, predominate and reign. And these virtues must be founded upon some high and infallible standard, to which all must be prepared to come, and before which all must bow. In other words,

they must have a reference to God—to His character, as our authority, and to His law, as our standard. However much we may respect a mere outward *morality*—a *morality* founded on the worldly principles of honour or self-interest or fear of future punishment, still this, after all, is but a miserable substitute for the real and the genuine, and only maintains its existence on account of the particles of preserving salt, that may be scattered up and down the body politic. It is *morality*, founded on and flowing from true religion, for which we contend. It is this and this alone, which will stand firm and unshaken, even when subjected to the most fiery ordeal, to the most tremendous shock. It is this and this alone, which will render it the vehicle of conveying to the body politic throughout all its members the most beneficial influence—the most satisfying and lasting happiness. And are we asked to name a touchstone by which a community or nation may be tested in reference to the genuineness or spuriousness of its *morality*? We would unhesitatingly reply, its observance of the Sabbatic or hebdomadal rest, that jewel which, like the keystone in the arch, supports the whole fabric of the first and second table of the law, the rearward of the former and the vanguard of the latter. As this institute is respected, its privileges prized, its rites observed, so have we a pulse by which the real condition of a nation's *morality*—may be ascertained.

Let *morality*, founded upon such a principle, generally bear sway in any community or nation, and how stupendous and wide-spreading the results! It will evince itself to be at once *the mainspring and regulator of the body politic*. It will not only give a right direction to every other department of the social fabric, but preserve the whole machine in good working order, and diffuse a healthful and an invigorating influence over all its parts.

But to be somewhat more particular. *The prevalence of such a morality will lessen, to a vast extent, the amount of vice and crime in any country.* In very proportion as the former bears sway, so will the latter in every shape and form, as ashamed, hide its face. And this, again, will bring about an immense reduction in the public expenditure. There is not, perhaps, at this moment, a civilized Christian nation upon earth, a third of whose income is not swallowed up in the punishment of crime, or in attempts to relieve the distresses and the wants of the destitute and desolate. In Dr. Guthrie's *Plea for Ragged Schools*, it is stated that, in 1845, Scotland expended for criminal prosecutions, maintenance of criminals, not less a sum than £150,045—and this altogether independent of Judges' salaries,

Deputy Advocates, Crown agents, &c. And if this is the case with Scotland, generally admitted to be the most moral, what must it be in other countries? It has been computed that every criminal, on an average, costs the country for his maintenance, not less than £400, or, about £35 per annum. And what an enormous sum must thus be expended, when it is considered that, in England alone, there were not less than 15,507 juvenile offenders,—exclusive altogether of the seared veterans in crime, committed to jail in one brief year. And what an immense saving would, then, be effected on a nation's expenditure by the diffusion of a sound *morality*? It may be imagined by some that this is taking very low ground. It may seem so when viewed in itself, but it is far otherwise, when regarded as a means leading to great and important ends, even the erection of those defences, munitions and fortifications, which, if they do not inspire terror, will at least command the respect and confidence of surrounding nations, and invest with the awe-striking motto :—“*Nemo me impune lacesset.*” But national greatness will not only inspire others with respect and confidence, it will, if rightfully used, prove a powerful instrument in the denouncing of tyranny and despotism of every shape and degree,—in the relieving of the distressed and down-trodden, everywhere. Take Britain as an exemplification. Defective as she is in public virtue, considering her external privileges, yet she stands forth in peerless grandeur, sitting as a queen among the nations, upholding the great principles of international law, frowning down upon and putting an arrestment on deeds of national cruelty, barbarism and persecution, wherever these may manifest themselves. Never could she achieve such exploits, save by the vastness of her resources, the prowess of her arms, the magnanimity and moral heroism of her general administration.

But the *morality* of which we speak, will not only promote the temporal glory of nations, it will largely enhance their whole social, intellectual, and æsthetic welfare. All ranks and degrees of men amongst them, will not only lay aside their hate, malice, and revenge; but they will feel themselves connected together by bonds of truest friendship, of christian loyal attachment, striving to do good to one another, as they have opportunity. They will give honour to whom honour is due,—treating their superiors with respect and esteem; their equals, with courteousness and large-hearted generosity; their inferiors, like brethren, relieving them in their distresses, and rejoicing with them in their prosperity.

But this *morality* will exert a still more beneficial influence on the

natural intellect. It requires no great penetration, or extent of observation to perceive the expanding power of the moral faculty over the natural intellect; how it guides and directs in all its investigations and enquiries, turning all into a profitable channel; how it spreads life, and vigour, and healthfulness throughout all its faculties, cultivating, strengthening, and investing with ten-fold capabilities; how it summons into requisition and into noblest exercise, the higher energies of our being, which would otherwise have lain, in all probability, in a state of dormancy and inactivity.

The æsthetic powers will also be summoned into liveliest exercise. Architecture, painting, sculpture, and, indeed, all the fine arts, all those accomplishments and pursuits indicative of a high degree of civilization and refinement, will be exhibited and shine forth with resplendent lustre. Instead of those low, grovelling, and animal gratifications, the inseparable attendants of vulgar and debased minds, of low-toned *morality*, the great masses of the people will be drinking in draughts of happiness and joy from purer and more enduring fountains. And the benefits which these powers and sensibilities have derived from conscience, will be reciprocated. Just as they increase in capacity and intensity, so will this vicegerent of divinity within, become more sensitive and authoritative. And thus will they continue mutually to affect one another, not merely during the whole period of their connection in time, but even in a higher and serener sphere of being.

But over and above all these natural effects of this high-toned *morality*, there will descend upon that community and people, where it prevails, the direct blessing of the Governor among the nations. It will lead to a public recognition of Him by whom 'Kings reign and Princes decree justice.' It will inspire with entire confidence in His sustaining arm. And it is the law of heaven that the nation which honours God, He will honour. He will impart to it lasting stability, — the perpetuity and continued advancement of all its institutions and immunities. And while kingdoms and empires have been swept away with the besom of destruction, just because they lacked this very element, He will cause it to shine forth with an ever increasing lustre, gathering from every victory fresher and more verdant laurels, and diffusing, far and wide, all those virtues and excellencies, which constitute the light, the life, and the joy of a nation.

And how is such a *morality* to be attained and held fast, perpetuated, and extended. In no other way that we know of than by a sound, popular system of education. "If," says the distinguished Mr.

Hill in his work on National Education, "if you arrange the different nations of the earth according to the state of education in them, it will be found that you have also arranged them according to their wealth, their morality, and their general happiness."

This connection—the connection between the want of education and crime, and the possession of education and *morality*,—is not a matter of speculation or conjecture, it has been proved and substantiated by statistical returns that cannot be controverted. If we compare countries in which education is at a low ebb with those where it is tolerably well attended to, we shall find abundant data for the truthfulness of our position. Take Spain, for example, and compare it with England, which contains pretty nearly the same number of inhabitants. In the latter country, in one year, the number of convictions for murder was thirteen, and the number convicted of wounded, with intent to kill, was fourteen; whereas in the former, in the same year, the number of convictions for murder reached the frightful height of 1233; in addition to which there were 1773 convictions on charges of maiming, with intent to kill, and 1620 persons were convicted of robbing, under aggravated circumstances. There cannot be a doubt that all this crime is the offspring of ignorance, of the want of education,—there being not more than 1 in 36 of the population in the act of receiving this inestimable boon. In further confirmation of the truth that education diminishes crime, take the following statistics gleaned from various official documents respecting prison-management. According to returns to the British Parliament, the commitments for crimes, in an average of nine years, in proportion to the population, are as follows:—In Manchester, the most infidel city in the nation, 1 in 140; in London 1 in 800; in all Ireland 1 in 1600; and in Scotland, celebrated for education and religion, 1 in 20,000. Sir Richard Philips, Sheriff of London, says that on the memorial addressed to the sheriffs by 152 criminals in the same institution, 25 only signed their names in a fair hand, 26 in an illegible scrawl, and 101, two-thirds of the entire number, were marksmen, signing with a cross. The Rev. Mr. Clay, Chaplain to the House of Correction in Lancashire, reports that out of 1129 persons committed, 554 could not read; 225 were barely capable of reading; 38 only could read well; and only 8 or 1 in 141 could read and write well. In the New York State Prisons, as examined a few years ago, more than three-fourths of the convicts had either received no education or a very imperfect one. Out of 842 at Sing Sing, 289 could not read nor write, and only 42—less than 1 in 20—had received

a good, common school education. The State of Connecticut contains fewer persons in proportion to the whole population, that were unable to read and write than any other in the Union. And what does the Chaplain of the State Prison declare? that out of 100 persons, not one was liberally educated, and that out of every 100 prisoners only two could be found who could read and write and follow any regular trade. In England, the number of juvenile offenders committed in one year was not less than 15,507; and in another 11,420. Of those one only had received a superior education; and of the whole 11,420, there were only 196 who could read and write well; and since such a smattering of education as leaves a man unable to read with ease, is, for all practical purposes, no better, in 99 cases out of a 100, than no education whatever, out of 11,420 juvenile delinquents there were in fact 11,223 who may be said not to have been educated at all. What a disgrace to the nation! Ragged Schools meet, to a certain extent, this clamant evil, and furnish the best cure for crime, the cheapest, most humane, and holiest remedy. In Edinburgh, they have put an end to street mendicancy—for just as the school filled, the cells of the prison emptied. In 1847, when the original Ragged School was opened, in Edinburgh, the centesimal proportion of children under 14 years of age in prison, was 56, and in 1859, it was 1.2. The number of prisoners between 14 and 16 years of age, was in 1848, 552, in 1859 it was down to 130. These statements are sufficient to demonstrate the position, that education is the grand instrument in the production of a sound, high-toned *morality*. And how ought this to enhance the subject of the education of the young, in the eyes of communities and nations, and lead to the adoption of every possible means for its encouragement and support? And that not merely, because it is the nation's obligation and honour, but its highest interest, its truest economy. And this education, that it may be productive of such results, must be not only of a soundly intellectual, but of a thoroughly moral character, that is, it must combine training with instruction; and all in conformity with the precepts of inspiration, exemplified and enforced by the Great Teacher of Nazareth. This—this is the grand instrumentality of heaven for the preservation of a nation from corruption and dissolution, as well as for the uplifting and elevation of the sinking and sunken. This—this is pre-eminently fitted to raise a nation to true dignity and glory, to the security and perpetuity of its institutions and immunities.

Having now discussed the benefits of intelligence, industry and morality to the state, singly, and having shown that education, and

the kind of education that can alone secure these three constituents, respectively, we are in a position to take a brief conjunct view of the whole.

It has now been shown that intelligence dissipates the evils of popular ignorance, adds largely to the productiveness of human labour, in manufacture, agriculture, and the useful arts, renders all the resources and forces of nature subservient to the interests of man, and elevates and refines the tastes and sensibilities of any community; and that the education necessary for imparting this intelligence must be such as will exercise, and develop, all the organs and energies of the recipients. Again, it has been shown that industry, consisting as it does of a steady, patient, persevering following out of our calling, with a constant aim at improvement, will conduct not only to a thorough knowledge of the resources and capabilities of the country, but also to their development and legitimate direction; that it will directly lead to economy and the possession of worldly substance; that it will dry up the sources of pauperism, and place at the nation's disposal a large amount of overplus means for the improvement and benefit of others: and that the education necessary for the production of these results is such as must interest the recipients, and thus train to habits of diligence and application. And, again, it has been shown, that sound christian morality, generally diffused, constitutes the mainspring and regulator of the body politic; that it must, of necessity, lessen the amount of vice and crime, and, consequently, largely reduce, in another way, the public expenditure; yea, that this morality, in whatever nation it obtains sway, must bring down thereon the blessing of the God of nations: and that the sort of education that will secure, and extend, and perpetuate this morality, must consist of something more than religious or moral instruction, even that moral education whose grand aim and object is the formation of character.

And if such is the influence of these requisites of a nation's prosperity, when viewed, separately, what must it be when they are all united in one grand whole, when they act, and re-act, the one upon the other in the production of the same common result! We have viewed them apart, in order that we might hold them up to the reader's contemplation with the greater effect. But in order to serve the end intended—a nation's prosperity, they must co-exist and co-operate in closest combination, as so many links in one indissoluble chain. Intelligence is a boon much to be desired, but unless accompanied by unwearied industry, it will be of comparatively little benefit, either to the possessor or to his fellow-creatures; it will remain as a dead

letter, an empty speculation floating in the brain. Industry, too, is good, but, if it is not influenced by intelligence, it is but a degree raised above brute force, it becomes purely a mechanical thing. Intelligence and industry, when combined and mutually operating upon each other, are of vastly greater utility and force than when they exist separately; and were man only a creature of time, with his prospects all bounded by the present scene, they might suffice; but this is not the case: he possesses a nobler nature and a higher destiny. He is a moral and immortal being, and if his longings and aspirations, as such, are not met, he cannot be satisfied; he has not found a bliss adequate to his capacity of enjoyment. Another attribute must, therefore, be added, and that is the attribute of Christian morality,—the fly-wheel that must regulate, and control, and direct the whole of man's complicated mechanism. Let, then, these three elements be combined, let them be exhibited in all their intrinsic worth, in all their relative and associated excellence; and civil government will assume its true character, will shine forth in all its native radiance, as a divine appointment, an institute of heaven. Then will man appear in all the dignity of his nature, as a gregarious, social being, and share in all the joys and blessings thereto belonging. Then will man on earth form a type of the heavenly hierarchy; and all the ranks and degrees that obtain, will but minister to the gratification of each, whilst it heightens the glory of the whole. True, a mighty revolution must be effected upon human character, both personally and relatively, before such a state of things can be realized in its perfection. But in very proportion to the approximation that is made to it, will man arise to his true dignity as a social, intellectual, moral, religious and immortal being; and drink into the happiness destined for him in all these relations and prospects. What patriot, or Christian philanthropist, or heaven-born denizen, would not long, and pray, and labour for the arrival even of the dawn of such a day upon our sin-blighted, plague-smitten world! And, yet, is not the appliance at hand, is not the machinery all equipped, is not heaven looking down with earnest expectancy? All is in readiness, and in the attitude of waiting for the forthgoing of that instrumentality destined to change and renovate the nations. And what, we ask, is that appliance but a popular and Christian education? What is that agency but man, all-impotent in himself, yet all-sufficient when clad in the panoply provided. When, Oh! when, will man awake to a right sense of his present dignity and future destiny! O for the birth-day of true patriotism,—the embodiment of that philanthropy

which is god-like in its origin and mundane in its extent! O for the arrival of that time, when, in the right education of the young, faith in the divine testimony shall be in vigorous exercise! *Train up a child in the way he should go, and when he is old he will not depart from it!*

SECTION III.—THE BENEFITS OF EDUCATION TO THE CHURCH.

The other grand association of the human family is the ecclesiastical, or man viewed as the member of a spiritual society—the Church.

The school has often, and, with great propriety, been designated ‘the nursery of the Church.’ It is so, because of the knowledge it imparts,—the spirit it inspires, and the habits it forms. That the school effectuate these high and ennobling purposes, it must be pervaded and leavened with the spirit of true religion, of genuine morality—a religion and morality that must be inwoven with the mental structure of the recipients and exhibited in actual life. Education of this character is of unspeakable value to the Church:—

Because it renders all the discoveries of science, all the inventions of the arts, and all the resources of nature subservient to the establishment and promotion of truth and righteousness. The work of human redemption, that work which the Church is commissioned to maintain and propagate in this world, is the greatest of all the works of Deity. Those attributes of His nature, which are singly displayed in other objects and in other realms, meet here in one, full, concentrated whole. Those, too, that apparently clash or seem to run counter to one another, are here all reconciled, and harmonized, and blended together, none darkening or eclipsing the other, but each shedding a brighter lustre upon all around. This world was created and preserved as an arena for its manifestation and development, and, as soon as that work shall have reached its consummation, it shall be rolled up as a scroll and pass away from our vision, and a new heaven and a new earth made its dwelling-place. Even now the earth is preserved from decay and corruption entirely because of the ‘excellent’ that are in it, and who are appropriately styled its preserving salt; just as the ten righteous men, if found, would have been to the cities of Sodom and Gomorrah. If, therefore, Creation and Redemption stand to one another in the relation of means and end, if every object or event of the former ministers to the advancement of the latter, it is clearly our bounden duty and our highest interest to render all subservient thereto,—everything in nature and providence, everything that bears the impress of the divine architect, or of human

artifice and skill. But alas! for the selfishness and worldly mindedness of humanity. And this spirit nought but a Christian education will supplant, and extirpate. By means of such an education, the plastic minds of the young will be taught to see and feel that they are not their own, but the property of the sovereign Lord of the Universe; and that all they are and all that they have, are but lent them as stewards, which they are bound to restore, again, with usury; and not only so, but they will be trained to part with this object and with that, for increasing the usefulness or extending the boundaries of the Church of the living God,—the pillar and ground of the truth. As they advance in years, this habit will grow with their growth and strengthen with their strength; and as their capabilities enlarge, so will their hearts and hands. Whatever their study or employment, they have learned to prosecute the one and the other, just that they might have new fields of exploration and new triumphs of science to consecrate to the service of the Church, just that they might have larger possessions, fresher and richer objects on which to levy a tribute for some moral exploit, or the achievement of some heroic, spiritual deed.

Education perpetuates and extends the cause of truth and righteousness in the earth. Every one acquainted with the first principles of Christianity, is aware of the provision made by its author for its diffusion. He has given line upon line, precept upon precept to His followers, exhorting and encouraging them by every motive and argument, to ply every energy and means for the dissemination of the truth. But He has done more; He has so arranged that every one who gives a cordial reception to its essential principles, is inspired with an intense desire to impart these to others, is constrained by its very nature and genius to undergo every toil and submit to every sacrifice for the accomplishment of this glorious object. Every one, in fact, who receives *the word*, becomes himself a living epistle. Thus far, man is rendered a partaker of the divine nature—he has become godlike in his expansiveness and diffusiveness. But the founder of Christianity has not less signally provided for its perpetuation than for its self-propagation. He has established a moral as well as a natural relation between the parent and child, imposing upon the former the most solemn obligation to make known to the latter the wonderful works of God:—“That the generation to come might know them, even the children which should be born, who should arise and declare them to their children, that they might set their hope in God, and not forget the works of God but keep his commandments.”

This is not the place to dilate on the nature of the instruction Christian parents are to impart to their offspring, or the way in which this is to be done. Suffice it here simply to state, that the vast majority of the exhortations contained in the Bible respecting the upbringing of the young, whether general or specific, are addressed to parents, and not only so, but the clearest and most peremptory injunctions are given as to the method to be pursued. They are not only to give wholesome Bible knowledge and to exemplify the power of that knowledge in their own walk, but to train them up in the way they should go, to bring them up in the nurture and admonition of the Lord, to command their children and their household after them.

But parents, after their children reach a certain age, have neither the time nor the capability of thus training their offspring, and what are they to do? They cannot, in consistency with their responsibility, allow them to pass their best, because their most improvable days, in indolence and lethargy. This were to stultify all their past training, all their domestic procedure, in connection with their offspring; it were to do what they can to tarnish, if not entirely to blast their brightest prospects; and what in those circumstances are they to do? They must just call in the aid of proxies in the capacity of school-masters, and hand over to them, for so many hours a-day, their whole education alike in things secular and sacred. They thus carry on the education of their children by delegation, the teachers enjoying the sympathy, the counsel, and the co-operation of the parents. In this way, is the cause of truth and righteousness handed down from one generation to another, and, thereby, perpetuated in the earth. In this view of their position, parents and teachers are both missionaries, and that in the highest sense of the term. In this way, moreover, are the ranks in the membership of the Church mainly supplied and extended. The indebtedness of the Church to education is great indeed.

Education constitutes one of the most powerful means in promoting the best, the highest interests of the Church. There are two ways by which we may do good to our fellow-creatures, dependent on their condition and circumstances. They may either be sinking or have already sunk into the depths of every species of vice and immorality; and we may, in the exercise of our benevolence, employ the best and most appropriate means to reclaim and restore them to the paths of truth and righteousness; or they may be so juvenile as never to have been exposed to snares and temptations, or if they have, they have hitherto been prevented from falling into them—from the commission

of overt acts of wickedness. And we may use all legitimate means for their being preserved in this condition. In the former case we are said to act on the curative or restorative system; in the latter, on the preventive. And the question may here be asked, which of these two methods is the more commendable, which argues the higher exercise of philanthropy? Undoubtedly, we reply, the latter, and that for reasons which we can merely specify. 1st. To act on the preventive, presents a much more inviting field of philanthropy. When we use means for the reclaiming of the vicious and profligate, we are necessarily brought into contact with their vices and miseries; whereas, in the other case, we have only, by the appliance of suitable motives, to encourage and stimulate the objects of our benevolence to the practise of all that is lovely and of good report. 2nd. It holds out a more promising prospect of success to our instrumentality. It is a hard and difficult task to cure the aged veteran in sin. Though it may be comparatively easy to convince such of the evils of a wicked course, yet the power of vicious habit is overwhelming, domineering. Our instrumentality is, by consequence, more likely to be effectual, where evil habits are yet unformed. 3rd. It involves a higher and nobler exercise of faith. In exhibiting sound doctrinal views or inculcating plain, practical, moral lessons, there is nought to stimulate and encourage but the exercise of a simple faith in the divine promises; in the reclaiming of the vicious and the profane, there must be the palpable manifestation to our senses of their forsaking the evil and cleaving to the good,—and hence faith is not, naturally, so much demanded. 4th. It receives a higher meed of divine approbation. Evil in every shape is an abomination in the sight of the infinitely Holy One. When, therefore, we use our instrumentality in preventing our fellow-creatures from falling into sin, we must be regarded by the Almighty with greater complacency, than in attempting to bring them back from the paths of the destroyer, and must occupy a higher vantage ground in securing that blessing which alone gives success.

Now what is the whole educational course, when sound, and thorough, and having respect throughout to the formation of character, by the cultivation of the physical, intellectual and moral nature of the young;—what is the whole character of such a course but one of prevention, and that, at the time, when the mind is most plastic and most susceptible of lasting impressions? This is the period, too, when good habits are most easily formed, not merely those of diligence and close application to study, but of correct deportment and moral obedience. This is the period for training, not only to abstain

from every species of vice and criminality, but to practise all those graces and virtues, which alike dignify and ennoble humanity. This is the period best adapted for sowing on the soil of the human heart the incorruptible seed of the Word, and laying hold, by faith, of those promises which pledge the divine faithfulness to second such instrumentality with his richest blessing. It is thus clear, as the sunbeam, that education constitutes a most powerful mean for promoting the best, the highest interests of humanity. It is from this quarter and through this channel, accordingly, that the Church, in every succeeding age, derives her largest succour, her chief supplies, her recruiting and ever advancing progression, all demonstrating the soundness of our position—the manifold obligations of the Church to education.

Education adds amazingly to the Church's capabilities of usefulness.

There are two cardinal duties imposed upon the church universal, for the discharge of which she was established in this world, and for which, mainly, she is preserved,—duties which enter into the very essence of her constitution, and form, when vigorously met and discharged, her bulwark and glory. The first is to maintain and defend the truth, as that is unfolded in the divine record. By this, we do not understand any one truth, or series of truths, but the whole truth of God, as embodied in the canonical books of Scripture. He of whom the Scriptures testify, the second person of the ever blessed Trinity is sometimes designated 'The Truth,' because his grand office is to establish the truth of God in opposition to the falsehood of Satan. He is then the embodiment of truth, and around him, as a focal centre, all the truth may be said to revolve. This truth is a dead letter, in so far as the word itself is concerned. It is the Church that constitutes its embodied living representation; it is the Church that is its bulwark against all the assaults of the enemy, whether in the matter of doctrine or precept, of ordinance, or of sacrament, whether in the defence or the teaching of our faith.

The other duty imposed upon the church, is to spread the truth, far and wide, even to the utmost ends of the earth. It is hers not only to defend, but, enthusiastically and valiantly, to propagate the truth; and, for this purpose, she must act upon the aggressive, carrying the glad tidings of reconciliation and salvation, to those nations yet in the darkness and misery of spiritual death. This is her special commission; not only enjoined by her exalted Head, but in perfect accordance with her principles, and in harmony with the desires and aspirations she generates and fosters.

Now, that erudition and mental culture are indispensable for these two grand objects, no one who knows what Christianity really is, and the opposition it has to encounter, by the direct antagonism of the seed of the woman and the seed of the serpent, will, for a moment, question. The vast attainments in literature and science that are brought to bear against it, can only be instrumentally met and refuted by those possessed of similar, and, if possible, of greater powers and acquirements. The war mainly waged against revelation, at the present time is through physical and natural science, through geology on the one hand, and phytology and zoology on the other. And how can this assault be met and discomfited, but by those who are thorough masters of these branches of science, who possess not only a general acquaintance with their more elementary principles, but who, confessedly, know them in all their nicest and most occult points; and who are also versant with the general principles of interpretation, and with the literature of theology. And does not all this imply a complete schooling in the elementary branches of education? If all the wits of Satan and his emissaries are sharpened to substantiate charges against the bulwarks of our faith, surely it is necessary, indispensably necessary, that the champions of the truth meet them on their own battle-ground, and fight them with their own weapons; and this can only be done by the possession of vast stores of learning, wielded by minds of discriminating acumen and of high culture—such as what nothing but a thorough education can impart.

Again, the diversified phases of idolatry, delusion, superstition, scepticism and infidelity, which the heralds of the truth must expect to meet in unfurling their banners upon foreign shores, can be demolished, and Christianity built upon their ashes, only by those whose intellects have been well disciplined, and whose stores of learning are vast and orderly arranged. On the banks of the Ganges, the very same objections are brought against Christianity by the learned Brahmins, that were advanced by the Humes and Voltaires and other sceptics of last century. Besides, many of the Pagan systems of religion, that obtain at this moment in heathen lands, are founded upon their philosophic creed. That creed is, generally speaking, erroneous, and can easily be disproved by the veriest tyros in physical science. But, in order to effectuate this, the propagators of Christianity must be thoroughly educated; not only well acquainted with the subject matter of their message but with all those systems of religious belief, which it is their aim to demolish, as well as with those systems of science and philosophy so closely

interwoven therewith. But over and above all this, it is now a well established fact that the most successful missionary among the heathen nations, instrumentally regarded, is the man who possesses the greatest power, in presenting to the untutored mind religious or spiritual truth through the medium of visible or natural objects or things. The untutored mind of the masses of the heathen is like that of a child, it cannot grasp abstract truth. The grand avenue to their understanding is through their perceptive faculties. And need we show again that for this, natural science is much required? That the Church, then, serve the high end for which she is planted and preserved in this world, a high education is indispensable.

Education is the best and speediest way of evangelizing the nations of the earth. There are two ways in which this high and holy mission may be fulfilled. It may be either through the medium of a foreign or a home agency. The former is the mode generally pursued; the latter has only been tried, and that to a limited extent, in more recent times. Which of these two modes is the more likely to effect the end with the greatest speed and efficiency, is an important question. And in answering this question, no one, we think, can shut his eyes to the fact, that the mode generally pursued has not been followed with the results that we would have anticipated from the expenditure of means and appliances. And surely, it is a befitting subject to enquire into the probable cause of this, in so far as secondary instrumentality is concerned. And we have no hesitation in expressing it as our opinion, that much of this comparative failure is to be attributed to the nature of the agency employed. The greater proportion of the nations still enslaved and steeped in the abominations and cruelties of idolatry, are resident in tropical climates, with languages, habits and pursuits diverse from those sending to them the glad tidings of salvation. The result is, that two-thirds of the missionaries that are from foreign shores, fall victims to the inhospitableness of the climate, and that oftentimes before they have mastered the language, or become acquainted with the peculiarities and habits of the people. Thus each successive supply is hurried off the field before much efficient service is done, and the general progress is comparatively small. The only way we know of obviating the difficulty, and of rendering secondary agency more successful, is the accompaniment of the whole of these operations with the high, intellectual, moral, and religious education of the young. Numbers of those thus educated, might, by the use of scriptural means, be converted to the faith of the Gospel. A high literary and philosophical education should be provided for such,

who, in course of time, might be qualified to go forth as teachers, or catechists, or ministers, instructing and disciplining their benighted fellow-countrymen. These, possessed of constitutions in every way adapted to the climate, a thorough acquaintance with the peculiarities and habits of the people, and a perfect knowledge of the vernacular tongue, would be the most eligible instruments for the evangelization and renovation of the surrounding population. This plan, ultimately, would not be nearly so expensive as the other, and it would be far more likely to produce the desired result, both by reason of the age of the recipients, and the instrumentality brought to bear upon them. This view of the matter might easily be illustrated and confirmed by the experience of those who have tested it, either on a smaller or larger scale. It might also be shown to receive additional confirmation by a reference to those lands, where revivals and reformations in religion, have taken the firmest hold, and spread most extensively their benignant influence. These and similar changes, have generally been effected through the medium of a home-born, a native agency. But on these and such like topics, however directly bearing on the subject in hand, we cannot now enlarge.

We trust we have said enough to satisfy every unprejudiced mind that education, instrumentally regarded, is of paramount, of vital importance to the prosperity of the Church at large. It matters not as to the sphere of usefulness on which she has embarked, whether it be in the maintenance or propagation of the truth, whether it be in acting on the defensive or aggressive, she is powerful in very proportion to the degree of her educational equipment. True, her living, her Omnipotent Head could enable her to accomplish His purposes independently of such equipment; but this is not His usual method of procedure. The highest talent and attainment, when consecrated to the service of the Church, when laid in humble adoration and in childlike simplicity upon her altar, are the means on which He looks with fullest complacency, and crowns with the largest measure of success. Surely then, the Church in failing to succour and support, in every possible way, the cause of universal education, is not only acting in direct violation of duty, but is recreant to her highest and noblest interest; is not only placing an embargo upon her future extension, but despoiling her of her intrinsic worth, and strength, and glory. Let but the Church awake to a sense of her responsibility and privilege in respect to the Christian education of her young—let her but be imbued with the spirit of her divine Head, and with what a panoply is she armed for the future, and what lustre would she shed

over the nations. Then, indeed, would she be, like the sun in the firmament, "Which is as a bridegroom coming out of his chamber, and rejoiceth as a strong man to run a race. His going forth is from the end of the heaven and his circuit unto the ends of it; and there is nothing hid from the heat thereof."

RECAPITULATION OF CHAPTER.

The importance of education, as seen from the benefits it confers, we have sketched in broadest outline. The benefits it confers on the individual may well be called *legion*, for they are many. Indeed, it is education and education alone, that elevates man, instrumentally, to his rightful position both in time and eternity. It might be a befitting exercise for the students attending a Normal School, to trace the parallel between the educated and uneducated, the tutored and untutored mind. This might exhibit the advantages of education in a more conspicuous and palpable light. It will be observed that we have more fully elaborated the benefits of education to the State, than we have done either to the individual or Church; and that mainly because the grand burden of our theme is national education. We have presented a glowing picture of the effects of education on the State, but that picture is neither overdrawn nor exaggerated. We have abundant corroborative facts in the past history and present condition of the species to substantiate every step of our argument, to uphold every position we have taken. Who can impede the onward progression of mind? As well might we attempt to bid back the waves of old ocean. Who will venture to controvert the infallible testimony of inspiration that truth and righteousness will eventually prevail? And how can these be diffused save through the educational process? But if the benefits of education to the individual and to the State are great and diversified, they are equally so to the Church. In using the term Church, it need hardly be notified that we refer to any one branch or denomination of the visible Church above another, but to the universal Catholic Church consisting of all, who, in every age and in every place, make a credible profession of true religion, together with their children. There was a time when it was thought that education was prejudicial to the interests of the Church, that the height of her faith was proportionate to the depths of her ignorance; but that time has already gone by, and now popular systems of education are patronized and propagated by all who profess Christianity, even where despotic rule reigns. There need be no jealousy

between true science and true religion. The one not only illustrates but confirms and ratifies the other. There is a pathway for the instrumentality of the most profound devotee of science, just as there is for the highest divine agency; and these, instead of clashing, but burnish each other into brighter radiance, into more dazzling lustre. Though the fountain of uncreated light and life and holiness delights to baffle the wisdom of this world, there are none towards whom he looks with more benign complacency or with more affectionate interest, than those who have subordinated their reason, as well as all their other powers and energies to the sovereign will of infinite wisdom, who know experimentally what it is to become fools that they may be wise.

And now need we say that the education that will ensure these and similar benefits to all these parties must be of highest order—no mere rote, mechanical, pouring in, explanatory process, but a fine, salient, exhilarating, refreshing interchange of thought and sentiment between the mind of teachers and pupils, and that, in perfect adaptation to all the principles and laws, to all the instincts and tendencies, to all the sympathies and sensibilities of their physical, intellectual and moral constitution. More than all this, there must be the bringing into contact with the elasticity and buoyancy of the juvenile mind, those truths and facts, those living, yet unseen objects—**THE LIVING ONE**, which are congenial to their heaven-sprung constitution, and which can alone meet and satisfy their soaring aspirations, their undying longings. And more than all this still, the education that wafts all these blessings on its bosom must be invested with all the dignity of conscious proprietorship, with all the might and majesty of a self-sustained triumph. And all iterated and reiterated, aye and until the knowledge attained, and the faculties developed, become stereotyped, part and parcel of their very being.

BOOK II.

SCIENCE OF EDUCATION.

CHAPTER I.

WHAT IT IS.

CLASSIFICATION OF ITS PRINCIPLES.—THESE PRINCIPLES VIEWED IN TWO ASPECTS ; 1, THE LEADING FEATURES OR CHARACTERISTICS OF THE CHILD'S NATURE ; AND, 2, THE MEANS TO BE RESORTED TO FOR THE DEVELOPMENT OF THE SAME.—ENUMERATION OF THESE FEATURES WITH THEIR APPROPRIATE ADAPTATIONS.

The term *science*, according to its derivation, signifies knowledge in general. It is, however, rarely used in this vague sense, and commonly imports knowledge of a certain description,—knowledge systematically arranged ; it may be, either of facts, or principles, or laws. In a more restricted sense, it is applied to any branch of knowledge, properly arranged such as the *science* of Astronomy, Botany, Zoology, Geology. Philosophy has already performed its office. By observation and experiment, it has investigated the varied phenomena presented, discovered their causes, and in the shape of general conclusions, deduced certain laws and principles. When these have been classified, and a complete method or system constructed, it is designated a *science*.

But the term before us has a still more restricted meaning, and often stands opposed to art. *Science* and *art*, when thus used, are correlative terms, and correspond to *theory* and *practice*. This is the sense in which we now take it ; and as thus understood, it signifies a body or system of principles and deductions, by which the nature of any given subject is explained ; whilst art signifies a body or system of

precepts, with practical skill for the completion of some work. A *science* teaches us to know; an *art* to do. *The science of education*, then, is neither more nor less than a knowledge of its principles, systematically arranged. These principles are just the leading features of the child's nature with the adaptations most suitable for their growth and development. These two, in all our subsequent discussions, must go together—the one constituting the pedestal and the other the columnar pillar. By the leading features or characteristics, we are clearly to understand those which are common to all children, such as enter into the very essence of their being. In a field of wheat, for example, of any one kind or sort, whilst every stalk has something peculiar to itself, there are certain specific characters common to the whole, by reason of which they are all pronounced to belong to the same kind or species. So is it in reference to the young of the human family. Though every child may have some peculiarity of its own, yet every one has certain leading features, which stand out in bold relief. These, with their appropriate adaptations, may be thus enumerated.

Every child possesses a physical, intellectual, emotional, aesthetical and moral nature. The specific for the strengthening of the one or other of these parts of the child's being, is *exercise*. This is the adaptation process of this characteristic; and the teacher, who brings it to bear with the greatest skill on all these parts, is the most successful.

These constituent parts are in indissoluble union and reciprocal dependence. The means best adapted to the development of this feature, is *simultaneous exercise*. If the reciprocity referred to exists, and this, no one, who has studied the human constitution, will venture to deny, surely it behoves the teacher to turn it to the most profitable account; and so to operate upon the one through the medium of the others, as to draw therefrom the largest possible result.

Great diversity of endowment or of natural talent. This feature, so palpable to all, is met by presenting to the minds of the young a variety of subjects, mainly through the medium of oral lessons, varying in matter and form, according to the grade of pupils.

Different epochs of development. If, as is uniformly found, the young are, at first, more dependent on their senses, then on their memory, and, lastly, on their reasoning, these powers must necessarily be in livelier exercise, in more vigorous application at one time than at another: and what appliance better fitted to meet and do justice to this feature than to direct the time and attention of the young to those branches of study most congenial to the powers, in full bloom, at these epochs, respectively?

Variety of attainment. This feature exists under the most exact system of classification and arrangement; and the way by which we adapt ourselves to it, is teaching by outlines;—opening up the subject by giving first the merest skeleton, then entering gradually into detail, till the attainments and capabilities of all are proved and exhausted.

Sympathy of numbers. This is a powerful lever either for good or evil, and ought to be taken advantage of in the educational process. By proper classification, elevated seats or gallery, enclosed playground, and other expedients, this may be done both in intellectual and moral training.

The impressibility of the young. That the young are more susceptible of impressions, far more yielding and plastic in their nature than the adult or full-grown, is undoubted; and in no other way can this feature be met than by securing for the young the best possible education in their growing condition; and by persuading all parties concerned—the parent, the state and the church, that, even under the most favourable auspices, nothing can secure such an education of the young but regular, steady, continuous, persevering attendance at school, till they reach the fifteenth or sixteenth year of their age.

From this brief enumeration of the leading characteristics of the child's nature, with their appropriate means of development, it will be seen that the whole of the *science of education* is resolvable into a series of well-chosen adaptations—the only sound and safe principle on which to rest it. We pretend not to exhaust the various characteristics of the child's nature; neither do we profess to give a perfect enumeration of their appropriate adaptations. But we do maintain, and that with no small measure of confidence, that the principle on which the whole is founded—the principle of adaptation, is firm and unassailable. It is a principle which pervades all nature, providence, and grace. Its existence—its universal prevalence, forms one of the finest proofs of design in creation, and not only displays the supreme intelligence, but the boundless goodness of the Almighty. It furnishes, too, one of the strongest arguments in support of the divine origin of the Bible. What does that Book profess to be but a universal remedy to a deep-rooted, inveterate disease? and where is the individual who has tested it, and not found it in nicest, in most complete adaptation to his case? In adopting this principle, then, as the one on which to found the whole science of education, we are surely on safe ground, when we have both philosophy and revelation on our side,—when we stand in close juxta position with an analogy that reigns throughout the whole of the natural and moral world.

RECAPITULATION OF CHAPTER.

It is the opinion of some that the time has not yet arrived for reducing education to a science, and that it ought, for a while longer, at least, to be subjected to the experimental crucible. We need scarcely say that we have no sympathy with this sentiment. If the practical results of education, in all their length and breadth, are to be considered an indispensable prerequisite in the construction of such a science, there might be some validity in the opinion thus expressed. This, however, is not the case. The science of education no more depends on its results than the theory of music, or painting, or architecture, does on the art, or the science of chemistry on the practical application of its principles to the economics of life. All that is necessary here, as in every other department, is first to draw the line of demarcation between the principle or principles involved, and their practical application—between the science and the art; and having determined this point, to proceed to classify these principles according to the resemblances or differences that obtain, and the result of this classification is a methodical arrangement or a science. In the science of chemistry, for example, we have first the material on which we operate, namely, the elementary bodies. We must make ourselves well acquainted with these in their properties and relations, all already reduced to a system. The next point worthy of consideration, is the end or object to be aimed at, and that is the formation of other bodies having specific qualities by the combination of these elementary substances, according to a fixed law, called the law of chemical attraction or affinity. All really necessary for the construction of the science of chemistry, is a knowledge of these materials and of the law of combination. The application of that law in the production of distinct resultants does not at all affect the principles involved in the science. And just so is it in the subject of education. Here we have the materials or the leading features of the child's nature. Here, too, we have a great end or object aimed at, namely, the development and growth of all these parts, and that by the application of a principle far more extensive in its range and far more enduring in its results than even that of chemical affinity—we mean, of course, the principle of adaptation. In reducing education, then, to a science, all we have to do is to classify or arrange, in systematic order, the leading features of the child's nature, and to apply to each the adaptation principle in the production of the desired end, and that principle is either exercise or something originating in the social or sympathetic constitution of our being. This is just what we have sketched in the preceding chapter, and which we proceed to elaborate in detail.

CHAPTER II.

FIRST CHARACTERISTIC.—EVERY CHILD A COMPOUND BEING, HAVING A PHYSICAL, INTELLECTUAL, EMOTIONAL, ÆSTHETICAL AND MORAL NATURE.—I. PHYSICAL EDUCATION.—ITS MEANING, GENERAL AND SPECIAL, FOUNDED ON ANIMAL PHYSIOLOGY.—*a.* SCHOOL-HOUSE.—VENTILATION, TEMPERATURE, LIGHT;—DEPENDENT ON NUTRITIVE SYSTEM OF ORGANS.—*b.* FURNITURE OF SCHOOL—GRADED; SUPPORTING SYSTEM.—*c.* SCHOLARS,—CLEAN, NEAT AND ORDERLY; CUTANEOUS SYSTEM.—*d.* SCHOLARS' ATTENTION,—PHYSICAL EXERCISES;—MUSCULAR SYSTEM.—*e.* REGULATION OF STUDIES,—VARIETY, REGULARITY, PUNCTUALITY AND ITERATION;—NERVOUS SYSTEM.—II. INTELLECTUAL EDUCATION.—ITS MEANING,—FOUNDED ON INTELLECTUAL PHILOSOPHY.—CLASSIFICATION OF POWERS OF INTELLECT.—INTELLECTUAL EDUCATION CONSISTS OF TWO PARTS;—GIVING PROPER FOOD AND IN A WAY THAT IT WILL BE DIGESTED;—LATTER INVOLVES TWO THINGS, THEORY AND PRACTICE.—INTELLECTUAL POWERS CONSIDERED SERIATIM;—*a.* PERCEPTION;—*b.* CONCEPTION;—*c.* MEMORY;—*d.* IMAGINATION;—*e.* GENERALIZATION;—*f.* REASONING;—*g.* INTUITION;—THEIR NATURE, IMPORTANCE AND EDUCATION.—III. EMOTIONAL EDUCATION,—MEANING,—FOUNDED ON SENSIBILITIES.—CLASSIFICATION;—EMOTIONS, AFFECTIONS AND DESIRES.—EACH OF THESE CLASSES CONSIDERED; NATURE, POSITION AND EDUCATION.—IV. THE WILL—VIEWED PSYCHOLOGICALLY—WHAT EMBRACED IN EVERY ACT OF WILL—IMPORTANCE OF WILL—EXECUTIVE OF WHOLE MAN—EDUCATION OF WILL.—EXERCISE,—REGULAR COURSE OF EDUCATION, KEEPING BODY HEALTHFUL, PUNCTUALITY AT STUDIES, WRITE CRITIQUE OF WHAT READ.—V. ÆSTHETICAL EDUCATION.—ITS IMPORT,—IN WHAT THE BEAUTIFUL CONSISTS;—ILLUSTRATIONS,—TASTE, BOTH INTELLECTUAL AND EMOTIONAL; IMPORTANCE OF THE BEAUTIFUL—ITS INFLUENCE, ELEVATING AND REFINING;—UTILITY IN COMMERCE AND IN NATURAL THEOLOGY.—EDUCATION OF TASTE, EXERCISE, ACTUAL PRACTISE,—CHIEF WORKS OF GREAT MASTERS,—STUDY OF NATURE.—VI. MORAL EDUCATION.—NATURE OF CONSCIENCE;—SUPREMACY;—OUTSTRIPPING IMPORTANCE OF THIS BRANCH.—THE EDUCATION OF DISCRIMINATIVE, OBLIGATORY AND TESTIFYING.—CONSCIENCE FALLIBLE.—WHENCE LIGHT AND GUIDANCE? BIBLE;—ITS ADAPTATION,—USE IN SCHOOLS; MANNER AND SPIRIT OF USE; OCCASIONS OF USE,—*a.* IN PUBLIC DEVOTIONS OF SCHOOL;—*b.* REPOSITORY OF RELIGIOUS AND MORAL INSTRUCTION;—*c.* DIRECTORY OR STATUTE-BOOK IN EVERY DAY MORAL DUTIES;—*d.* LAST STANDARD OF APPEAL;—*e.* NEED OF GRACIOUS INFLUENCES.

This presents a wide field of contemplation, involving the whole subject of physical, intellectual, emotional, æsthetical and moral education. To do anything like justice to each of these great branches, would require a volume for itself. All we can attempt, therefore, is a mere outline; and even that, to be intelligible and instructive, will require no small amount of space. When it is considered, however, that this feature, in all its compartments, lies at the foundation of the whole; that when clearly apprehended, it furnishes a key whereby to unlock the treasures of all the others, it is hoped, that the space allotted will not be found disproportionate to its importance.

SECTION I.—PHYSICAL EDUCATION.

This important theme may be regarded in several aspects; in reference to the family or the school, to the young or those who have reached, physically, the manhood of their existence. The application it receives, necessarily, affects its import, and presents it under considerable variety of modification. If, for example, it refers to those whose bodily frame has reached a state of perfection, it denotes the use of all means for the preservation of the health and the gracefulness of the body, technically called hygiene or hygienism. If, again, it refers to the young, it signifies not merely the use of all proper means for preserving the health of the body, but also for its growth—the gradual and harmonious development of all its organs. In every animal, as in every plant, there are certain parts called organs or instruments, from their performing certain functions. In the human species, as in other animals, these organs are classified under six systems,—the cutaneous, the supporting, the muscular, the nervous, the nutritive and the reproductive. A knowledge of the anatomy of these organs, and especially of the office they perform, is, properly speaking, *Animal Physiology*. This, as well as vegetable physiology, is a branch of study of the deepest interest and importance, and which, in these modern times, has received from men of science no ordinary measure of attention. These two departments—animal and vegetable physiology—not only lay the foundation of all natural classification in the organic world, but furnish some of the finest illustrations of natural Theology, and in their application contribute largely to the promotion of man's personal and economic welfare. These organs in the young of almost all animals, are small and tender, but they are especially so, in the human species, requiring a large variety of appliances, and a long period of nursing to bring to maturity. These appliances must, as a matter of course, be, mainly, administered in their more infantine years by parents, and, especially, by mothers. And how striking the provision made by the author of our being for securing the care and self-sacrificing tenderness of mothers, so requisite for the physical upbringing of their offspring!

But it is in the public school that we have more especially to do with the matter of physical education; and in turning to this aspect of the subject, we may notice at the outset, that whilst the teacher, so long as the scholars are under his charge, has devolved upon him the entire responsibility of the health of their body and the gracefulness of their gait, his main concern is to secure, by physical education, a larger amount of intellectual and moral labour than he is able to effect

without it,—is to regard it more in the light of a means than in that of an end. It is scarcely possible to estimate the influence which the body exerts over the mind ; how completely the one sympathizes with the other, whether in disease or health, in a state of languor or of vigour, of weakness or of strength ; how thoroughly and extensively they act and re-act upon each other ; and hence the lever put into the hand of the teacher by the skilful application of physical education, the immense power it gives in the whole cultivation of the mental faculties. There is scarcely a department in the management of the school, where the teacher cannot summon to his aid this instrumentality, where he cannot employ physical education as a powerful auxiliary, a most valuable handmaid. There is, first, the school-house ; it must be provided with a suitable supply of air, temperature and light, or else it will not serve the purpose for which it was built ; and on what does this depend but on the laws of animal physiology, and more especially on the nutritive or assimilative system of organs. The furniture of the school-house, too, must be constructed in adaptation to the size of the children, that is, the seats and desks must be graded ; and this is necessary, not merely for their health and comfort, but even for doing justice to their intellectual and moral faculties. All this mainly depends on the general nascent condition of their physical parts, and, especially, on the supporting or bony system of organs. Again, the persons of the scholars ought to be clean and neat ; this is alike necessary for the health of the body, the refinement of the taste, and the invigorating of the mind ; and this is dependent on the cutaneous system of organs. And now that the scholars are all properly adjusted in their persons, seated comfortably, and in a commodiously-sized school-room, is it asked, can anything now be done, through the medium of physical education, to secure their attention to the work for whose performance they are assembled ? We reply, a very great deal ; and that by operating on the brain through the muscular system of the organs :—To do this, however, the teacher requires to be well acquainted with the grand law of that system, the law of contractility. Once more, it may be asked, is physical education of any service in furthering the grand object of the education of the young ? Yes, we, unhesitatingly, reply. The faculties and sensibilities of the human mind can only be exercised, developed and strengthened, in accordance with the laws that regulate the organization of the brain ; and hence it is necessary, not only that we know these laws, but that, in all our mental management and treatment, we act in harmony therewith. Thus, there is scarcely a department in the whole range of our

subject, in which intellectual and moral education may not be largely promoted by means of the physical. But we must discuss the whole matter of physical education in detail ; and, first, let us regard it in its bearing on the school-house.

School-house. We say nothing here about the site, the grounds, the surrounding scenery, or the external form and architecture of the building ; all these points will be amply discussed at a subsequent stage of our course, under the practical department. What we have now to do is to regard the school-house in its internal capabilities, as these affect the body. There are three things which, in this connection, demand our attention, namely, ventilation, temperature and light ; and unless these requisites to all intellectual and moral improvement be provided, the best system and the most skilful teacher will be of little avail. All these clearly and distinctly depend on the laws of animal physiology, and what, as has already been stated, what is physical education but these laws systematized, or reduced to a science, and applied to the educational process.

Ventilation—Nutritive system of organs. By this term is meant the act of ventilating or fanning with wind, the replacement of noxious or impure air in an apartment, mine, or other enclosed space, by pure fresh air from without. The importance of a due supply of fresh atmospheric air in the school-room, cannot be over-estimated. It is indispensable, not only for the preservation of the life and the growth of the physical frame of its inmates, but still more for the healthful and vigorous application of their mental powers. Though the human mind has an existence perfectly distinct from the body, yet so long as we are in the body, it is indissolubly united to and dependent upon it for its legitimate exercise. If the body is in a disabled condition ; if, for example, the blood that goes to the brain, the seat of thought and volition, is not properly vitalized, the mind in its operations is proportionally affected, is not in a position to do justice to itself. And on what does the vitalizing of the blood depend ? On several things, but especially on its being brought in contact with pure atmospheric air by the act of respiration ; and hence the vast importance of the subject before us. But we must enlarge here. We have said, that the blood constitutes the vital fluid—that it is essential for the life, and health, and activity, both physical and mental, of all, and, especially, of the young ; and, this being the case, it is surely in every way befitting, that we trace, as briefly as we can, its various stages or processes of preparation, until it reach its maturation and become capable of performing the functions for which it was intended. On what, then, is it

asked, does the due quantity and quality of this fluid depend—how are the supply and purity of the blood to be maintained? It depends on these two things: 1st. The organs involved; and 2nd. The appliances administered. The organs employed in preparing the blood on which the whole vital functions depend, are sometimes called the *nutritive*, or, from the nature of the process, the *assimilative*; and these again are divided into the *digestive*, the *circulatory*, and *respiratory*. In *digestion* there are three processes gone through: *mastication*, *chymification*, and *chylification*. 1st. *Mastication*, performed in the mouth by the teeth, the salivary glands, the muscles of the tongue and of deglutition. 2. *Chymification*, the act of making into chyme the food taken into the stomach by the left or cardiac opening, by which it is changed into a greyish pulpy substance, always in a healthy state, slightly acid; and the agent employed to bring about this decomposition of the food is called the *gastric juice*,—a clear, transparent fluid without smell, slightly saltish, and very perceptibly acid;—one of the most potent of secretions, perforating and grinding into powder the hardest metals. 3. *Chylification*, or the making of chyme into chyle, which takes place in the duodenum, the first part of the intestines, where it mixes with the bile and the pancreatic juice, and is separated into two parts, one of which is carried out of the system, and the other, which contains the concentrated essence of the whole, is taken up by innumerable minute vessels, called lacteals, and is thence conducted through the mesenteric glands into the receptacle of the chyle, and, afterwards, into thoracic duct, by which it is poured into the *venæ cavæ*, under the clavicle or collar bone, to be mingled with and become the blood. Here endeth the digestive process, or that process by which the raw material is supplied to the venous blood, to repair the waste that is unceasingly taking place. The extent of the change which the food undergoes before it is fitted to form part of the animal body, is proportionate to the difference between the qualities of the nutritive materials in their original and assimilated states. Thus, the conversion of vegetable into animal matter necessarily implies a more lengthened process and a more complicated apparatus than the assimilation of what has been already animalized. The stages of digestion in man, and in all animals similarly constituted, are, as we have seen, threefold. In the ruminating family, or those animals that chew the cud, it is much more tedious and complicated, that the food may be detained and exposed to a much larger surface. Hence the comparative length of the intestines in different tribes of animals. The intestines of the ram are twenty-seven times the length

of its body, the ox twenty-two, man five and a half, the lion three, and the shark little more than three-fourths its length.

As to the nature of the food taken, that digestion may go on properly, it should be, in every respect, adapted to the age, the situation, and the circumstances of the consumer, sufficient in quantity and suitable in quality. The digestive process is much more rapid in some kinds of food than in others. By a series of experiments, it has been found that vegetables are much more rapidly dissolved than animal substances, and some of both more quickly than others. Thus, fried tripe has been found to digest in one hour; boiled cod, and likewise bread and milk, in two hours; roasted beef, and also soft-boiled eggs, in three hours; salted pork, in three and a half hours. The lower orders generally suffer more from the indigestible quality of their food, and the higher from the quantity taken. In both, the bad effects are most marked, when combined with sedentary or intemperate habits.

The next class of organs employed in the preparation of the vital fluid, is the *circulatory*. The heart, composed of two lobes, one on the right and the other on the left side, with two cavities in each, called the auricle and ventricle, having a separating valve, may be regarded as the seat or centre of this class of organs, and acts as a kind of forcing pump, propelling the venous blood into the lungs, which, after being purified by a process of aeration, is diffused by means of the arteries all over the body. There are thus two motions in the current of the blood, the one called the pulmonic and the other the systemic. The object of the former is to conduct the venous blood into the lungs. This blood, of a dark modena red, is primarily, the residuum of the arterial blood after the body has been duly supplied. It is taken up all over the body by the small hair-like vesicles, called capillaries, appended to the veins, and thence conveyed to the *venæ cavæ*, where it is joined by the chyle in its concentrated essence, in consequence of the secretions through which it has passed. The ascending and descending *venæ cavæ* empty themselves into the right auricle. From this, the venous blood passes into the right ventricle, which, by muscular contraction sends it into the pulmonary artery, and this immediately divides in the lungs into innumerable branches. In the lungs, as already stated, the blood is subjected to a process of aeration, by which it passes from a noxious into a nutrient condition, containing the elements of all the tissues and organs of the body, and, in this condition, is conveyed as red and arterial blood by the pulmonary veins to the left lobe of the heart. These veins from both sides, pour their supplies of blood into the left auricle, from which, again, it passes

into the left ventricle, and is thence by that contraction which creates the pulsation, sent to all parts of the body through the aorta and its branches into the capillaries of the arteries; and, what is not required for the sustenance of the body, is taken up by the capillaries of the veins to be again conducted along with the chyle, to the lungs for revivication. As to the time employed in completing the circulation, considerable variety of opinion obtains. Assuming the average weight of a man, between 30 and 40 years of age to be 170.5 lbs. troy, the blood would amount to about 39 lbs. If, now, we suppose, that the heart contracts 70 times in a minute, and that each contraction propels two ounces of blood, it follows that the whole mass of blood will complete the circulation in three minutes, though some allow even a shorter period. Much depends in this matter on the age, the constitution, and the habits of the individual. In early life, the pulsations of the heart are much more rapid than in mature age, and of course the circulation must be quicker. There are two distinct forms of constitution in which the blood is circulated with greater or less vigour through the system. In the one, the circulation is very vigorous; all the functions are performed with energy; and the diseases in general are of an acute character. When the complexion is fair, this constitutes what has been called the sanguine temperament; when dark, the choleric. In the other variety, the circulation and all the functions connected with it, is languidly performed; the surface is easily chilled, and the diseases have frequently, a low, insidious character. When the complexion is fair, this has been called the phlegmatic temperament, and the melancholic when the complexion is dark. With a feeble circulation, the general health never can be good; and hence we find the action of the heart weak in most delicate persons. Before leaving this branch of the subject, it is worth while to call the attention of our readers to this delicate yet marvellous piece of mechanism—the human heart,—the seat of the whole circulatory process. From the account given above, it is clear that the office discharged by this organ, with its accurately working valves, is essentially that of a forcing pump. And with what inimitable precision and regularity, does it perform this all-important duty! Unweariedly, during the whole term of a long life, it sends out daily its 100,000 waves of healthful fluid to refresh and renovate every corner of the system; and small as each wave may be individually, the aggregate is enormous. Thirteen thousand pounds pass out of the left ventricle of the heart of an ordinary man every twenty four hours, and yet the aorta of such a person, is scarcely an inch in diameter. What evidence have we here of the perfection of

the divine workmanship! What a tribute is here to the honour of that Almighty Being who is wonderful in counsel and excellent in working!

The last stage of the assimilative process is that of *respiration*. The organs employed for this purpose, are the lungs and the pulmonary artery. The former is composed of the windpipe or trachæa, branching off into bronchi, and terminating in very minute sacs or vesicles, which vary in size from the 50th to 100th part of an inch in diameter, and which are supposed by some to cover an area of 20,000 square inches. The latter is made up of an immense number of blood-vessels, branching out upon the sides of the air vesicles. The act of inspiration or drawing in a breath, is performed by raising the ribs, which, for this purpose, are provided with numerous muscles between and attached to the ribs, and, at the same time, by depressing the diaphragm. Again, the act of expiration or the expulsion of the air from the lungs, is effected, principally, by the elasticity of the ribs,—the muscles that acted during inspiration having been relaxed, and by the contraction of the muscles of the abdomen pushing up the diaphragm.

But for what purpose is this delicate piece of mechanism constructed? Plainly, for that of bringing the atmospherical air in contact with the venous blood flowing through the lungs, with the view of its being subjected to the process of aëration or purification. And what, is it asked, is the composition of this atmospherical air, when inspired, and when expired? And what is the cause of the change it has undergone? Pure atmospherical air is made up, principally, of the two ingredients, nitrogen and oxygen, in the proportion, per volume, of 4 to 1, or of 79 parts of nitrogen to 21 of oxygen. There is besides a small proportion of carbonic acid, but it is so insignificant as not to produce any sensible effect. The large proportion of nitrogen, acts as a sort of diluent to the oxygen, a conductor to that gas which seems as essential for sustaining life as it is for combustion. "The quantity of air," says Combe, "taken into the lungs at one inspiration, varies according to the age, constitution, and circumstances of the person at the time. It has been variously estimated at from 15 to 40 cubic inches." Dr. Southwood Smith states that the largest quantity ever inhaled, at one inspiration, is nine pints and a quarter. He adds, that the quantity received at an ordinary inspiration, without any effort at all, is about one pint imperial measure, or 34·659 cubic inches; while, at any easy inspiration free from any great effort, it amounts to 2½ pints. Females take in a smaller quantity than males, and hence, generally speaking, the thorax is less capacious. The popular notion that the whole of the air is expelled from the lungs at each expiration,

is entirely erroneous. Even after forcing out as much as we can, it is calculated that, at least, 40 cubic inches remain in the air cells; while, after an ordinary expiration, about 120 inches remain behind. According to Sir H. Davy, the whole quantity of air in the lungs after a natural inspiration, amounts to 135 cubic inches; so that taking an ordinary inspiration and expiration at 20 inches, the quantity of air remaining in the chest, is, at least, five times greater than that expired. Dr. Smith estimates the quantity of air remaining at eleven pints. It is by this continuance of the air in the lungs that its requisite action on the blood, is rendered continuous, and has time to take place; and also, that we are enabled for a time to hold our breath, when under water, as in diving.

In man, the average number of respirations in health, varies from 14 to 20 in a minute; but, during disease, it is often much greater and, sometimes, also, considerably less.

“With these data to guide us, we can form a correct idea of the extent to which a constant renewal of the air we breathe is required for the support of life. Taking the consumption of air, at each inspiration, at even the moderate rate of 20 cubic inches, and rating the number of respirations, at only 15 per minute, it appears that, in that short space of time, no less than 300 cubic inches are required for the respiration of a single person. Mr. Finlayson estimates the fresh air inspired in one minute at 616 cubic inches, or as nearly as may be, eighteen pints. In one hour it amounts to 1066 2-3 pints, or 20 hogsheads, 20 gallons, and 10 2-3 pints. In one day it amounts to 57 hogsheads, 1 gallon, and 7¼ pints.”

Before entering the lungs, the atmospheric air consists, as we have seen, of 21 parts of oxygen and 79 of nitrogen, with a very small trace of carbonic acid. When it is expelled, however, it is found to be greatly altered. In bulk the air expired continues to be nearly equal to that inspired, but observers are now generally agreed that a slight diminution takes place. Its chemical properties, however, are much changed, for we find on analyses that about five parts out of the 21 of oxygen have disappeared. Of these five parts of oxygen, four are returned in combination with carbon as carbonic acid; but one part remains unaccounted for, and is supposed to enter into combination with unneutralized hydrogen of the food, to form water and to be excreted in this shape by the skin, or the lungs, or kidneys.

The changes effected by respiration in the appearance and constitution of the blood are not less remarkable than those produced on the air. From being of a dark purple hue it passes immediately to a

bright red colour. This change is caused by the action of the oxygen on the red particles of the blood; and it takes place even out of the body, when venous blood is exposed to the contact of oxygen. In effecting this change the oxygen is absorbed and carbonic acid is exhaled. Arterial blood accordingly contains more oxygen and less carbon than venous blood. It is in the red globules that the chief changes produced by respiration take place. These constitute the respiratory portion of the blood, and each globule may be considered as a separate living entity, which comes to the lungs to inhale fresh air. Consequently, the greater the number of red globules, the greater is the quantity of oxygen inhaled, and the more energetic are the vital functions. The red globules laden with oxygen are carried along the arteries to the capillaries where, by means of exosmosis and endosmosis they deposit their cargo of vivifying materials, and, becoming venous, receive in exchange the expended materials of the tissues which they convey to the lungs and other organs of excretion. The vast importance of the red globules of the blood for all vital actions will now be manifest; and it will be readily understood why the powers of life are most vigorous in individuals whose blood contains the due proportion of globules oxygenated by the respiration of a pure, dry, and bracing air; and why, on the contrary, every function is carried on with languor and listlessness, when the red globules are deficient in quantity, or the air respired is loaded with impurities.

The restoration of the vital properties of the venous blood is not the only change which is effected during its passage through the lungs.—The development of animal heat is another and very important result of its oxygenation, and one scarcely less essential to the continuation of life. If the human body did not possess within itself the power of generating heat, so as to maintain nearly an equality of temperature in all climates, it could not long exist. In winter and, especially, in the northern regions, if no provision existed for replacing caloric withdrawn from the system by the cold air surrounding it, the blood would be speedily converted into a solid mass and life be extinguished. In most parts of the globe, the heat of the atmosphere is even in summer inferior to that of the human body, and, consequently, a loss of caloric is always going on, which must be made up in some way, otherwise disease and death would speedily ensue.

The principal source of the heat of the animal body is the combinations into which oxygen enters with the products of the digested food. The nature of these combinations and the amount of heat produced, consequently, vary with the quality of the food. In this sense, respi-

ration is, essentially, a process of slow combustion; carbon and hydrogen are the principal elements consumed, and the amount of caloric produced in the body is precisely the same as would have resulted from the ordinary combustion of these bodies in the open air.

Such is the nature of the change produced upon the venous blood by its being brought in contact with the atmospheric air; and when we reflect upon the fact that this constitutes the finishing stroke of the assimilative process of which all the previous steps are merely preparatory; and when, at the same time, we consider the results that flow therefrom, involving the life, and health, and vigour of the human constitution, both physically and mentally, we cannot fail to perceive its transcendent importance, and the consequent necessity of using every means by which the change effected shall be of the most complete and perfect character. And what are the means to be employed for this purpose? We reply, a due supply of suitable food and of pure atmospheric air. As to the former, it is plain it ought to be sufficient in quantity and suitable in quality; and both corresponding with the age, constitution, and habits of the parties concerned. To provide and administer the food, however, is more appropriately the function of the parent than of the teacher, and generally receives a larger measure of attention. It is more to our purpose, and comes more directly within the range of the province of the teacher, that we attend to the latter of these points, namely, the providing of an adequate supply of pure atmospheric air. And what is to be done in this matter? It is just to use every means for the preservation of the precise ingredients in the precise proportions ascertained to exist in the atmosphere.— Destroy the balance and the most disastrous consequences will ensue. If the quantity of any of the ingredients be increased or diminished, the proper constitution of the blood will be immediately changed, and the general health endangered. If, for instance, there is an excess of oxygen, it will stimulate to inflammatory action, rouse to feverish excitement, and, if uninterrupted in its course, terminate fatally, and that with greatest rapidity. If, on the contrary, there is a deficiency of oxygen, and the air contain more carbonic acid than the minute trace of it which exists in pure air, it will be, to that extent, unfit for the purposes of respiration, and act deleteriously upon the blood and general system, both physically and mentally. There is no lack of examples in support of this position. Who has not heard of the notorious black hole of Calcutta in 1756? One hundred and forty-six Englishmen were thrust into a wretched prison, 18 feet square, in which there were only two very small windows by which air could be

admitted ; but as both of these were on the same side, ventilation was utterly impossible. Scarcely was the door shut upon the prisoners, when their sufferings commenced, and, in a short time, a delirious and mortal struggle ensued to get near the windows. Within four hours, those who survived lay in the silence of apoplectic stupor ; and at the end of six hours, ninety-six were relieved by death ! In the morning when the door was opened, twenty-three only were found alive, several of whom were subsequently cut off by putrid fever, caused by the dreadful effluvia and corruption of the air. An equally disastrous case occurred in more recent times. We refer to what took place on board the Irish steamer " Londonderry," on the night of the first of December, 1848, when, of 150 passengers, crowded together in a narrow cabin, on account of the stormy nature of the weather, not fewer than 70 were suffocated before morning.

These, it may be said, are extraordinary cases, and so assuredly they are ; but the effects of breathing an atmosphere vitiated to a smaller extent, are, although not so strikingly obvious, by no means less real. God has decreed that a certain proportion of oxygen containing impure air, shall suffice for the aeration of only a fixed and determinate quantity of venous blood. If we adapt our circumstances to this law, we reap our reward in comfort and health. Whereas, if we neglect it, and persevere in breathing an atmosphere loaded with putrifying animal effluvia, and containing less than the requisite quantity of oxygen, with more than the usual quantity of carbonic acid, we have no more right to expect to enjoy health or physical energy, than to expect a fire to burn without air, or a fish to live out of the water, demonstrating very palpably that pure fresh air is more essential to the life and health of the body than either the food we eat or the drink we consume. And it is equally so in reference to the mind. It is universally admitted that the brain is the seat of the mind—of its thoughts, volitions and emotions. It is quite true that the brain and the mind—that matter and spirit, are two distinct and diametrically opposite substances, but it is equally true that they are inseparably united in man ; and that it is just as essential for the vigorous exercise of the mental as it is for the physical powers, that the brain is preserved in a healthful condition. And upon what does this depend ? Plainly, like all the parts of the body, upon the state of the blood, and all the more dependent because of the very delicacy of the structure. It is computed that about the tenth part of the blood is indispensable for the preservation of the vitality and healthful exercise of the brain. And we can easily perceive how speedily this quantity, when unsound,

will affect the whole thinking powers. And in what places or circumstances is the originally pure air most likely to become vitiated? Plainly in those circumstances or places where the greatest quantity of carbonic acid is manufactured, and that will necessarily happen where the largest number of human beings are collected in one place, and no adequate means provided for the purifying of the atmosphere, for the egress of the foul and the ingress of the fresh air. In the course of an hour or so, in such an apartment, the weaker and more delicate females become wan and palid, if they do not sink into a swoon altogether; a general lassitude and langour creep over the great bulk of the audience; the speaker is seized with dullness and monotony; and as he increases in his lack of animation, so do his listeners in inattention and mental lethargy. How often are the finest and most useful discourses, or lectures, or addresses, thereby marred and damaged! How often is the lecturer or the speaker depreciated or condemned, when the whole is traceable to purely physical causes, when the whole failure ought to be laid at the door of the most culpable ignorance of the very rudiments of animal physiology! But if such are the effects of a vitiated atmosphere in a badly ventilated apartment, where a large number assemble only occasionally, these are far more disastrous, though not so palpable, in too many school-houses. If there is one place of public resort—any one place where human beings in large concourse assemble, and spend much of their time together, demanding a greater share of attention in the matter of ventilation than any other, that place is the school-house. The church is generally occupied only once a week, and that merely for two or three, or, at most, four hours; the worshippers chiefly consist of those whose minds and bodies have reached maturity, and are thoroughly consolidated; and, therefore, not nearly so liable to suffer damage from a noxious atmosphere. It is far otherwise with the school-room. When the school is in session, the house is occupied six or seven hours every day of the week but one, and occupied by those, too, whose organs and faculties are all in a state of growth, and therefore susceptible of the slightest damaging influence; and hence the soundness, the high necessity of the remark just made respecting the commodiousness of the school-room. And is this really the case? Is there any country yet upon the face of the earth where more attention is paid to the size and ventilation of the school-house, than to any other class of houses. Alas! we fear that in too many instances the reverse of all this is the truth. Within the last 25 or 30 years or so, an immense change has taken place in the public mind, in connection with the

whole subject of school accommodation. The neighbouring States, and especially the States of Massachusetts and New York, have taken the lead in this movement. The two States just mentioned have unquestionably done more in revolutionizing the public mind and in furthering improvements, in connection with the whole matter of school premises, than all countries put together. And yet, even in these States, the more recent reports go to show that many defects and evils still exist respecting their school fabrics, and which they are striving to supply and obviate. And if these evils abound in those countries where the greatest improvements have taken place, what may not reasonably be expected in countries where comparatively little attention has been given to the general cause of education! In these British colonies, with the exception of a few scattered localities, the state of our school houses is anything but respectable. Whilst the most rapid advancement has been effected in reference to private dwelling houses, and public buildings of all sorts, and especially churches, and even in reference to places of shelter for the lower animals, nothing has as yet been done, on an enlarged scale, for the amelioration of our school houses, even for the securing of the essential requisites of some, as well as of ventilation, without which the principal object of the school cannot possibly be served. In corroboration of this statement, we have only to refer to the matter of dimension, and especially to the lowness of the ceilings. It has been ascertained upon a general survey that the average dimension of our school houses does not exceed 20 x 24 on the ground, and 7 feet in height; and yet these houses during winter are occupied by an average attendance of 45 scholars, and oftentimes by 50 or even 60, and that, at the time when ventilation, in consequence of the artificial temperature, is most needed. By multiplying all these together, the length, breadth, and height, it will be found that this building has a capacity of 3360 cubic feet. Now how many scholars would such a supply of air sustain, and sustain comfortably, at a three hours diet? We have no hesitation in stating in reply, that were 45 persons, whose lungs possess the estimated capacity, placed in an air-tight room of the preceding dimensions, and could they breathe pure air till it was all once respired, and then enter upon its second respiration, they would all die with apoplexy before the expiration of a three hours session. This is clearly demonstrable. An act of respiration requires three seconds. We breathe twenty times in a minute, or 1200 times in an hour, 36 cubic inches is the average quantity of air inhaled at every such act, multiply 1200 by three for the three hours session, and this again by 45.

the number of scholars, and this again by 36, for the quantity of cubic inches inspired, and bring this to cubic feet, and the whole will amount to 3375 cubic feet,—just fifteen cubic feet more than is necessary to sustain healthy respiration. It is thus clear, that a school house of the dimensions indicated, is altogether insufficient for the comfortable maintenance of 45 scholars.

From the nature of the case, however, these conditions cannot be conveniently fulfilled. There is no such thing in these regions as airtight school-houses. Indeed, we have always looked upon it as no ordinary boon, that amid the clamant deficiencies of capacity in our school-rooms, there should exist, from the structure of the house, such abundant provision for the admission of fresh atmospheric air. But, besides all this, the air in a room is not respired once, before a portion of it is breathed the second or even the third and fourth time. The atmosphere, in consequence, is not suddenly changed from purity to impurity, from a healthful to an infectious state. Were it so, the change, being more perceptible, would be seen and felt too, and a remedy sought and applied. But because the change is gradual, it is not the less disastrous in its consequences. And all the more when we take into account the fact, that the derangement resulting from breathing impure air in the case of children is far greater than in the case of adults, whose constitutions are matured, and who are thereby less susceptible of injury. And now need we depict the saddening and desolating effects of this state of things upon the bodies both of teachers and taught, and all the more because the change in the atmosphere from a healthy to a vitiated condition is not sudden but gradual, not palpably felt at once, but creeps on imperceptibly. This is plainly the reason why so many children, whose health is sufficient to enable them to engage in other pursuits, but who are either unable to attend school at all, or, if they do persevere in their attendance, are subjected to headaches, faintings and other species of sickness; and in whom, we believe, are abundantly sown, in early life, the fruitful seeds of disease and premature death. This, too, is plainly the reason why teaching has acquired, and that justly, the reputation of being unhealthy, and why we find so many efficient teachers disabled and laid on the shelf, before they reach the meridian of their days, and others retiring in fear and alarm, after they have been engaged but a few weeks or months at the work. There is, however, not the slightest reason why the health either of pupils or teachers should sooner give way at this than at any other business, provided the house in which it is carried on is of proper size, and suitably ventilated. The evil in question can at

once be removed by the application of a suitable remedy. But the effects of this state of things are still more manifest on the intellectual progress of the pupils, on the success of the most painstaking and enthusiastic teacher. Listen to the testimony of Combe on this subject, than whom there is not higher authority, touching any point of animal physiology:—"It is now many years since on the occasion of a visit to one of the classes of a great public seminary, my attention was first strongly attracted to the injury resulting to the mental and bodily functions from the inhalation of impure air. About 150 boys were assembled in one large room, where they had been already confined nearly an hour and a half when I entered. The windows were partly opened but notwithstanding this, the change from the fresh atmosphere outside to the close contaminated air within, was exceedingly obvious, and, most certainly, was not without its effect on the mental faculties, accompanied as it was by a sensation of fulness in the forehead, and slight headache. The boys, with every motive to activity, that an excellent system and an enthusiastic teacher could bestow, presented an aspect of weariness and listlessness which the mental stimulus they were under could not overcome." And if such were the effects on the mental energies in a comparatively comfortable school house, such as the one here alluded to, and in an hour and a half after the business of the day had begun, what must it be in this and some of the adjoining provinces with too many of their schools! The pupils may attend and the teacher may carry on his operations for five or six hours every day, but in so far as real work is concerned, as much may be done, and that more perfectly, in one half, aye, in one third the time, and that too, without any physical or moral injury. And what does all this demonstrate? Clearly and distinctly that two-thirds of the time of both pupils and teacher are lost and worse than lost. Would that parents and trustees could be brought to consider this matter as they ought! Would that they saw and thoroughly believed that infinitely the most economical school houses are those which make the best provision for a due supply of atmospheric air, whatever the original cost!

Need we go a step farther and point out the effects of such a state of things on the order and government of a school establishment?—Contrast for this purpose the conduct of the children in a crowded school-room during the former and latter part of the forenoon Session, and still more during the forenoon and afternoon. At first all is attention and mental energy and proper behaviour. Gradually a languor, a listlessness, an inactivity steals over them, which is followed

by an utter indifference to, and disqualification for, study. And this, again, takes vent in mischievous plottings, and pranks and trickeries, as the only alternative of the ever active children. The teacher, ignorant of the cause, and ascribing the whole of this conduct to mental or moral stupidity and indifference, under the influence of the same hallucination, is all the while increasing in his acerbity and fretfulness, till, at length, he can scarcely look with complaisance, even upon good behaviour, and, in his peevishness, is disposed to magnify the most trifling departure from the rules of propriety. He scolds, he threatens, he dragoons, he flogs, but all to no purpose; for the atmosphere, which both scholars and teachers inhale, is becoming more and more contaminated, increasing the yawning and trickery of the one, and the irritability and despotism of the other. And this repeated, day after day, and week after week, what is the result? The scholars are becoming continually more ungovernable and the teacher more unfit to govern, or, if government is maintained at all, it becomes the end instead of the means, and the real work of education occupies a comparatively subordinate position.

But we have said enough on this theme. It must, we think, be now apparent to every unprejudiced mind that the whole matter of the proper ventilation of schools is no figment of the imagination, but springs from the very constitution of our being; that it is a thing which has to do not merely with our physical or bodily welfare, but with the whole of our intellectual and moral culture; and, consequently, that the laws that regulate the same, every thing connected with the size and ventilation of the building, is not the result of mere arbitrary caprice, or of morbid taste, but clearly deducible from the soundest scientific principles. The various details connected with the size of the school house, providing it with suitable ventilation, &c., will be found under the practical department of school premises.

Temperature of school house. On this subject there is no need of saying much. Full directions are also given under the practical department, as to the best mode of preserving a uniformity of temperature. We have introduced the subject here, principally, for the purpose of showing, that the proper temperature of the school room is not more necessary for the welfare and comfort of the body, than it is for the culture and improvement of the mind. Enough has been said on the vast importance of preserving the due proportion of oxygen in the school room, and the necessity of guarding against the contaminating influence of the carbonic acid exhaled by the children. But there is another way of destroying this proportion, and that is by the

carbonizing of the atmosphere through an overheated temperature, especially when no means are employed to preserve the humidity of the air. This is exceedingly deleterious to the health, and equally so to all mental application and progress. This, therefore, must be carefully guarded against, by ventilation, by the vaporation of pure water, and other artificial means. But, again, it is indispensable for the intellectual progress as well as for the bodily comfort of the pupils and teachers, that the temperature be kept uniform. If it is too low, especially in a climate such as exists in B. N. America, where there are such extremes, and, oftentimes, the most rapid transitions, the body soon becomes so uncomfortable and the circulation so sluggish, that the mind is, in a great measure, incapacitated for work. If, on the contrary, the temperature is too high, the circulation will soon rise beyond its usual rate; and the mind being well exercised, the current of the blood will naturally be directed to the brain—which will be put upon the rack; and this will inevitably lead to mental reaction and exhaustion. For well sustained vigorous action, and, by consequence, a large amount of good work, a well regulated, uniform temperature is absolutely necessary.

Light of the school-house. A due supply of this commodity is not less necessary than an equal temperature for carrying on the real work of the school. We all know the effect of light on the vegetable and animal kingdom—upon all organized existences. Exclude the light from the former, and plants are not only stripped of their verdant hue, but they lose, in a great measure, their nutritive qualities. And so is it with the animal race. If even they spend a considerable portion of their time deprived of the cheerful rays of the sun, the effects will ere long be apparent on their physical frame. Colliers, miners, and others immured in dark lanes, in large cities, or in deep cellars, are notoriously wan, and pallid, and sickly. And if such are the effects on the physical frame, not less marked are they on the mental. We believe it will be found, as a general rule, that all who spend much of their time in pits or cellars are dwarfish in their intellectual powers, and unusually dull and stupid in their apprehensive capacity. And the reason of this is obvious. The food intended to supply, and exercise, and strengthen the perceptive faculty, is all but entirely cut off; and as this is one of the grand inlets of knowledge, not only does the power itself remain in a great measure inactive, but it operates injuriously upon all the other faculties—the abstractive, the reasoning, &c. How pathetically does the blind poet lament the loss of this organ :—

" From the cheerful rays of men
 " Cut off; and for the book of knowledge fair
 " Presented with a universal blank
 " Of Nature's works; to me expunged and razed,
 " And wisdom at one entrance quite shut out."

In addition to all this, we know that the cheerful rays of the sun produce a most wonderful effect upon our spirits—that they rouse to highest physical excitement, and must therefore exert no small influence on our thinking powers. It is thus perfectly evident that a due supply of solar light, and that properly administered, is indispensably necessary for the school-room, and that not less for the mental than for the physical welfare of its inmates.

The furniture of the school-room. Supporting or bony system of organs. No one, we think, will call in question the soundness of the position, that the furniture of the school-room ought to be constructed and adjusted in the way best fitted to secure the health and comfort of the scholars, and thereby further, to a certain extent, at least, the end contemplated in the education of the young. In order to this, it is manifest that the seats and desks ought to be regularly graduated, according to the size of the pupils who are to occupy them. The necessity of this will appear by adverting for a little to the bones or supporting system of organs—the system mainly involved in the matter of furniture.

Every department in the kingdom of nature has its appropriate support. The soil derives its adhesiveness and tenacity from the alumina it contains. The stalks of plants are mainly supported by silicious matter. The supporting system of organs in the animal, is the bones.

The bones in the human body amount to about 260. This large number is evidently owing to the incalculable variety of movements required by man; and they are so admirably connected by articulations, that they admit of precisely that kind of motion which is requisite.—The advantages of this arrangement are as admirable as they are obvious. Had the osseous frame-work consisted of one entire piece, not only would men and animals have been incapable of motion, but every external shock would have been communicated at once to the whole system. By the division of the parts, however, and by the interposition of elastic cartilages and ligaments, at the joints, free and extensive motion is secured; and the impetus of every external shock is deadened in its force and diffused over the body,—in the same way, as to a person riding in his carriage, the jolt of a wheel passing over a

stone, is diminished by being equally diffused over the whole vehicle by reason of the elasticity of the springs.

Bones consist of two kinds of substances, animal and earthy, the former imparting life and growth, and the latter, solidity and strength. The proportion of these substances varies at different ages. In childhood and youth, the animal preponderate, and, in more mature years, the earthy; and, hence, in early life, the bones are less heavy, more pliable and elastic, and possessed of greater vitality; and, in old age, their sensibility is diminished and a lower degree of life exists.—And hence, too, it is that bones broken in youth reunite in one-half the time required in a more advanced period of life.

And what is the great and important lesson taught parents and teachers by this diversity of composition in the bones? If the bones of the young are, in consequence of the preponderance of animal matter, more elastic and flexible, then it is clear, that every means ought to be employed for the purpose of preventing their contortion and curvature. Exercise, here, as in every other part of our physical frame, is indispensably necessary to give size and strength to the bones, and to deposit those very substances of which they are mainly composed. By a law of our constitution, when any part of the system is active, it attracts to itself, by the simple stimulus of that activity, an increased supply of blood and nervous energy. The former repairs the waste of substance which action produces, and the latter gives an increased tone in harmony with the greater call made on its powers. If the exercise is momentary and not repeated, the extraordinary flow of blood soon disappears, and the nervous power falls to the usual standard. But if it is continued for a time and recurred to at regular intervals, a more active nutrition is established, a permanently greater supply of blood enters the vessels even during the intervals of inaction; and an increase of development takes place, attended with increased facility and vigour of function. The law of exercise, so influencing nutrition and function, is universal and applies to the osseous, as much as to any other system. If the bones are duly exercised, their active nutrition goes on, and they acquire increased dimensions, strength and solidity. If they are not exercised, the stimulus required for the supply of food to them, becomes insufficient; imperfect nutrition takes place; and debility, softness, and unfitness for duty ensue.

But while exercise is thus indispensably necessary to impart solidity and strength to the bones, it behoves to be wisely and judiciously adapted to their condition at the different periods of life. How many parents, for example, disregarding the fact that the bones are compa-

ratively soft and pliable in infancy, and in their anxiety to see their darling little objects walk without support, are continually soliciting attempts at standing or walking, long before the bones have acquired sufficient power of resistance, and the muscles sufficient power of contraction, to cope with this law of gravitation. The natural consequence is a curvature of the bone, which yields just like an elastic stick bending under a weight. The two ends approach nearer each other than they ought to do; and the muscles, to accommodate themselves to the change, become shorter on one side and perhaps longer on the other, each losing part of its efficiency in the unnatural change which it undergoes. But even after the young are capable of sustaining some pressure, every means should be used and every pains taken to preserve the straightness of the bones of the young. For this purpose they should be made to stand, and sit, and walk, in an erect position. This will enable the vertebral column to accomplish the high and important ends for which its whole construction was evidently intended, and preserve the bones of the upper and lower extremities in a vigorous and healthful condition.

And now, it may be asked, What is the provision required for securing all these objects, in so far as the furniture, seats, desks, &c., of the school-room are concerned? In reply to this question, we would say, first, that the seats be exactly proportioned to the age and size of the scholars,—that they be thoroughly graded. In a miscellaneous school, the height of the seats, to allow each child to rest his foot firmly on the floor, should range from seven to fourteen inches. If this is not attended to,—if the seats are so high that the feet of the children cannot reach the floor, not only will they be uncomfortable and restless, but their thigh bones, from the weight bearing upon them, will be in danger of becoming curved. But not only should the feet of the children rest gently on the floor,—their backs should also be well supported. For this end, the seats should be furnished with properly constructed backs, and of such a height as will afford a pleasant and agreeable support to the small of the back—or the lumbar region, as it is called. If these things are not provided for,—if the seats are too high, and the back, besides, unsupported, the most disastrous consequences may ensue. The children will naturally stoop forward in order to balance themselves; and thus the shoulders will become rounded, their chests contracted, their constitutions enfeebled, and not unfrequently the seeds of pulmonary disease deposited.

Every care should be employed in the construction of the desks, that is, they should be made exactly to correspond with the height of

the seats. If they are too low, a stooping posture will be induced. If they are too high, the effect will be the elevation of one shoulder and the depression of the other; and thus a permanent curvature of the vertebral column may be produced. To avoid these evils, the desks must be so constructed, as that both the arms shall be kept on the same level and rest equally on the table; and their height such as that they shall strike half-way between the elbow and the arm-pit as the arm hangs by the side.

“The secret of posture,” says Mayhew, “consists in avoiding all bad positions, and not continuing any one position too long. The ordinary carriage of the body is an object worthy of the attention of every parent and instructor. The more favorable impression which a man of erect and commanding attitude is sure to make, is not to be overlooked. But there is a greater good than this; for he that *walks erect*, enjoys better health, possesses increased powers of usefulness, realizes more that *he is a man*, and has more to call forth gratitude to a beneficent Creator, than he who attempts an *oblique* posture.”

These are some of the reasons for the grading of the furniture in the school room,—reasons, it will be observed, founded upon no whim, or caprice, or fancy, but upon one of the first principles of animal physiology, the nature of the bones in the rising generation. And if this expedient is of great service in securing the health, the commanding mien and the physical comfort of the human species, it contributes indirectly, yet powerfully, to their intellectual and moral advancement; for whatever gives strength and stamina to the body, must necessarily affect the mind, and render it far more capable of exerting its energies,—of doing justice to itself. Besides, there are important branches of education, such as penmanship, drawing, &c., which can not be properly taught without a gradation of seats and desks. The construction of the furniture, and its proper adjustment in the school room, and indeed the whole practical details for the carrying out of this department, will be found in the chapter on school premises.

The cleanliness and tidiness of the persons of the scholars—Cutaneous system. With an ample and well ventilated school-room, with the seats and desks all nicely graded and arranged, we are in a position to go on and consider physical education in its more direct bearings on the scholars themselves. We have erected our workshop, and provided the befitting tools, and are now prepared to proceed with the actual work—to welcome, as *it* were, our customers at the door. But before they cross the threshold—before they are admitted within the precincts of the school establishment, it must be seen that the scholars are

clean, and neat, and orderly in their persons; and this not merely for the sake of common decency, but for the preservation of the health of the body, and the invigorating of the mental powers. And on what does this depend, or what renders all this necessary? It depends on the nature of the skin or the cutaneous system of organs.

Throughout the whole domain of nature there is going on a never ceasing process of waste and repair—of decay and renovation—of degradation and elevation. This is apparent on a grand scale in the disintegration and consolidation of the material parts of creation through the medium of aqueous and igneous agency. It is apparent, too, throughout the whole organized world. In the animal kingdom, for example, as long as life continues, a copious exhalation, without a moment's intermission, is going on; not a movement can be performed which does not, in some degree, increase the circulation and add to the general waste. Now, there is a set of organs exactly fitted for this object, just as there is one for supplying, secreting and preparing the raw materials; and one of the most important of these is the skin. Physiologists generally consider the skin as composed of three parts—the cuticle, the mucous membrane or *rete mucosum*, and the *cutis vera* or true skin. The skin is the outlet through which a large proportion of the waste of the body passes. The means by which it effects this end, is that of innumerable glands, called the sebaceous or oily and perspiratory glands. The former are spread over the parts of the skin most exposed to the changes of temperature and moisture, and are made up of that oily fluid with which the skin is bedewed and rendered soft. The latter separates from the blood the perspiration or sweat. They are exceedingly numerous, being about two thousand to every square inch of skin, or five millions, or, according to some, seven millions in the natural covering of the body. These discharge themselves either by sensible or insensible perspiration. Every one knows that when the body is overheated by exercise, a copious sweat breaks out, which, by evaporation, carries off the excess of heat, and produces an agreeable feeling of coolness and refreshment. This is called sensible perspiration, because it is apparent. But in the ordinary state of the system, the skin is constantly giving out a large quantity of waste materials in the form of vapour, which, being carried off by the surrounding air, is invisible to the eye, and hence is called insensible perspiration. This cutaneous exhalation is of immense importance to the welfare of the system at large, and has led to many attempts to form an accurate estimate of its amount; but so many difficulties have stood in the way

of obtaining precise results, and the difference in different constitutions, and even in the same person at different times, being so great, that we must be satisfied with an approximation to the truth. Whatever be the nature of the condition of the constitution at the time, it is now agreed by all eminent physicians, that between 30 and 40 ounces of matter pass off through the skin of an adult every 24 hours. And what is the nature of the material thus exhaled? It is composed partly of watery vapour, and partly of earthly substances, which latter consist mainly of concentrated animal substances,—a very energetic poison.

But the skin is not only a powerful exhalant, it is also an absorbent. By means of this function, substances placed in contact with the skin are taken up and carried into the general circulation; either to be appropriated to some new purpose, or to be speedily thrown out of the body. This process is carried on by the blood vessels, which are ramified in a close network immediately under the cuticle, and also by another class of vessels called the absorbents. Of the absorbing power of the skin, we have a familiar example in the process of vaccination, as a protection against small pox. This process, as is well known, is the insertion of a small quantity of vaccine matter under the cuticle on the surface of the true skin, and the leaving of it there. In a short time it is acted upon and taken into the system by the cutaneous vessels.

Such is a brief exposition of the structure and functions of the skin; and brief though that exposition be, it is, we trust, sufficient to show the important practical bearing of this system of organs on the whole subject of physical education. It is not only a decent and becoming thing, that the face and hands of the scholars are clean, but it is indispensable for the body's welfare, that the whole person is cleansed, if not daily, very frequently. It is perfectly evident that, if such a process of ablutions is not regularly administered, the most injurious consequences will ensue. The residuum, or remains of the perspired matter and other accidental impurities deposited on the surface of the body, as a matter of course, will be absorbed or taken back into the body. This will prevent the noxious substances from being exhaled, drive them back into the system, and thereby produce inflammation, fever, with a whole train of the most baneful effects. But even when these effects do not follow, the body is rendered uncomfortable, a carelessness, a slovenliness, and a sluggishness are superinduced, which enfeeble alike the physical and mental energies. We know nothing better calculated to draw forth and to rouse into highest and most

determined activity both of body and mind, than the preservation of the healthy action of the skin. When the immortal Nelson was on the eve of entering into an engagement, he usually arrayed himself in full court attire, that he might thereby brace himself both physically and mentally for the conflict, on which he was entering.

Thus an immense deal depends on the healthful circulation of every part of the surface of the body, and what are the means to be used for securing this important end? They are proper bodily exercise, suitable clothing, bathing and friction. The first of these points will receive a full discussion under the following section. As to the matter of suitable clothing, its necessity from the very nature of the case, is abundantly obvious. If man lives in an atmosphere generally several degrees colder than his own body, the means of preventing his being cooled too rapidly are forcibly pressed upon his attention; and, as the skin is the most exposed part, these means must apply chiefly to its protection. Hence, the necessity of clothing, especially in temperate and cold climates. Hence, too, the influence of unsuitable or inadequate clothing in impairing, and of suitable in protecting and restoring the functions of the skin, at all ages, in all ranks of society, and at all seasons. For this purpose, the articles of dress ought to be as light as possible, bad conductors of heat, so as to afford protection against sudden changes of temperature, and of so porous a nature as to admit of the easy passage of the insensible perspiration. Of the various materials of clothing in common use, none presents these advantages combined in so high a degree as flannel; and, consequently, as a general rule, no other kind of substance can equal it in suitability for being worn in contact with the skin, the chief object of protection. But whatever is worn should be frequently changed, ventilated and washed to free it from the impurity, necessarily arising from so constant and extensive an exhalation as that from the skin. It is an excellent plan in the case of flannel, instead of wearing the same garment for several successive days, as is generally done, either to change it very frequently, or to make use of two sets, each being worn and aired every alternate day. A frequent change is perhaps the preferable arrangement.

But if the frequent change and washing of clothes for removing the saline and animal impurities, caused by perspiration, is essential to the health of the skin, it is equally certain that frequent bathing or washing of the skin is not less indispensable for removing the impurities adhering to its surface, and which, if allowed to accumulate, would tend to obstruct its pores, impede its functions and disturb its health. For general use, the tepid or warm bath seems much more suitable

than the cold, especially in winter, and for those who are not robust and full of animal life. When the constitution is not vigorous enough to receive reaction after the cold bath, as indicated by a warm glow over the surface, its use inevitably does harm. A vast number of persons, and especially of those leading a sedentary life, are in this condition; while, on the contrary, there are few indeed who do not derive evident advantage from the regular use of the tepid bath, and still fewer who are hurt by it. When the health is good and the bodily powers sufficiently vigorous, the cold bath during summer, and the shower tepid bath in winter, may serve every beneficial purpose. But it should never be forgotten, that they are too powerful in their agency, to be used with safety by every one, and especially in very cold weather. Just as cold bathing is influential in restoring health, when judiciously used, so is it hurtful, when resorted to without discrimination; and invalids, therefore, should never use it without the sanction of their medical advisers.

Another valuable means of keeping up an equal circulation and a due degree of perspiration over the whole surface of the skin, and at the same time of aiding in the removal of the impurities which attach to it, is the diligent, daily use of friction, by means of a flesh-brush, or horse-hair glove, or coarse towel. To derive every possible advantage from friction, it should be steadily continued every night and morning till a glow is excited over the whole surface, and the skin acquires a soft, velvety feeling. It should also be practised by the individual himself, and not by an assistant. This practice, then, serves for exercise, and to a sedentary person, when perseveringly persisted in for months, becomes its most invaluable substitute. In delicate states of the constitution, when a great susceptibility to cold exists, and in all varieties of nervous depression, with a dry, cold skin, its usefulness can scarcely be overrated. But then it is one of those preservatives or remedies which requires time to produce its effects. That friction is useful also in removing impurities from the surface, is evident to every one who chooses to apply a hair glove to his own skin, after passing a day or two without either friction or ablution. He will then speedily find the glove become whitened from the small powder scales which it detaches from the cuticle, and experience a very perceptible increase of comfort. From the equalizing action, by friction, on the circulation and nerves of the skin, it farther acts as a pleasing sedative after mental excitement or anxiety, and thus favours quiet and refreshing sleep, where otherwise none might be obtained.

The attention of the scholars to the work in hand—Muscular system.

The children, all neat, and tidy, and clean in their person, are now assembled in a commodious, well ventilated and thoroughly graded school-room, and that for a distinct and specific object. But a vast majority of the inmates of every school-room realize comparatively little of the importance of the object for which they are assembled; and instead of diligently applying themselves to the discharge of their duties, with a few honorable exceptions, they are careless and unconcerned; so that the teacher has not merely to labour for the accomplishment of that object, but to secure their attention thereto. Various means may and ought to be resorted to for this purpose: such as awakening an interest in the branches of knowledge taught, and that by the adoption of particular methods,—appeals to conscience,—the sympathy of numbers,—the exercise of legitimate discipline, and the like. There is, however, a distinct class of means, but rarely resorted to, and which, when judiciously employed, seldom fails to further this important point—the attention of the pupils to the particular study in which they are engaged,—we refer to those means by which the mind may be operated upon through the medium of the body, and, especially, through the muscular system of organs, the most important of any we have yet considered, affecting, and that most extensively, the nervous system, and that again the brain, the seat of thought and volition. We crave, then, the special attention of our readers whilst we lay before them a brief outline of the physiology of the muscles of the human body, and the various modes of exercising the same, not only for the purpose of securing their development and strength, but a larger amount of intellectual and moral labour.

The muscles, of which there are in the human body upwards of 400 named, are composed of fibres and blood, pervaded by nervous matter, and separated from one another by finely attenuated membranes. They are made up of three parts,—the two ends, called the origin and insertion, consisting of sinews and tendons, and the middle or fleshy part. They are divided into two classes—the voluntary and the involuntary. By the latter are meant those muscles that act independently of the will, such as those of digestion, circulation and respiration. By the former are understood those that perform their functions by an act of the will. That faculty of the mind, called the will, operates upon the brain, upon a class of nerves, called efferens; and these nerves supply the stimulus by which the class of muscles designed for a particular end or movement is brought into play.

And how, it may be asked, do these muscles perform their functions? By the law of contractility, or that law by which the muscles are

shortened by the swelling out of the middle or fleshy part; and, by this means, the bone is moved and action is effected.

These muscles grow and strengthen by exercise or use, by the diligent observance of the law of their being, activity and repose, contraction and relaxation, by the regular and constant discharge of their appropriate functions. This is exemplified and illustrated at all ages and in all circumstances. If exercise be withheld from the child, the muscular frame is stunted and enfeebled. In the adult, the inaction causes the muscles to shrivel and waste. If a limb only be kept inactive, its muscles wither, whilst the rest of the frame is vigorous and growing. A broken arm, bound up and kept unmoved for a month or more, comes out at the end of that time, scarcely the half of what it was, the muscles wasted away and reduced to a few slender fibres. And, hence, the practice, in the city of London, of beggars manufacturing shrivelled arms and legs, and giving themselves out as disabled soldiers or sailors, in order the more effectually to excite the commiseration of the benevolent and charitable. Particular avocations, too, levy an impost on certain muscles, and leave the others in a great measure unaffected; and the result is, that the former become strong, athletic and brawny, whilst the latter are weak and slender; as may be seen by contrasting the muscles of the arm of the blacksmith with those of a man who follows a sedentary occupation.

And what is the cause of all this? By motion or the use of the muscles, the circulation is active and vigorous, the blood issues into every crevice or interstice of the fibrous substances, the stimulating element is preserved in full and efficient operation; and thus the muscles enlarge again, and are gradually and steadily developed. And this exercise not only exerts a powerful influence over the muscular but over every other system of organs. It promotes, as we have just stated, circulation; circulation increases respiration; respiration, exhalation; and exhalation, digestion;—and all these, again, reciprocally operate upon the muscles—and the muscles, upon the cerebrum, the seat of thought.

But this law of contractility has its bounds or limits, and can only be maintained by the constant alternation of relaxation or rest. The very continuousness of this exercise is fatiguing and exhaustive. Let any set of muscles be placed in a state of severe tension, and retained in that position for a lengthened period, and soon will the most arduous toil be felt to be light in comparison. You may easily put this fact to the test, by attempting to hold the arm extended at a right angle to the body, for the short space of ten minutes. He, whose muscles, if indeed

capable of the exertion, do not feel sorely fatigued at the end of that time, may think himself very fortunate in possessing a powerful constitution. What happens to an arm, may to the whole body. And if the entire muscular frame be overworked by efforts which are either excessive or prolonged, the result must be debility, trembling, exhaustion, faintness, and even death. Let such overworking be habitual, and, both in men and animals, the most disastrous consequences will inevitably ensue.

It is clear, then, that the real health and strength of the muscles depend on the due alternation of contraction and relaxation, of activity and repose. A certain amount of exercise is indispensably necessary, and the greater the variety the more beneficial will that exercise be. But relaxation is just as much needed as contraction, repose as activity, that the restorative power of the muscles may be preserved, rallied and reinvigorated. In one word, if the muscular system of organs is to serve the great end of their being, they must be exercised, that is the law of contractility must be constantly attended to.

And, here, it may be asked, What are the rules that ought to guide us in this exercise, that it may be productive of its legitimate benefit? Keeping in view the condition of muscular action as already set forth, it must appear obvious to all, *that this exercise*, as Combe expresses it, *spring from, and be continued under, the influence of an active, nervous, or mental stimulus*. This point scarcely requires illustration. Everybody knows how wearisome and disagreeable it is to saunter along, without having some object to attain; and how listless and unprofitable a walk taken against the inclination, and merely for exercise, is, compared to the same exercise when made in pursuit of an object on which we are intent. The difference is simply, that, in the former case, the muscles are obliged to work without that full nervous impulse which nature has decreed to be essential to their healthy and energetic action, and that, in the latter, that impulse is in full and harmonious operation; the great superiority of active sports, botanical and zoological excursions, gardening, &c., as means of exercise, over more monotonous movements is referable to the same cause. Every kind of youthful play and mechanical operation interests and excites the mind, as well as occupies the body; and by thus placing the muscles in the best position for wholesome and beneficial exertion, enables them to act without fatigue for a length of time; which, if occupied in mere walking for exercise, would utterly exhaust their powers. Hence it is that the elastic spring, the bright eye and cheerful glow of persons thus excited, form a perfect contrast to the spiritless aspect of many of our

boarding school processions of girls ; and the results, in point of health and activity, are not less different.

But, in the second place, we would remark that this exercise, that it may produce the desired effect, *should involve as much variety of movement as possible*. The sphere of action of each muscle is strictly local, and it is only by calling them all into play that a general effect can be produced. Thus, by much walking, we may largely develop the muscles of the legs, and yet leave those of the arms and chest comparatively feeble ; or by wielding a ponderous hammer or rowing a boat, we may develop those of the chest and arms, whilst the general circulation is languid. For the same reason, a slow formal walk, with demure look and motionless arms, is much less useful than a smart walk or run, in which we cannot refrain from exercising both the arms and chest. Exercise, therefore, is most beneficial when all the muscles, or as many as possible are called into play.

The next regulation for exercise is, *that it should always be proportioned, in amount, to the age, strength, state of constitution, and former habits of the individual*. A person accustomed to daily activity, will feel invigorated by a walk of four or five miles in the open air ; whereas the same distance will weaken another who has not been in the habit of walking at all. But instead of inferring from this, as is often done, that exercise, in the open air, is positively hurtful to the latter, reason and experience coincide in telling us, that he has erred only in over-tasking the powers of his system, and that to acquire strength and activity, he ought to have begun with one mile, and to have gradually extended his walk in proportion as the muscles become invigorated by the increased nutrition, consequent on well regulated exercise. A person recovering from fever begins by walking across his room, perhaps ten times, in a day, and gradually extends to twenty or thirty times, till he gains strength to go into the open air. On going out, a walk of ten minutes proves sufficient for him at first ; but by degrees his flesh and strength increase, and his exercise is prolonged, till he arrives at his usual standard. Such is the order of nature ; but many sedentary people have no patience for such slow progress. When urged to take exercise, they grudge the trouble of going out for a short time, and think that if a walk of half a mile does them good, one of a whole mile will do more ; and when they suffer from the error, they shelter their ignorance under the general assumption that exercise does not agree with them ! Hence it follows that to be beneficial, exercise should always be proportioned to the strength and constitution—that it should be regularly resumed after a sufficient interval

of rest, and that it should be joined with a mental and nervous stimulus.

Another matter that ought to be attended to in exercise, and the only other one our space will allow us to notice is, *the time at which exercise should be taken*. Those who are in perfect health, may engage in exercise at almost any hour except immediately after a full meal; but those who are not robust ought to confine themselves within narrower limits. To a person in full vigour, a good walk in the country before breakfast may be highly beneficial and exhilarating; while to some invalids and delicate persons it will prove more detrimental than useful, and will induce a sense of weariness which will spoil the pleasure of the whole day. To some, however, who have no appetite on rising, a short walk in the open air before breakfast proves very beneficial. Exercise should be resorted to only when the system is sufficiently vigorous to be able to meet it. In delicate constitutions, this is the case at the end of from two to four hours after a moderate meal, and, consequently, the forenoon is the best time for them. If exercise be delayed, till some degree of exhaustion from the want of food has occurred, it speedily dissipates instead of increasing the strength which remains, and impairs rather than promotes digestion. For the same reason, exercise immediately before meals, unless of a very gentle description, is injurious and an interval of rest ought always to intervene. Active exercise ought to be equally avoided immediately after a heavy meal. In such circumstances the functions of the digestive organs are in the highest state of activity; and if the muscular system be then called into considerable action, the withdrawal of the vital stimuli of the blood and nervous influence from the stomach to the extremities, is sufficient almost to stop the digestive process.

But it is time we make some practical application of the principles laid down to the matter of school management and school teaching.—In this respect the muscular system of organs is vastly the most important of any we have yet considered, whether we regard it in the light of a means or an end, directly or indirectly. Looking at it, as an end, we may remark first, *that muscular action deeply affects the whole matter of the health and growth of the body of the young*. It enlarges and renders robust the muscles themselves, but it does far more. Muscular action exerts a most powerful influence over the whole of the physical frame and especially over the nutritive system of organs. There is not, in fact, any one organ of the body that is not less or more affected by it. And what is the inference naturally deducible from all this.—Plainly that every thing in school ought to be avoided, that has the

smallest tendency to run counter to the due exercise of the muscles.— Instead of keeping the children pent up in one posture for one, two or even three hours, with the most tremendous threats if they dare to alter it, they ought to be required to change every ten minutes or so, and every facility or encouragement afforded for this purpose. Instead of contravening the law of nature,— the law of contraction and relaxation, it is the bounden duty, as well as the highest interest, of every teacher to direct and control that law, that he may render it subservient to the furtherance of his educational plans and proceedings. For this purpose he ought sedulously to watch the condition of his pupils, and even during the time of their recitations and before they evince any symptoms of exhaustion he ought, by the use of certain signs—which may be called into requisition without the utterance of a syllable—to require them to change their position. If they are standing, he may require them to be seated, and *vice versa*. Whatever is the class of muscles that has been the longest period in a state of contraction, he must take care that these are relaxed, and the opposing ones called into exercise. Unless the trainer adopt this course, the scholars will, in all probability, take the law into their own hands, and, despite all his remonstrances, yield compliance to its dictates, though it be in the way of idle, mischievous pranks, or unruly conduct, or actual rebellion. And we know not, which of the two is, in these circumstances, the more reprehensible—the scholar in his violation of the rules of the establishment, or the teacher in his self-complacent yet inexcusable ignorance.

But, again, muscular action may be viewed as a means as well as an end, and, *when properly regulated, will secure a far greater amount of attention and intellectual labour*. The connection between the eye and the mind is close and influential. When the eye of the listener is steadily fixed upon the whole countenance of the speaker, a closer attention and a readier access to the understanding and heart are secured and maintained. Hence the vast superiority of a *viva voce* address when due justice is done to it—that is, when the outer man of the speaker corresponds with the inner, as compared with the dead letter of the book. The teacher is bound to avail himself of this means. He should never, for example, commence a recitation lesson, or engage in any exercise, without first putting his class in order, that is, fixing them in the position most natural and befitting, and, especially with the eye, either directed to the book or to his (the teacher's) eye. He cannot, it is true, control the mind, but he can secure the fixedness of the eye, and this is one powerful means by which access is obtained to the understanding and the heart.

But muscular action operates more directly on the mind *through the medium of the nervous system*. It is well known that the whole muscular part of the physical frame is pervaded by the nerves—that there is, in fact, a set of nerves belonging to every muscle, and that there can be no motion of the muscle without the nerves being affected. The change thus effected is communicated by cords of nerves to the cerebrum or seat of thought; and thus a change, too, is produced in that delicate piece of organization, and a fresh and healthful impulse imparted to its functions. By this means, too, the spiritual or thinking part of man's nature is rested or relaxed, and thereby better fitted and prepared for another and more determined effort. Thus it is manifest that every muscular movement deeply affects the powers of the mind, and procures a much larger amount of intellectual labour. And from all this will be seen the vast importance of physical in-door exercises. These exercises may vary according to circumstances. Whenever the teacher observes anything like general inattention on the part of any class or section of his scholars, instead of scolding, or threatening, or flagellating, he should immediately call upon them to assume their right position, or to change their position, or to go through the various motions, first, second, third, &c., or to sing a song, or to take a march, which, if possible, should be accompanied with music, either vocal or instrumental. These exercises should be chosen by the teacher, who takes the lead in them all, according to the condition or circumstances of the children, care being taken to diversify them less or more on every repetition; for the moment a dull, monotonous routine is fallen into, that moment do they lose their effect.—See outline of these exercises, both in-door and out, under chapter on Management of Schools.

Need we state further, that these exercises produce a *wholesome moral influence* in every well-conducted educational establishment, not merely in acting as a preventive against disorder and confusion, *but in influencing indirectly the moral faculty*. The scholars, generally speaking, take delight in these physical exercises—readily and cordially obey whatever instructions or orders are given regarding them; and thus they acquire a habit of obedience which is easily transferred both to intellectual and moral subjects and pursuits.

Regulation of study—Nervous system. The nervous system of organs is the highest and most important of the whole. It operates upon and influences all the others. It forms the grand medium of communication between the mind and all the other organs,—between the mind and the external world. The brain, the centre of this system, is now

universally admitted to be the seat of the mind,—the organ by which it manifests its operations and executes its purposes; and by which, too, a knowledge of the world without, its existence and its qualities, are conveyed to the mind. As to the mode of this intercourse between matter and mind, or mind and matter, we literally know nothing. We know the fact, and that certain links in the chain of connection are absolutely necessary to produce the fact; but that is all. The mind, by some mysterious power, conveys its volition to the brain, the brain operates upon the nerve, the nerve upon the muscle, and the muscle upon the bone; and thus locomotion is effected. And so is it in the opposite direction. The object congenial to the nature of the sense—which is neither more nor less than finely attenuated nervous substance—when presented in favorable circumstances to that sense, produces an impression thereon; that impression is conveyed by the sense to the nerve, the nerve to the brain, and through the brain a sensation or perception is conveyed to the mind. Such is the chain of connection, every link of which is indispensably necessary to produce the effect; but as to the *modus operandi*, we are just as ignorant as the child unborn; and so long as the present state of things lasts, the probability is that we shall continue to be. But, be this as it may, it is perfectly clear that, from the intimate and indissoluble relationship subsisting between this system of organs and the human mind, it is invested with the deepest importance, and, in its connection with physical education, demands the calmest and most earnest consideration.

The nervous system of organs is extremely complicated both in structure and function; but it may be described, in a general way, as central masses and expansions of nervous matter linked together by connecting cords called nerves. The principal nervous centres are the brain and spinal cord. The brain, in the widest signification of the word, is that large organized mass which, along with its enveloping membranes,—the *dura mater*, the *arachnoid*, and the *pia mater*, completely fills the cavity of the skull and is subdivided into the *cerebrum*, the *cerebellum*, the *medulla oblongata*, and the *cephalic ganglia*: all which are composed of two distinct kinds of nervous substances, the *grey* and the *white*, the former being the *generator* and the latter the *conductor* of the nervous influences. The spinal cord, which is also composed of two kinds of nervous substances, is subdivided into two sets of fibres, the *anterior* and the *posterior*, the one containing exclusively *motor*, and the latter *sensitor* stimulus or influence. From the spinal column, including the *medulla oblongata*, which is but the upper extremity of that column, emanate nerves in all directions; some of

which, in a finely attenuated form, constitute the senses, and others discharge the office of sensation or locomotion.

And now as to the functions performed by these nervous centres of animal life. On this point physiologists differ in matters of detail, though in the main, considerable harmony prevails. It is then universally admitted that the *cerebrum* or hemispheric lobes of the brain constitute or include the organs of the intellectual and moral powers. It is the seat of consciousness, volition and emotion; and when it is removed the body sinks into a mere machine, which acts in obedience to the inherent forces of the automatic brain, or responds to physical stimuli, according to the laws of reflex action.

The *cerebellum* is the organ through which we exercise voluntary control over the muscles.

The *medulla oblongata* is universally allowed to constitute the seat of sensation and of respiration. The *cerebrum* and *cerebellum* may be probed and punctured without the least degree of pain; but if the smallest degree of pressure be inflicted on the *medulla oblongata*, the most acute pain is perceptible; and, if this be continued for any lengthened period, death will inevitably ensue.

The *cephalic ganglia* are deposits of nervous matter in the head. These are to be found in the shape of secretions of nervous matter all over the body, and, in the absence of regular nervous centres, such as we have in all the invertebrate class of animals, constitute the real source of animal existence. In the head, they are evidently intended to unite the whole together, so as to spread a general sympathy throughout this department.

The *spinal cord* performs the office of conveying the nervous stimulus all over the body. The illustrious Sir Charles Bell was the first anatomist who discovered, that the spinal cord is made up of two classes of nerves, the *motor* and the *sensitor*, whose offices are perfectly distinct, that of the *motor* class being for the purpose of conveying the volitions of the mind to the muscular system, and thereby rendering them subservient to the purposes for which they were given; that of the *sensitor*, on the other hand, being for the purpose of conveying the impressions made on the different senses to the mind. The former, from the functions discharged, is sometimes called *efferens*, and the latter *afferens*.

Considered as a whole, the nervous system falls into two great divisions—that of animal and conscious life, and that of organic and automatic; the *cerebrum* and *cerebellum*, constituting the former, and the *medulla oblongata*, the *cephalic ganglia* and the *spinal cord*, the

latter. The one forms the mechanism, which, so far as it can be safely allowed, is under the control or command of the other.

With this brief sketch of the Anatomy and Physiology of the nervous system, we are now prepared to go on and make a few observations on those conditions on which the health and vigour of the brain depend, and by which the greatest amount of intellectual effort may with safety be secured.

We shall not here dwell on the many advantages arising from a naturally sound constitution of brain. There is no part of our physical frame, when diseased or disorganized, so liable to be perpetuated or propagated from parent to child, as the brain or nervous system; and, it is a fact worthy of observation, that there is no way by which disease is generated so largely in this system of organs as by the violation of some plain and palpable moral precept, such, for example, as intermarriages amongst near relations, or an over-indulgence in viands or alcoholic drinks. How often do we see exemption from this species of disease in one generation, while it bursts forth with redoubled virulence in the succeeding. Neither do we dwell here on the advantages arising from an adequate supply of duly vitalized or oxygenated blood. This point we have already considered in connection with the ventilation of school-houses, and to which we would refer our readers. It cannot, however, be too frequently insisted on, that as the life is contained in the blood, and as about a tenth part of the blood is required for the nourishment of the brain and its preservation in full vigour, so is it indispensably necessary, that the brain may accomplish its high destination, that not only a due quantity of this vital fluid be provided, but also that it be of the right sort. Two things are requisite for this purpose. There is first a supply of healthful food, adapted both in quantity and quality to the age, the condition, and the varied circumstances of the recipients. Then there is the requisite portion of pure atmospheric air, for the purpose of converting the venous into arterial blood—that is, of effecting the assimilating process. This latter is even of vastly greater importance than the former; for what availeth the most delicious meats and drinks, unless they undergo that change which alone renders them fit for vitalizing and invigorating the whole frame. Withhold the requisite supply of this element, and that instant will you not only affect the health of the body generally, but the health of the brain in particular, and with that, the health of the mind. A mental listlessness and apathy will, in spite of all our resolutions, ensue, and, if consciousness remain, an utter inability to put forth one mental effort. Would that all patriots and philanthropists but realized

as they ought the outstripping importance of ventilation in connection with all educational movements! Supposing that both these points, namely, a sound hereditary brainy system, and a due supply of properly oxygenated blood, have been secured, the question now arises—What are the means to be employed for the purpose of strengthening the nervous system, and thereby rendering it more capable of carrying out the purposes of the mind,—if not, of imparting to it greater vigour?

If mind manifests itself through the medium of the brain, it is clear that the operations of the mind must depend largely on its condition; and *vice versa*, for the influence is clearly reciprocal. Though we cannot comprehend the modes, there is the most uncontrovertible evidence that the one operates most extensively upon the other. What, then, ought to be done, so as to strengthen the brainy system? We must just resort to our usual specific—exercise. By exercising the various functional parts of the brain, the blood is made to flow throughout all the bloodvessels of the brainy mass, nicely adjusted and delicately attenuated though they be. This exercise, in order to accomplish the end desired, must be steady and moderate, neither defective nor excessive. If the effect of too little exercise of any particular part of the muscular system be the enfeeblement, if not the entire paralysis of that part, it is, in very proportion to its surpassing delicacy, much more so with the brain. If the excess of exercise deranges the whole system, as being a direct violation of that law of activity and repose, which pervades the whole natural and moral world, it is infinitely more so with the brain, and that for the same reason as is mentioned above. And what is the inference deducible from all this? It is, plainly, that we are to use the brain neither too much nor too little. And how is this to be effected? By the moderate application of the mind to study. For this purpose, instead of giving ourselves to mental pursuits by fits and starts—by long seasons of rest or violent exertion, we ought to have steady and regularly fixed hours for study, and adhere to them most scrupulously. This will operate upon the physical brain, and produce the most beneficial results for its enlargement and consolidation. “Periodicity, or the tendency to resume the same mode of action at stated times, is peculiarly the characteristic of the nervous system; and, on this account, regularity is of great consequence in exercising the moral and intellectual powers. All nervous diseases have a marked tendency to observe regular periods, and rational inclination to sleep at the approach of night, is but another illustration of the same fact. It is this principle of our nature which promotes the formation of what

are called habits. If we repeat any kind of mental effort every day, at the same hour, we at last, when the time approaches, find ourselves entering upon it without premeditation, and, in like manner, if we arrange our studies in accordance with this law, and take up each regularly in the same order, a natural aptitude is soon produced, which renders application more easy than when the subjects are taken up as accident may direct,—nay, occasionally, the tendency to periodical and associated activity becomes in the course of time so great, that the faculties seem to go through their operations almost without conscious effort, while their facility of action becomes so prodigiously increased as to give increasing certainty, where at first great difficulty was experienced. In thus forming habits and acquiring readiness, we merely turn to account that organic law which associates increased appetite, animation and vigour with regular exercise.”

Fixed regular times for mental application is thus of essential moment for strengthening the brain. And the question here arises, what is the best time for study? It is, certainly, not after a full meal of meat. It is a law of the animal economy, that two classes of functions cannot be called into vigorous action at the same time without the one or the other, or both, sooner or later, sustaining injury.—To go to study, then, immediately after the pleasures of the table have been indulged in, is to act right in the teeth of this law. In such circumstances, the stomach and brain will react upon and disturb one another, till all the horrors of nervous disease make their unwelcome appearance and render life miserable. The tendency to inactivity and sleep, which besets most animals after a full meal, shows repose to be, in such conditions, the evident intention of nature. The bad effects of violating this rule, although not in all cases immediately apparent, will most assuredly be rendered manifest, at a period more or less remote.

Nor should the time for study be late in the evening. Persons who practise night study, if they be at all of an irritable habit of body, will be sleepless for hours after going to bed, and be tormented, perhaps, by unpleasant dreams, which will render their sleep unrefreshing. If this practice be long continued, the want of refreshing repose will ultimately produce a state of morbid irritability of the nervous system bordering on insanity. Nature has allotted the darkness of night for repose, and for the restoration by sleep of the exhausted energies both of mind and body. What, then, is the best time for study? Unquestionably, we reply, the early part of the day.

The morning and forenoon ought to be spent in hard mental work. Then the brain is free to perform its functions, and is necessarily strengthened. This, again, will operate upon the mind, and render it more capable of vigorous exertion. In this case, the evenings ought to be spent in lighter reading, in music, or in cheerful and amusing conversation. The excitement produced in the brain by previous study will be soothed by these influences, will more readily subside, and sound refreshing sleep will much more likely follow. This rule is of the utmost importance to those who are obliged to perform a great amount of intellectual labour. It is only by conforming to it, and devoting their mornings to study and their evenings to relaxation, that many of our most prolific writers have been enabled to preserve their health. By neglecting this rule, others of the fairest promise have been cut down in the midst of their usefulness.

But not only is *regularity*, but *variety* of study requisite. Whether the science of phrenology,—that science which makes the protuberance in the convolutions of the brain, the organ of some mental faculty,—is founded on fact, we do not take it upon us to decide. There are great and distinguished names ranged on both sides; some as stout in maintaining, as others are in denying its truthfulness. But without pretending to dogmatize on the subject, we believe that it is all but universally admitted that the anterior part of the *cerebrum* constitutes the seat of the intellectual powers, and the middle and posterior parts, the emotional and moral. If so, then it is clear that our studies should neither be purely intellectual, nor moral, nor emotional, and that simply on the law of contractility. The brain is liable to the very same law of contraction and relaxation that the muscles are; and, of course, if any one part is kept in a state of exclusive tension, both it and all the others must suffer. The health of the whole consists in each receiving its due amount of exercise. And how is this to be done but by a variety of subjects for study—such a variety as will not only give employment for these three great classes of powers with their corresponding organs, but to these powers in all their minuter shades or details. And hence the necessity not only of blending the intellectual and social and moral, but of blending them in all their energies and sensibilities for the preserving and invigorating of the whole;—and this can only be done by a variety of subjects of study, not keeping the mind too long fixed on any one subject, however interesting or engrossing. And if all this is of force in reference to those whose brain is consolidated and strengthened, it

must be still more in reference to those whose brainy substance is but in a state of growth and development, and thereby exposed to the greatest possible injury by continued overtension. And hence the younger the children, the greater the need for variety of study, and for a limited period being devoted to the prosecution of any one branch.

But not only is it necessary for the full health and vigour of the nervous system to have regularity and variety of mental pursuits, but also *reiteration* and *judicious repetition*. Practise is as necessary to induce facility of action in the organs of the mind as in those of motion. The idea or feeling must not only be communicated, but it must be represented and reproduced in different forms, until all the faculties concerned in understanding it, come to work efficiently together, and until a sufficient impression is made on the organ of mind to enable the latter to retain it. We may understand a new subject by a single perusal, but we can fully master it only by dwelling on it again and again. In order to make a durable impression on the mind repetition is necessary; it follows hence that in learning a language or science, six successive months of application will be more effectual in fixing it indelibly in the mind and making it a part of the mental furniture than double or even treble the time, if the lessons are interrupted by long intervals. The too common practise of beginning a study and keeping at it a little while, and then leaving it to be completed at a later period, is as unphilosophical as it is injudicious. The fatigue of study is thus doubled and the success greatly diminished. Studies should not, as a general rule, be entered upon until the mind is sufficiently matured to understand them thoroughly, and, when begun, they should not be discontinued until they are completely mastered. By this means, the mind becomes accustomed to sound and healthy action, which alone can qualify the student for eminent usefulness in after life. By this means, too, the physical organization of the brain is strengthened and consolidated, so that they mutually aid one another in the accomplishment of the same grand object.

SECTION II.—INTELLECTUAL EDUCATION. .

Classification.—As physical education is founded upon animal physiology, so is intellectual, upon intellectual philosophy, or that part of our mental nature, designated the intellect. Though the human mind is one and indivisible, yet it manifests itself in a great variety of forms or ways, now reduced to a science, and generally known by the

name of Psychology. For a long period, the human mind was regarded in a twofold aspect, called by some the *understanding* and the *will*; by others, the *contemplative* and the *active* powers; and, by others, the *cognitive* and *motive*, or the *internal* and *external* affections. Now, however, it is generally regarded under the threefold classification,—the *intellect*, the *sensibilities* and the *will*; and each of these is again subdivided into several subordinate departments, called faculties, or modes of acting or doing.

It is with the first of these divisions, we have at present to do. The faculties of the intellect have been variously arranged and classified according to the stand-point from which they are viewed, whether synthetical or analytical, proceeding from particulars to generals, or from generals to particulars. These classifications are considered by some as defective, and by others as redundant; by some, as beginning where they should end, and by others, as ending where they should begin; but, after all, in their grand leading features, they are substantially one and the same. There is one division or classification that can hardly fail to force itself upon the attention of the most superficial student, appropriately denominated the *sensational* and the *intellectual*; the first, embracing all those powers or forms of activity connected less or more with external objects; and the second, all those thoughts or ideas which, though occasioned or suggested by external things, are, nevertheless, entirely independent of them, and to be regarded as the results of its own spontaneous actings, the outgoings of its own inherent constitution. The former of these,—the *sensational*, may be subdivided into the three following classes, according to the way in which external things are presented to and affect the intellect, viz.—the *presentative*, the *representative*, and the *combining* or *reflective*.

There is a large number of our thoughts or mental operations, which originate in external objects being brought into direct and immediate contact with their appropriate sense. In some cases, the knowledge thus imparted is a mere mental change called a *sensation*, and, in others, is accompanied with a clear apprehension of the existence and quality of the visible object or thing that produced it. From the way in which the object is presented to the mind, this may be designated the *presentative* class; from the effect produced, the *perceptive* faculty; and from both being combined, *sense*—*perception*. Again, a large number of our thoughts or ideas spring from the conception of objects that have, aforesaid, been presented to our senses in some shape or other, but which are now removed or

absent. These objects we may conceive of or represent to our minds, though thus absent, either in a more vague or definite form; the former capability we designate the *conceptive* faculty, and the latter the *recollective*. Or, we may take the parts or properties of these objects, unite them into a whole which had no existence before, and so hold up that whole to our mind; and, hence, this class of powers has been called the *representative*. Again, we may compare one object with another, or one attribute of an object with that of another, and arrange the same into distinct classes, according to their resemblances or differences. This, we all naturally do. In looking at any one object or class of objects, we separate them into their parts or attributes; pass judgment upon them, compare them with others, and classify accordingly. This is to proceed from particulars to generals, according to the synthetic method, and is appropriately designated the *generalizing* faculty. Or we may reverse the process. We may analyze the idea or term, we may pronounce a verdict respecting its properties or relations, and show that whatever belongs to the whole, belongs to all the parts. *All men are mortal; Homer was a man; therefore Homer was mortal.* This is called reasoning, or that faculty by which, from the use of knowledge obtained by the other faculties, we are enabled to proceed to the discovery of other and original knowledge. Both these powers are of the same nature, that is, they proceed from premises to consequences or conclusions, and may be classified as belonging to the *discursive* or *reflective* class.

These are all the sensational powers—or those powers of the mind operated upon through the medium of the senses. But the mind has also the power of acting or of forming ideas by reason of its own constitution, independent of any external object whatever. The ideas of power,—of cause and effect,—of time,—of a sense of the beautiful or of the right, for example, may be occasioned or suggested by the faculties of perception or consciousness, but they are not derived therefrom. They are the result of the exercise of pure intellection. We know them to be true without the intervention of any media. Nay, they really lie at the foundation of all our other knowledge, and on this account are designated by some first or primary truths, self-evident axioms, intuitions or intuitive cognitions. As these primary truths are beheld at once by the mind without any process of analysis or ratiocination, the *power* is called the *intuitive*; and as they are occasioned or suggested by the ideas of consciousness and perception, though neither produced by them nor in any respect similar to them, they are called *original suggestions*.

The faculties enumerated may be thus represented in tabular form :

CLASSES OF POWERS OF INTELLECT. FACULTIES.

I.—PRESENTATIVE,	<i>Sense—Perception.</i>
II.—REPRESENTATIVE,	{ <i>Conception.</i> <i>Memory.</i> <i>Imagination.</i>
III.—REFLECTIVE,	{ <i>Abstraction or Generalization.</i> <i>Reasoning.</i>
IV.—INTUITIVE,	<i>Original Suggestion.</i>

With this brief analysis and classification of the intellect,—in which we have mainly followed “Haven’s Mental Philosophy,”—we proceed to make a few remarks on the subject of their education in general; thereafter, we shall discuss each faculty in order. *What then is intellectual education?* As to the matter of intellectual education very inadequate views obtain. Not a few seem to imagine, that it consists merely in making the subject that may happen to be brought under the notice of the young, clear and palpable, thoroughly understood; and, for this purpose, the terms are traced to their source and defined, the clauses or sentences analysed and expounded. Now, whilst all this is exceedingly proper, and whilst no one can fail to perceive its vast superiority to the old routine, mechanical process, which required the mandating of so many words and clauses without the most distant idea of their import: still, after all, it is nought but instruction, and falls far short of real intellectual education. Intellectual education includes instruction, and that conveyed in the most simple and intelligible manner; but it is something far above and beyond,—something vastly more lofty and ennobling. It is neither more nor less than the best knowledge communicated in such a way as that all the faculties of the intellect shall be exercised, and thereby drawn out, developed and strengthened. And how is this to be effected? In two ways; first, *by presenting the appropriate food to each faculty*, and, secondly, *by administering it in a way that it shall be digested*; or, to speak without a figure, by bringing those very subjects before the mind that are best fitted for the exercise of its powers, and doing it so that these several powers shall be actually used. As to the first point, there is little or no difficulty. The food, most congenial to the perceptive faculties, is just the object adapted to each sense; to the conceptive and recollective faculties, a vivid apprehension of the original ideas and a thoroughness in whatever is committed; to imagination, the formation of ideal pictures, and the

association of the invisible with the visible, of the spiritual with the natural; to abstraction,—the distinguishing and the separating from each other of things which differ, the study of the generalizations and combinations of nature; to reasoning,—the tracing of the connection between premises and conclusions, and the manufacturing of arguments for ourselves whatever be the subject of investigation; and to original suggestion,—the encouraging a spirit of earnest and persevering enquiry in reference to phenomena that may fall under our observational powers. All this is comparatively an easy matter, and is accomplished either through the medium of text-books on usual branches or oral lessons. The actual digestion of the food on the part of the scholars, their using and strengthening their own faculties in the study of subjects adapted thereto, and the presentation of these subjects so that this end shall be served, constitutes at once the grand problem and the main difficulty.

This plainly involves two things—the *theoretical* and the *practical*, or the principle and the mode of carrying it into effect. And first as to the philosophical principle involved. This is neither more nor less than the teacher's coming down to a level with his class, and conducting them by the use of their own faculties from the known to the unknown, from objects or things with which all are familiar to the discovery of those facts, or the deducing of those inferences, or the reception of that knowledge, or the learning of those lessons, at which he is aiming, or which he is striving to impress on their minds. His object is to impart knowledge, to enforce truth, to inculcate wholesome moral instruction, not by telling them, not by didactic statements or finished prelections, but by guiding and gently constraining them through the legitimate exercise of their own powers to the wished for landing; and this that he may develop and enlarge the particular faculty or faculties intended. For this purpose he avails himself of certain innate constitutional principles, viewed in connection with the stage of the mental development of his scholars. These principles are such, as the powers of perception, comparison, analogy, classification, intuitive beliefs, acts of the judgment, or deducting conclusions from certain data or premises, and the like. And where does the teacher find materials for the exercise or the play of these principles? He finds them everywhere about and around; and, accordingly, he levies a tribute on the works of nature and art, on man and manners, on the past and present, with the view of catering for the special appetites of his pupils. Two things must be kept before his mind's-eye in the selection of this provision;—the aptness of the incident or occurrence,

of the object or illustration, to the case in hand, to the point to be made out, and the character, the circumstances and stage of advancement of his class. In one word, he must see and be sure that the platform on which he takes his stand is one on which all can join,—one in reference to which the transition from the natural to the mental or spiritual,—from the visible to the invisible,—from the temporal to the eternal,—from the finite to the infinite, is easily perceived and duly appreciated. But there is one field where he, the teacher, may revel at will,—a field as inexhaustible as it is in every way suitable, a field on which the child and the adult, the male and the female, the stupid and the intelligent, are alike at home, we mean, of course, the field of nature, of visible objects, and of the employments and pursuits around. All know something about stones and plants and animals, their uses, their varied applications, &c. And why so? It is because of the very constitution of their being, because they are possessed of a sensible nature, and because the grand avenue, the easiest pathway to the mind, is through the senses. And do we not see this principle displayed every day before our eyes? Look, for example, at the conduct of the mother in her endeavours to impress the mind of the prattling child on her knee with any event, or fact, with any Bible story. Is it, for example, the unnatural deed of Cain imbruing his hands in the blood of his unoffending brother? She has no sooner determined to depict this transaction to her little one, than she hies away to the library shelves in search of the big folio copy of the Bible, and at once turns up the pictorial representation of the scene. With consummate tact she fixes the eye of her child on the more prominent and striking features of the picture, and then proceeds to the rehearsal, the verbal delineation of the tragical story. And why does she resort to this method? Is it because she is aware of the philosophical principle involved? No, she does it from pure instinct. And could there be a nobler testimony to the truth of our position? But why cite such occurrences? Hath not the Divine Being Himself in making known His will to mortals adopted this very mode, and set its suitableness and soundness for ever at rest? No one, we think, can peruse the Sacred Record without being struck with the profusion, the appropriateness, and in many instances, the gorgeousness of its imagery, without perceiving that there is scarcely a spiritual truth, or doctrine, or moral precept unfolded, not bodied forth in some biographical sketch, or exhibited in some emblem or parabolic illustration. It matters not whether man is contemplated in an unfallen or fallen condition, whether he is living

under the dawning twilight or the noontide radiance of the remedial economy, the same mode of revelation is pursued. Witness, for example, the two special trees in the Garden of Eden,—the tree of the knowledge of good and evil and the tree of life. Witness, again, the stupendous ceremonial of the preparatory dispensation, how completely every thing connected with the person, the character, the office and work of the great coming Deliverer of the human family, was portrayed and shadowed forth in personal types, symbolic rites, and sacrificial observances. And why all this? It was because the church was in her minority, in a state of pupilage, requiring, like children, that her instructions be couched under natural emblems, and that her lessons, her moral and spiritual lessons, be conveyed through visible or tangible objects and things. But the finest exemplification of this mode of teaching, are the discourses and addresses of Incarnate divinity,—of Him in whom were hid all the treasures of wisdom and knowledge. No one can read the evangelic story without perceiving with what admirable dexterity the Great Teacher wields this weapon; with what inimitable ease and skill he renders universal nature tributary to his purpose; and through the help of emblems, analogies and parables, meets and rebuts, at the instant, the captious cavils of his accusers, shutting them up by their own reasoning to certain convictions and conclusions, which they could neither gainsay nor controvert.—“Is it lawful to give tribute to Cæsar?” asked the Pharisees: “Show me a penny,” resumed our Lord. “And they brought it, and he said unto them, whose is this image and superscription? And they said unto Him, Cæsar’s. And Jesus answering said unto them, Render unto Cæsar the things that are Cæsar’s, and to God the things that are God’s. And they marvelled at him.” “Who is my neighbour?” said the same party. Jesus Christ did not say in reply that all the human family were the lawyer’s neighbours, or enter upon an elaborate abstract disquisition of the great moral lesson he came to exemplify and establish, viz., that we are all our brothers’ keepers; but he answered it by picturing out to him the touching and the thrilling story of the good Samaritan. After which, the crafty Lawyer did not require to renew his question. Again, on another occasion, the Pharisees watched Him whether he would cure on the Sabbath day our Saviour looked on them, and asked: “Is it lawful to do good on the Sabbath day; to save life or to kill? but they held their peace.” A similar, and, perhaps, still more impressive incident occurs in St. Luke’s gospel: “And it came to pass as He went into the house of one of the chief Pharisees to eat bread on the Sabbath day, that they

watched him. And behold there was a certain man before Him which had the dropsy. And Jesus answering, spake unto the lawyers and Pharisees, saying, Is it lawful to heal on the Sabbath day? And they held their peace. And He took him, and healed him, and let him go; and answered them, saying, Which of you shall have an ox or an ass fallen into a pit, and will not straightway pull him out on the Sabbath-day? And they could not answer Him again to these things." In both these examples, Christ, it will be observed, does not tell the Pharisees whether it was or was not lawful to do good on the Sabbath-day; he appealed to their conscience; *he trained them*; they felt the rebuke; "they held their peace." Take another example, which we simply recite. It is so appropriate and beautiful, that it can hardly be touched without marring its effect: "And one of the Pharisees desired Jesus that he would eat with him. And he went into the Pharisee's house, and sat down to meat. And, behold, a woman in the city, which was a sinner, when she knew that Jesus sat at meat in the Pharisee's house, brought an alabaster box of ointment, and stood at his feet behind him weeping, and began to wash his feet with tears, and did wipe them with the hairs of her head, and kissed his feet, and anointed them with ointment. Now, when the Pharisee which had bidden him saw it, he spake within himself, saying, This man, if he were a prophet, would have known who and what sort of woman this is that touched him; for she is a sinner. And Jesus answering, said unto him, Simon, I have somewhat to say unto thee. And he saith, master, say on. There was a certain creditor which had two debtors: the one owed five hundred pence, and the other fifty. And when they had nothing to pay, he frankly forgave them both. Tell me, then, which of them will love him most? Simon answered and said, I suppose that he to whom he forgave most. And he said unto him, Thou hast rightly judged." Then all was clear for making the application. Indeed Simon himself, however reluctantly, was compelled to draw the inference. As the debtor who had been forgiven most loved most, so this woman loved much because she had been forgiven much. One other case, and that mainly for the purpose of showing how, by this mode of teaching, the Great Teacher enlists the intellectual powers, and insists on their legitimate exercise. The case to which we refer is the mission of John's two disciples to Christ, for the purpose of discovering whether he were the Messiah. These two disciples being introduced, asked, "Art thou he that should come, or do we look for another. Jesus answered and said unto them, Go and show John these things which ye do see and hear: The blind

receive their sight, and the lame walk, the lepers are cleansed, and the deaf hear, the dead are raised to life, and the poor have the Gospel preached unto them, and blessed is he whosoever shall not be offended in me." As if he had said, "Go home and tell your master what things you have seen and heard; then, turning up the Scriptures in your possession, compare the predictions relative to the Messiah with what you have seen; exercise your own powers, and then draw your own conclusions." But why should we multiply such cases in confirmation of the Saviour's style of teaching? The whole Evangelical Record is but one unbroken continuation of such illustrations rising the one above the other in beautiful simplicity and in striking appropriateness, in complete adaptation to the experience and occupations of the parties addressed. It matters not to whom He spoke, or on what occasions; whether it be to few or many—on more formal or casual interviews; he uniformly selects for illustration the very object or thing best fitted for conveying the truth or enforcing the lesson he desires, and with which his auditor or auditors are perfectly familiar. And not only so, but in the whole management of that illustration, he never loses sight of the point upon which the very essence of the truth or lesson hinges, or of the faculty or faculties intended to be exercised and strengthened. But the main charm of all his figurative delineations, and of all his parabolic illustrations, is the attractive, the captivating and the winning manner in which he constrains those he wishes to benefit to follow out these delineations and illustrations to all their practical applications and to all their natural conclusions; aye, and until they are literally hedged within an enclosure, from which, without the most palpable belying of their own conscientious convictions, they cannot make their escape. This is the grand, the culminating point in the whole process—the burden of the divine Teacher's aim and object. He is desirous to impart knowledge, and knowledge earned by their own exertions; but there is something above and beyond all this, namely, the consideration of the expansion, the education of the intellectual and moral powers of their nature, and that for the purpose of rendering them competent in all time coming for higher feats—for yet nobler achievements. What an honour does the divine Teacher thus bestow upon secondary agency—upon human instrumentality! How easily, by a miraculous display of omnipotence, could he have forced his auditors to the same conclusions, but this would have done violence to, and cast disparagement on the work of creation, His own handiwork; this would have frustrated all the happiness and joy arising from the co-operation

of the creatures His own wisdom had framed. And what a halo of glory is thus flung around the powers or faculties of the human mind! If the beneficent Creator Himself thus exalts these powers, and shows us how they are to be rendered subservient for the end in view, what an instructive admonition is thereby given—what a persuasive appeal is made for our imitation of the example He so fully and elaborately sets before us! What a lesson is here taught parents, Sabbath-school and week-day Teachers, that nothing but training—nothing but an unceasing process of self-education, will strengthen and develop the intellectual powers of our being!

And this principle, in all its exemplifications and developments, is just as applicable to secular as it is to religious and moral subjects. Indeed the similitudes, the parables and allegories are perhaps more numerous and appropriate in the one case than in the other. At all events, the young are as well acquainted with them, and can apprehend with even greater facility their application and their force. The first systematic attempt to reduce this principle to practical application in the general business of the school, was that made by Pestalozzi, the great Swiss educational Reformer. He sat a diligent student at the feet of nature,—perceived the influence which the objects in the world without had on the whole inner life of man, and laboured most assiduously and perseveringly to apply this principle to the whole educational process. Hence the objective system, as it is called, which is neither more nor less than the application of this principle to all the branches of education, is identified with the name of Pestalozzi, and is sometimes interchangeably designated the Pestalozzian system. This devoted enthusiast, however, stopped short here. His system at the utmost only appeals to the perceptive faculties. He attaches little or no value, or, at least, makes little or no use of the conceptive or the reflective. But there is a defect greater and more desolating far, and that is the neglect or the casting away of the grace and strength so fully and so freely tendered to all in the discoveries of the Bible. Nature is idolized and adored, but Revelation is ignored, or, at least, occupies but a subordinate place. And yet Pestalozzi did inaugurate the exercise of Object lessons. He was, perhaps, the foremost that ever systematically attempted to adapt the educational process to the nature of the child, and, so far as he went, a great, and good, and progressive work was done in the very essentials of our theme. Stow, of Glasgow, completed and perfected the work which Pestalozzi had begun. He consulted both Books, the one of nature and the other of grace, and gladly availed himself of all the assistance he needed. And what

did he not need? But not only did he impart durability to his work by laying its foundation deep on the rock of eternal truth, he was enabled, by the vision derived from these two Books, to take a full and panoramic view of the recipients of education—to descry more faculties demanding culture than even those of conception, imagination, generalization and reasoning. And hence he added to the objective, the word-painting-lessons, and to all these the drawing of conclusions from certain data or premises. And what an enduring fabric to the glory of humanity did he thus erect? What homage did he pay to the author of our being! What honour and lustre did he confer on the law of adaptation!

So much for the history of the principle. How, it may now be asked, is it reduced to practice? What is the process by which, in word-painting, we are actually to exercise the faculties of the scholars, to train, and not merely to teach? What plan is to be pursued by which the scholars shall actually use, and thereby strengthen the special power or faculty intended? Is it to be effected by a lecture from the Teacher—by an oral or written delineation of the scene or transaction, of the most graphic description—the thoughts lucidly conceived, and the inferences logically deduced? All this may be done, and the pupils both apprehend and appreciate its import, and yet their faculties remain in a state of all but complete dormancy and inactivity. Or is this to be done by a series of questions and answers, the former well put by the Teacher, and the latter accurately given by the scholars? No; this exercise may acquaint the teacher with the extent and character of his pupils' knowledge on any given point, and it may help to quicken and expand and consolidate the ideas of the pupils on subjects they already know,—it may rouse their energies in connection with these subjects; but this is all; it neither adds to their stock of knowledge nor cultivates their faculties, except, perhaps, the faculty of memory. Or is it to be accomplished by the teacher's telling his scholars what he desires to be done, and by giving a few hints, so as to set them on the way of performing the work themselves. This may do well enough with a few of the class who would, in all probability, by their talent, industry and perseverance, perform the exercise with creditable success; but the rest are uninfluenced and unemployed.

The only way of effecting the object in view is by a skilful combination of questioning and ellipses carried on orally between the teacher and taught, the former acting literally in the capacity of a Trainer, and the latter serving a tractable apprenticeship. We shall

suppose, then, that the subject of instruction is chosen, and that the pictorial representation by which the knowledge is to be communicated and the lessons to be inculcated is vividly before the mind's eye of the Teacher, the first thing to be done is for him easily and freely to put a question, or a number of questions, merely to ascertain the extent of their knowledge, whether the majority of the class are familiar with the image—the natural picture. Having done so, and finding all prepared to enter upon a conversation thereon, he continues his questions, pausing and allowing them to go on and supply both words and clauses—ideas. Specific directions for the conducting of this exercise will be given at a subsequent stage in our course. Suffice it now to say, that much of the power and success of this exercise depends upon the skill and training experience of the Teacher. Every possible care should be taken to see that there is a judicious blending of the two processes—the questioning and ellipsis, and this constitutes the grand difficulty of the exercise. If we go to an excess with either, the whole becomes tame and inoperative. The question is intended to set the mind a-thinking, and to keep it on the right track—the ellipsis carries on, directs what has been set a-moving. As in painting, the question is a direct line, whereas the ellipsis fills up the interstices. Questions are the direct investigation of our amount of knowledge: ellipsis assists the pupil in acquiring it. Though perfectly warrantable to allow the pupils, in filling up the ellipses, to go off the pathway a certain distance—such a distance as that the main road shall not be lost sight of,—it is the province of the trainer to bring them back by the proposing of a question,—and this demands the utmost vigilance. Everything must at once be sacrificed for the accomplishment of this end. The end is the acquisition of additional knowledge, through the medium of the illustration; and if the natural scenes or objects will not land directly in that region—if the *so* cannot be fairly deduced from the *as*, the sooner that that course is abandoned, the more successful will be the exercise. A great deal depends on the nature of the subject discussed and the point aimed at, as well as on the character and general advancement of the scholars; and so to humour these, as that the end in view shall be attained, as that the sensible portrait shall tally with and bring out, by clear inference, the thing signified. To elicit the conventional truth or fact, requires no ordinary circumspection, discrimination and dexterity on the part of the trainer, such, in fact, as nought but a lengthened experience can impart. We very often, with the view of exhibiting the necessity of blending and continuing the questions and the elliptical process, resort to the method

pursued by the mother in training her infant to walk. Having satisfied herself that the time has arrived when the lower extremities are perfectly competent to support the trunk, she takes the necessary steps to give her child the power of locomotion. Her first object is to accustom her child to stand erect. To do this, she does not continue to hold the child in her arms, but she places it upon the floor. To inspire with confidence, however, in this act, she places a chair before it by way of a prop. The child is afraid, at first, to be left by its mother; but no sooner does it find, by help of the chair, it can stand, than it is inspired with confidence, and looks around with complacency and an air of conscious independence. This is stage the first in walking. Corresponding with this, in intellectual walking, is questioning and answering,—the former placing the class on their own resources, and the latter evincing whether their strength is equal to the emergency: if so, well; if not, pointing out the necessity of adopting some other expedient. But to return to the illustration. The mother, when convinced that her child is inspired with confidence, proceeds to another step in the process. She removes the chair or prop such a distance as will compel it to make a step or two before it reach it. It looks around for a moment—casts about for a prop; but finding none unless it moves, it summons up its energy and courage, and makes a bold venture. Staggering and tottering, it reaches the chair, and looks around with greater satisfaction than ever, and quite uplifted with the victory achieved. The child is allowed to remain a little while in this position—is taken again up into its mother's arms, and thus ends stage the second in the process of physical walking. This again corresponds with the elliptical process in intellectual walking, the class putting forth their own powers, and taking up the story when the trainer paused, or when they were left to deduce some inference or lesson. The third stage in the child's walking consists in the removal of the chair to a greater distance, or very likely in changing the prop. The mother puts aside the chair, or puts the child from her arms on the floor, and, removing to a respectable distance, encourages her child to advance towards her. This, evidently, awakens considerable perplexity and fear in the mind of the little prattler, but it must either tumble and flounder, or else reach the goal. It resolves to assay the latter, however formidable, and succeeds; and his satisfaction rises in very proportion to the arduousness of the task. This again corresponds with the more advanced stage in the elliptical process, the passing from the literal to the conventional—from the

emblem to the truth or lesson taught—from the premises to the conclusion—from the region of the known to that of the unknown.

There could scarcely, we think, be a more apt illustration of the point in hand—the process of intellectual training or the means to be employed for constraining the young to the exercise, and thereby to the growth and development of their various intellectual powers. As the child can never learn to walk physically so long as it is carried about in its mother's arms, so neither can the young be taught intellectually to walk so long as their education is made to consist only in *telling or instructing*. As there is no way by which the child can be taught to walk but by the use of its own limbs and feet, so is there no way by which the young can be taught intellectually to walk—that is to a bold and determined self-reliance—but by the use of their own intellectual powers. As it is the bounden duty of every mother to use all legitimate means for the purpose of imparting the power of locomotion to her own child, so is it the duty of every educator to use every means by which the young committed to his care, shall acquire the power of intellectual motion, and thereby of advancing, in a continued course of intellectual improvement, self-education. But this means will be found, not only eminently efficient in accomplishing the end in view in reference to a few apt scholars,—it is remarkably diffusive in all its tendencies. This, however, depends very much on the way in which the answers are given and the ellipses filled in. There are two ways in which this may be done—simultaneously and individually. We repudiate altogether the practise of asking a question directly at an individual, naming the individual before the question is put, or, which amounts to pretty much the same thing, beginning at the top of the class, and going on in rotation to the bottom. The question ought to be put to the whole class; a short space should ensue, allowing all and sundry to be exercised. But supposing all this has been gone through, the grand point is, in what way is the answer to be given? Are all to answer or to fill up the ellipses together, or are they to give a signal as soon as they think they are prepared, and wait until a certain individual is named. The former is called the simultaneous, and the latter, the individual method. We decidedly recommend the adoption of both these methods, according to circumstances. In such an exercise, two things ought to be aimed at by the teacher—the stimulating of the emulative principle on the part of the diligent, and the rousing into activity of the idle and lethargic. The one is largely promoted by the simultaneous, and the other by the individualizing method. But whatever is the method

pursued, neither the answer nor the ellipses should be left till they are imprinted on the understanding of every individual of the class. This may be effected in two ways—either by inverting the answer into the form of a question, and then throwing it back upon the whole class, and so with the ellipses, if need be; and also by obtaining a summary of the whole lesson at the conclusion of the training process. Every teacher should remember, and carry into practice, the important fact that no lesson is to be regarded as given till it is actually received. And how is this to be ascertained, but in the way we have indicated, the teacher demanding in the scholars' own words, and that without the aid of the prop of questioning, an abridgement of the whole lesson gone over. (See exposition of details and variety of minute exemplifications on Oral Lessons.) Enough surely has been said to show the radical distinction that obtains between intellectual instruction and intellectual training—between the teaching and the educating of the understanding.

THE PERCEPTIVE FACULTIES OR SENSE PERCEPTION.

Having discussed the nature of Intellectual Education, in general, and the best means, in our view, of reaching it, we proceed to the consideration of the various faculties in detail; following the classification already sketched, and applying to each the education of the grand specific *exercise*. We begin with the *Perceptive* powers, constituting, as they do, the first awakeners of the mind's activities, and lying at the foundation of all our other knowledge.

Nature of Perceptive Faculties. These faculties are so designated, because by them we are enabled to *perceive* or obtain a knowledge of the existence and properties of an external world. This is done through the medium of the five senses—smelling, tasting, hearing, touch and sight. These senses are neither more nor less than attenuated masses of nervous matter, situated in convenient regions of the human body, which, when brought into contact, either directly or indirectly, with certain objects congenial to their nature, undergo a change, or receive an impression, which change or impression is conveyed by a class of nerves called *afferens* to the brain, and thence by some mysterious process to the mind. Various attempts have indeed been made to connect this immense hiatus—to bridge over the wide gulf that separates the physical organization from the mental substance; but, notwithstanding all the speculations of idealists on the one hand, and of realists on the other, the connecting bond is just as latent as ever—is as profound a secret as ever, and, in all probability, will continue to

be so. In such circumstances, surely it were far nobler for man to bow with becoming humility to the dictates of infinite wisdom, and to be satisfied with the inevitable arrangement, that it is just as much the glory of Deity to conceal, as it is to reveal a thing.

These senses or inlets of the knowledge of the external world, are, as already stated, just five in number. This fact necessarily limits our knowledge of the world without, imposing an impassable barrier upon all our researches and investigations. We can only, by reason of this arrangement, become acquainted with those qualities in the objects around us, by which our senses are affected, or which they recognize. For aught we know, these objects may possess many other qualities or properties, but as we have no means of apprehending them, we must be content to remain ignorant of them. And yet is not the knowledge we obtain through the medium of our senses amply sufficient for all useful, practical purposes—for all the purposes that appertain to our preservation and welfare, taking into account at once the nature of our constitution and our external circumstances. The qualities with which they make us acquainted, may be all classified under two heads—the spatial and the chemical, or those that go to our defence from danger, and those that go to our nourishment and refreshment. I am surrounded with innumerable objects, with which I am liable every moment to come into collision, against which I am apt to stumble and fall. Here the sense of touch comes in for my guidance, and protects me from all harm or casualties. But this sense is only of use for things near at hand. Through it I can only obtain a knowledge of those objects that are tangible. It is equally essential for my preservation and welfare that I become acquainted with objects at a distance, as well as those that are near. And here another sense comes to my succour—the sense of sight. But light is the medium through which I perceive objects both near and at a distance. When light is excluded, what am I to do? I am then in jeopardy—in utmost peril of my life. It seems indispensable that I should be provided with another sense, and that sense is hearing, by which I am shielded from innumerable dangers and straits. By these three senses—touch, sight and hearing—I obtain, at all times, and in all circumstances, a knowledge of the objects in space—of all the primary qualities of matter, such as extension, durability, size, density, figure, ultimate compressibility, mobility, situation; of all the secondary mechanical, such as gravity, cohesion, repulsion, inertia; of all the secondary physiological, such as colour, sound, flavour, tactual sensation, feeling of heat, electricity. These senses, it will be observed,

have a more direct reference to existence and quantity than to quality. And have we none by which we may detect the chemical properties of bodies, as connected especially with the functions of respiration and nutrition? Yes, this knowledge is given and this addition made by the sense of smell and taste. But while these senses discharge respectively their appropriate functions, and serve the very purpose for which they were intended, some convey more information than others; whilst some have a more direct bearing on the intellectual powers, and others produce a more lasting impression. Whenever an object, congenial to any sense in a normal condition, is brought in contact therewith, there is uniformly the consciousness of two things: something in the external world affecting the organism, and perfectly distinct from the being affected—that is, there are the two elements—the objective and the subjective—the *ego* and the *non-ego*. True, there are some of the senses—such as smell, taste and hearing—that only convey the knowledge of a new consciousness, or, as it is called, a sensation; and there are others, as touch and sight, which along with this knowledge, convey the belief that there is some external object by which this knowledge is produced, which is called a perception; but whether it be a perception or a mere sensation, these two elements are always implied, viz., the person cognizing and the affection of the mind by something external, whether that be known or not, as separate and distinct. Still farther there are some of these senses—such as those of smelling, and tasting, and touch—that more directly refer to the lower or the animal part of our constitution, whilst the other two—hearing and seeing—do to the mental, and consequently demand, at the hand of the educationist, a more profound and patient investigation. And yet again, of all the senses, there is none so valuable as that of sight. It produces the most durable impressions; its scenes and transactions are most easily recalled, and its furniture constitutes the principal wealth of the mind.

Importance of Perceptive Faculties. But we have written enough upon the general features of sense-perception,—enough, at any rate, to show its vast importance over the whole realm of thought. It not only awakens mind, intellectually and emotionally; it constitutes the grand receptacle of all that knowledge which the mind combines and re-combines in an infinite variety of modes, forming a foundation stone—an admirable platform for all its other operations. It bears all but omnipotent sway in the conceptive faculty, and to which, as to a picture gallery of the visible world, as it has been styled, the mind retires at every moment, when it is not occupied by that world itself. It is

through the perceptive faculties that the analytical power,—or that power by which we are enabled to detect and distinguish from each other all the various qualities of an external world is called forth,—and which power, being transferred to spiritual as well as material phenomena, is of prime importance to every philosophic mind. It is, in one word, through the perceptive faculties, that we are brought into mysterious communion with an external world, and by which the invisible things of Deity are clearly seen, being understood by the things that are made.

Education of Perceptive Faculties. And how encouraging, in such circumstances, is the susceptibility of improvement of this class of faculties, especially in the young! This is manifest to the most superficial observer. Look at those whose business or occupation compels them to depend upon any one of their senses, and which, in consequence, is constantly exercised. How distinctly, for example, does the sailor descry, in the distance, the particular kind of vessel that is speeding its way on the wide waste of waters, whilst the landsman scarcely discerns an object at all! But this capability of improvement is still more remarkable in the case of those who have been deprived of one or more of their senses. No one, we think, can visit an asylum for the Blind, or for the Deaf and Dumb, without being struck at the proficiency with which the former read the embossed characters of any book that may happen to be put into their hands, or the facility and accuracy with which the latter carry on their intercourse with their fellow-creatures through the medium of external signs. Perhaps the most extraordinary case on record is that of Laura Bridgman, of Boston, Mass., who was not only blind, but deaf and dumb, and yet, through the cultivation of the sense of touch, was rendered capable of holding intelligent intercourse with her fellow-creatures. "When I was at the Institution of Boston, a few months ago," says Mayhew, in his *Treatise on Popular Education*, "she was told a person was present whom she had never met, and who wished an introduction to her. She reached her hand, expecting to meet a stranger. By mistake she took the hand of another gentleman, whom she recognized immediately, though she had never met him but twice before. She recognizes her acquaintances in an instant, by touching their hands or their dress; and there are probably hundreds of individuals, who, if they were to stand in a row, and hold out each a hand to her, would be recognized by that alone. The memory of these sensations is very vivid, and she will readily recognize a person whom she has thus once touched. Many cases of this kind have been noticed,

such as a person shaking hands with her, and making a peculiar pressure with a finger; and repeating this on his second visit, after a lapse of many months, being instantly known by her. She has been known to recognize persons with whom she has thus simply shaken hands but once after a lapse of six months." Could there be a more triumphant demonstration of the soundness and validity of our position—the improvement of our senses by exercise, than is furnished by the educational history of this singular character? And how loud the call which this, and hundreds of similar cases, address to parents and teachers, to ply every energy, with the view of cultivating the senses of the young, as laying the most suitable foundation for all their educational work, if not rather for all their future career.

And this ought to be systematically proceeded with,—that is, the senses should be taken up in order, and the objects congenial to their nature presented to them. The two most important senses, mentally regarded, are those of Hearing and Seeing. The ear, which consists of two parts, the exterior and the interior, separated by the *membrana tympani*, is the seat of the former; and the eye, which consists of the three coats—the sclerotic, choroid, and the retina, and of the three humours—the aqueous, the crystalline and vitreous, is the seat of the latter. The grand peculiarity of the sense of hearing is that the tones or sounds addressed to it,—and these are said to be 500, possessing 500 degrees of loudness,—have a natural meaning, and awaken corresponding emotions in the breasts of those who listen. Hence the power of music both over the tutored and untutored mind. Hence, too, the power of the orator over his auditors; and hence, too, its power in teaching. The grand peculiarity of the organ of vision is, that it not merely imparts, through the medium of light, a direct knowledge externally of colour, of superficial and solid extension, but also those acquired perceptions, which give us the notion of things as they are, that bear sway in the perceptive faculty. It is to its picture gallery of the visible world that the mind retires at every moment when not occupied by that world itself; it is over these images that it exerts a plastic power, recombining the elements they consist of, in an infinite variety of modes; "and it is exclusively out of these same elements, fantastically consorted, that those magic halls are stocked and ornamented, through which the soul flits and roams during sleep."

The furniture of the conceptive faculty, as derived from the objects of sight, constitutes the principal wealth of the mind; and upon the ready command of these treasures, with some specific end in view,

depends, in a great measure, its power. The quality and extent of these ideal stores, and the degree in which they are available as materials for the other faculties to work upon, are the chief reason of the vast difference between one mind and another, and generally the difference between cultured and uncultured minds. Whatever may be the path of exertion pursued by any one, if the conceptive faculties in the particular department which the mind occupies be fully fraught with its proper objects, and be prompt in producing its stores, such a mind will take the lead among others.

It is clear, then, that these two senses present by far the strongest claims on the educationist,—constitute, in fact, at first, the grand burden of all his operations. And yet it is not less clear that their cultivation ought not to exclude the other three—touch, smell and taste. The education of these ought to be carried on at one and the same time. The first gives an immediate perception of externality, extension, form, hardness, softness, &c., including the various mechanical properties of bodies; the second, all the odours; and the third, all the flavours; and it is in every way advantageous that we obtain a correct knowledge of all these,—in other words, that these senses be exercised and developed.

And now is it asked, How is this to be done? Plainly, we again repeat, by the trainer submitting to each sense the congenial object. If the sense of smell, the odoriferous particles must be brought in contact with the olfactory nerves; if of taste, the body must be subjected to the palate; if of touch, the person must be allowed to handle the object with whose hardness or softness he wishes to become acquainted; if of hearing, the sound must be brought into contact with the ordinary nerves; and if of sight, the object must be subjected to the inspection of the eye. If each sense is to be cultivated, the object must be directly and immediately addressed or submitted to the sense. The exercise of the one will not suffice for that of the other.

And these senses, if they are to be thoroughly strengthened, must be exercised when they are in course of growth, and most susceptible of improvement. Any of the senses may be strengthened by exercise, so long as they are free from disease or decay. But there is a season when they are far more capable of being unfolded and developed than any other, and that is when the muscular or nervous substance that enter into their composition, are in a state of growth. When these reach their maturity, or when our physical nature ceases to grow, then our instrumentality, to a great extent, terminates. We may still use means for their exercise, but we are not in the same favorable

condition. All are now confirmed and consolidated, and, consequently, not nearly so flexible, or so susceptible of efficient impressions. How loudly does this circumstance call upon all interested in the education of the young to ply every energy in the cultivation of the senses before they reach their teens! And how forcibly, too, does it demonstrate the benefit of object lessons, with a view to their development! But enough has been said regarding the nature, the improvement and the education of this faculty. Its application, less or more, pervades the whole practical details of our third book. (See articles on Music, Oral Lessons, and also on School Management, &c.)

CONCEPTIVE FACULTY.

Its Nature. There is not, perhaps, in the whole range of mental science, a term with a greater latitude of signification, than the one before us. Some maintain that it embraces all the knowledge of which the human mind is cognizant, whatever we can form a thought or an apprehension of; that it may refer, not merely to the past, but the future—not merely to the actual, but the ideal—not merely to the sensible, but the super-sensible; that this is the common meaning of the word, and that it should be used in no other. Others, again, take it in a more restricted or limited sense, and make it refer merely to the knowledge of all that has entered the mind through the medium of sensation and perception; and between these two extremes there is every possible phase of view and opinion. The former class of interpreters deny its existence as a separate faculty, seeing that, in their opinion, it enters into all our mental operations, and is involved in all the other powers. The latter, again, assign it a distinctive and a very important place among the other faculties.

We are decidedly of opinion, that, whatever may be the common meaning of the term, there is a power or faculty that may appropriately be designated the *conceptive*, or, at all events, has not a more suitable appellation. We refer to that mental power, by means of which, what has already been present to the sensations and perceptions, returns, or is brought back to the mind, in the absence of the object, with more or less distinctiveness, and is then dealt with as a material of cogitation, or, after serving to lead on to other ideas, disappears. It is this power—the power of entertaining ideas apart from the sensations and perceptions—which seems to be the first point of distinction, marks the superiority of the human mind, and gives the earliest indication of intellectuality in the infant, after the perceptions have become pretty well defined. Long before any other men-

tal power can be detected, the infant gives proof that it has already come into possession of a not slenderly furnished treasury of images, which, without its bidding, take their turns in enlivening its otherwise vapid existence, and which, although, as yet, it has acquired no control over them, do not fail to obey the great laws that are to regulate the mental operations of the adult. A thousand familiar facts give evidence of the existence of this faculty in the earliest stages of life; and a single and conclusive one is afforded by an infant's instantaneous recognition of the most imperfect representative symbol of a known object, and its ready connexion of an idea of such an object with the name of it, a few times repeated.

This power, need we say, is perfectly distinct from perception. When I look upon a book, or any external object, I instantly form a notion of it, of a particular kind. I know it is an external body, numerically distinct from myself, of a certain form, colour and magnitude, at this moment and in this place, externally before me. When I handle an object, I have the same notion, the quality of colour only excepted. This knowledge is called perception. And now, supposing the object of perception removed, the act ceases, but a knowledge of the object is still present to my mind. This is called a conception, and it is in this acception that we use it. It is different, too, from memory. In memory, there is the assurance or the belief that, at a certain time, these objects actually existed as I now conceive of them. There is the perfect recognition of the things remembered, as having been presented to my senses at a certain time and in certain circumstances. But we can easily separate the act of conception from that of memory. I can conceive of a certain tree, or cataract, or garden, without connecting it with the idea either of present or past existence, or the circumstances under which I formerly saw it; and this is the meaning we attach to the faculty under consideration. In like manner, it might be shown, that this faculty differs widely both from abstraction and imagination.

But we think enough has been said to indicate the meaning we attach to the power under consideration, and to point out, not only its necessity, but its vast importance in the mental system both of the very young and of the adult of our population.

Position and Importance of this Faculty. This power is invaluable. Without it, the passing moment—the impression or sensation of the instant, would be the sum total of our intellectual life—of our conscious being. The horizon of our mental vision would extend no further than our immediate present perceptions. The past would be

a blank, as dark, and dreary and uncertain as the future. Conception lights up the otherwise dreary waste of past existence, and, reproducing the former scenes and objects, gives us mental possession of all that we have been, as well as of the present moment; lays at our feet the objects of all former knowledge. The mind thus becomes, in a measure, independent of sense and the external world. What it has once seen, heard, felt, becomes its permanent possession, even when the original object of perception is far removed. "I may have seen the grand and stately minster, or the snowy alp, but once in my life; but ever after it dwells among my conceptions; and in after years on other continents, and amid far other scenes, that vision of beauty and grandeur passes before me as an angelic vision; that succession of sweet sounds traverses again the silent chambers of the brain, with all the freshness of first reality. It is only a conception now, but who shall estimate the worth of that simple power of conception."

And if such is the importance of this faculty to all classes, it is especially so to the young. It is the earliest developed, and the first to reach its maturity. It supplies materials and a basis for every other mental operation. And this is all the more enhanced when we take into account the fact that there is no intellectual energy more susceptible of improvement by discipline, or more likely to repay the pains bestowed upon it, as conducive to ulterior mental operations.

Education of this Faculty. And what are the means to be employed in the culture of this faculty? What is best fitted to impart to it vivacity and precision.

We have already shown, in our discussion of the perceptive, how much of the conceptive depends on the thorough use of our observational powers, and especially the sense of sight. The more closely we examine and analyze any object for ourselves, the more likely are we to increase the vivacity, and precision and permanence of the conceptive faculty.

But as much, if not more, depends on the state of the emotions for deepening the impressions, and thereby giving vivacity to the conceptions. Many familiar facts establish what we now affirm, and show that it is *feeling* in its various degrees and kinds, from the gentlest pleasurable sentiment to the most overwhelming hurricane of the passions, that stimulates the senses, and fixes indelibly upon the mind the impressions of external objects. The poetic character turns upon this connection between the emotions or the sensibilities and the conceptive faculty. The poet is one whose keen susceptibility or whose profound affections give a tenfold intensity to whatever, in external

nature, has in any way the power to move the human mind. Poetry is a picture of the external world, painted in those vivid colours that are supplied by refined and intense emotions. The cherished recollections of childhood are those treasures of the conceptive faculty which have been consigned to its keeping, under the influence of vivid, pleasurable emotions. It is always those classes whose course of life is the most adventurous, and whose passions—whose hopes and fears, are liable to be wrought up to the highest pitch, that are the most distinguished by a bold and graphic style of speech,—whose descriptions of scenes are the most impressive, and whose epithets have the most striking appropriateness. The more agitating emotions of the mind, and its stormy passions, serve to give force and permanence to the conceptions. And what is to be done for this purpose? What means should be employed to rouse the emotions? A visit once and again to some mountainous district, or to some romantic locality, or to some scene of historic fame, will be of great utility. Another means of great service is the society of those of kindred sentiment, and, if possible, of higher impulses than ourselves. Whatever are the branches of education taught, we ought to deal, not with the technical nor the ratiocinative, but with the descriptive. This should be done, especially with every thing bordering on the sciences.

Another powerful means for the culture of the conceptive faculty, is language,—language “as the engine of the mind’s operations—as the record of its stores, and as the index to whatever is cognizable by the external or internal senses.”

In treating of language, as related to the conceptive faculty, we have to do with the descriptive portion of it only; that is to say those words, whether verbs, adverbs, adjectives or substantives, which signify such properties and accidents of things as are cognizable by the senses. The teacher, whether the actual objects he is speaking of are before the eyes, or are graphically represented, or are merely embodied in language and realized in fancy, will remember that it should be his aim, not only to convey a clear and vivid notion of those objects, which he might effect, perhaps, by a few well chosen words; but also to establish a connexion in the minds of his pupils between these objects and the entire compass of these descriptive terms that might be associated with them, in the way either of resemblance, contrast or negation.

In teaching languages, the process would be greatly facilitated by confining the learner’s attention, in the first instance, or, so far as could

be conveniently done, to the descriptive portion of each, this being the class of words most readily taken up by the mind.

But there remains a process of another sort, highly useful in itself, as well as in relation to that command of knowledge which we wish to ensure, and to the enrichment of the conceptive faculty. To explain what is here meant, the reader must be reminded that the vocabulary of words relating to the visible appearances and sensible properties of the external world, is, if we speak of it in a mass, a record of general facts, cognizable to the human mind through the senses. And whereas no human mind, however nice in its perceptions, or exact and excursive in its habits of observation, ever takes account of more than a portion, and probably it is a very small portion, of the sensible qualities and shades of difference which are actually cognizable by man, a copious and refined language, such, for example, as our own, contains the recorded notices of thousands of minds, and of minds of all classes, and of all degrees of precision.

If the most frequently used words or epithets of a language are taken as representing the broad perceptions of the mass of mankind, and as sufficient for all ordinary description and narration, there yet remain in reserve several sets of terms, representing the more exact or more penetrating perceptions of minds whose faculties have been exercised and sharpened by peculiar pursuits, or by the habit of admitting intense sensations. Take, for example, a storm at sea: we would require a common observer—the poet—the marine painter—the old sailor, and the man of science, to give a description of whatever passes under their eye. And suppose we take the entire compass of phrases employed by these several persons, and expunge the few which may be strictly synonymous or undistinguishable in sense, the copious collection will then constitute a vocabulary corresponding with all the appearances that are cognizable by the human eye during a sea storm. The set of phrases employed by the first observer embraces only the most obtrusive features of the scene; those introduced by the second, have the effect of extending and refining our conceptions on all sides; and thus, in succession, a third, a fourth, and a fifth pair of eyes is lent to us; and by the aid of each, and through the intervention of language, we are made mentally the spectators of the scene five times over, and until nothing scarcely remains unnoticed or unthought of.

But words are at once our guides, and our goads, and our stimulants, in perception, and the indicators of the less obtrusive class of sensible facts. There are many thousand appearances in nature

which would never arrest the eye, and of which we should take no sort of cognizance, if we had not first come to the knowledge of the word which notes the particular phenomenon, and thence been led to look for its archetype in nature. Illustrations of all this abound in every department of nature and of art. Take up a botanical book, for example, and look at the long catalogue of terms employed to describe the different parts of the leaf of a plant. A common observer would see only some half dozen of properties, and would name them accordingly; whereas the practised eye of the botanist sees dozens of properties, general and particular, and appends an appropriate nomenclature to them all, filling whole columns of the book. Take, again, the variations in a pulse. A novice could only give three or four epithets, whereas a practised and skilful physician could give a score and more.

The acquisition of the entire compass of a universal vocabulary of descriptive words, in our own language, may therefore be considered as the chief preliminary work of intellectual education. If this labour be thoroughly achieved, the mind is placed in a position, whence it may advance with ease and success, in any direction it may choose.

It is by means of classification that we must abbreviate our toils in this department of study. This may be done both concretely and abstractly. Here we may perceive the whole glory of giving pictorial representations in words. Drawing and modelling in all their modes should be considered as another admirable supplementary means for bringing the eye and the mind into intimate communion with nature.

For several of the preceding hints on the culture of this faculty, we are indebted to Isaac Taylor's *Treatise on Home Education*. That distinguished author devotes two chapters to the education of the Conceptive Faculty, which we earnestly recommend to the study of our readers.

MEMORY.

Nature of Faculty. But man has something more than the simple power of perception or conception of objects and things;—he has also power over the element of time. He can summon to his aid the knowledge he has derived from the intuitions of his senses, at a particular time and in particular circumstances, and render that knowledge subservient to his immediate wants and necessities. And what he now labours to acquire, and, with unremitting diligence, to store up in his mind, he has the satisfaction of knowing, may be turned to account on some future occasion—may never be entirely obliterated. This

faculty is designated memory, which, when in exercise, is called remembering, and when that exercise demands some effort, recollecting. It differs from the faculties already discussed;—from perception, in that it does not impart knowledge from objects or things present to the sense, it is only the image, or idea, or representation of these; from conception, in that it is uniformly accompanied by the belief, that at some former period, and in a certain place, the object or the thing remembered was the subject of our consciousness or perception.

There is not, perhaps, one mental endowment, which, whether regarded in its natural or artificial aspect, manifests a greater diversity of phase. The three properties—susceptibility, retentiveness and promptitude—when found in highest degree, are generally looked upon as constituting a perfect or complete memory, or, at all events, as essential to a good memory. In strict propriety, however, the middle attribute is the only one that rightfully belongs to this faculty. The first and last are dependent on other laws and circumstances for their origin and development. Nevertheless, we can see no great harm in regarding them all as appertaining less or more to this power, or, at all events, as lateral appendages. But be this as it may, these properties are seldom found united, in a high measure, in any one individual. If there is great susceptibility, there is a corresponding diminution of retentiveness; and, if retentiveness is largely developed, the other two are defective proportionally. This is not only easily accounted for, but holds prominently up to view at once the benignity and wisdom of the Giver of all our gifts. Not only does memory differ subjectively, but objectively. Some are characterized for remembering facts, whether names, or dates, or number, or individual objects; and others, for general laws and principles; and in each there is the greatest possible difference in the degree. And this diversity in the endowment itself is largely affected and modified by external circumstances. Age seems to tell more extensively upon this than any other faculty. If amongst the first that develops itself, it is also amongst the first that manifests symptoms of decrepitude and decay. It also presents a diversity of phase in every epoch of intellectual unraveling. In infancy and childhood it is the memory of facts; in youth, of laws and principles; and in riper years, it evinces a far higher command or control over both. And how beautifully again does this arrangement prepare and ripen the intellect for its loftier and more ennobling operations and processes! Education, too, need we say, produces immense influence on the development of this faculty. It is, we believe, universally admitted that there is no endowment so sus-

ceptible of improvement, and that, in a shorter period, than memory. This is manifest by the marvellous feats it achieved in ancient times. Since the invention of printing and other modern improvements, the faculty has not been put on the same stretch, or subjected to the same amount of pressure. Still, no bounds can be fixed to its expansion, when fairly tested—when the educational process is legitimately directed—the original idea clearly and vividly apprehended, and the co-existent emotion rousing and thrilling. Let any one honestly, and industriously, and perseveringly, put the matter to the test, and a week's experience even, will produce the most astounding effects. All this will be greatly affected and modified by early habits and professional pursuits. If these habits and pursuits are of such a character as to demand the memory of words, or figures, or dates, or names, or laws, or principles, the memory necessarily becomes accustomed to that particular work, and rises to the highest perfectibility in any of these departments. But the effect of certain states of the body upon memory, is, perhaps, the most astounding phenomenon in connexion with external influences. The most indubitable testimony has been given over and over again of the case of individuals, who, in the first stages of the disease, which terminated their earthly existence, spake only the language of the country where they lived; at a more advanced stage, the language of the country in which they previously resided; and in the last stage, in their own vernacular. Instances, too, are on record, of individuals who, in certain states of the body, have recited whole pages of foreign languages, which they only casually overheard, when in health and strength, and without the least effort at remembrance. This seems to give some countenance, at least, to the idea that, in certain states of the physical organization, whatever may have passed through the mind, may be summoned up and spread in array before us. How solemnizing is such a view in reference to the eternity of our existence!

Its importance and application. The importance of this faculty, all are ready to admit. It is through its exercise that we obtain evidence of our personal identity. Memory is the only voucher that we had any previous existence—that we existed at all at any period antecedent to the present moment. Without it, we could only be conscious of the present moment; and even that would be doubtful, inasmuch as we are only conscious, as cognizant of change.

Memory is the grand repository of all the knowledge we derive from our observation or the observation of others in whatever way conveyed to us, by books or otherwise. We may store up valuable

facts or truths, which, if remembered, might prove of immense service to us; we might be devourers of books, and toil hard to master their contents, but if we have no memory what does it avail.

Memory is essential for the exercise of all our mental powers, whether intellectual, sensational or voluntary. Without it, we could neither compare, nor classify, nor generalize, nor reason. And just in proportion to the health and vigour of memory will be our capability of doing justice to these reflective and other more exalted mental operations. Without it, success would not be attainable in the common transactions of every day life. Business men of all descriptions are as dependent upon this faculty as professional, or as men of literature and science. They are even more so, and, consequently, without it, all worldly transactions would be at an end, and the clock of commerce would cease to beat.

As the servant of human happiness, the influence of memory is great. Moralists have descanted upon the short-livedness, the evanescence of all earthly enjoyments. "Memory seizes the passing moment—fixes it upon the canvas, and hangs the picture on the soul's inner chamber, for her to look upon when she will. Thus, in an important sense, the former years are past—not gone. We live them over again in memory. Even to the mourner, memory is the source of highest gratification. There is a luxury in our very grief, and in the remembrance of that for which we grieve. We would not forget what we have lost. Time assuages our grief, but impairs not the strength and sacredness of those associations, nor diminishes the pleasure with which we recall the forms we shall see no more, and the scenes that are gone forever. Every memento of the departed one is sacred; the books—the flowers—the favourite walks—the tree, in whose shadow he was wont to recline,—all have a significance and a value which the stricken heart only can interpret, and which memory only can afford."

In one word, and to wind up the matter regarding the importance of this faculty, we hesitate not to aver, that no one can be truly great who is not possessed of a good memory. In consequence of some having what are considered great memories, with their other powers considerably below mediocrity, if not mentally deficient, it hath been seriously questioned by some whether great memories could consist with common sense or with ordinary soundness of judgment; and not a few, in consequence, anxious to get rid of the labour attendant on the cultivation of this faculty, have done their utmost in spreading disparaging views on the whole subject of its improvement, if they

have not broadly declaimed against even a good memory as indicative of general feebleness of intellect. This is a grievous and hurtful delusion. It is quite true that what are called great memories, but not in reality so, have sometimes been possessed by individuals with their general intellect bordering on insanity, if not actually semi-idiots; and who did not even understand, and far less carry into practice, the sentiments embodied in the vocables they so dexterously recited. But what of this? How often have particular faculties of towering and out-shining lustre been bedimmed and obscured by others in closest juxta-position. But this is not a fair way of dealing with the subject. The question is not whether great memories have not been claimed oftentimes by little minds—by intellects palpably defective in other respects, but whether great minds have been manifested without great memories—whether men of towering genius have ever appeared on the theatre of the world, without memories of the same commanding calibre. This is the true form in which the question ought to be put, and, when thus put, you may defy and challenge the whole world. Were not Liebnitz, Milton, Johnson, Scott, Napoleon, Cuvier, Goethe, Sir William Hamilton, great and extraordinary men, and did they not manifest the same greatness in memory as in any other faculty? Nay, we are prepared to go a step higher, and to maintain that no one can be entitled to the epithet, whose memory, to say the least, does not equal his other powers. Memory is essential to all intelligent action. Could there be a stronger testimony of the value of this faculty than is furnished by the name given to it by the ancients, signifying, as it did, the whole mind, as if it formed the very essence—the heart—the chief characteristic.

Education of Memory. Enough has surely been said respecting the nature and importance of this faculty, to demand not only the utmost sagacity, but the most painstaking assiduity in its culture. Like every other faculty, if it is to be strengthened and expanded, if common justice is to be done it, according to its worth, use is the grand specific; and the province, the high responsibility of the trainer, is so to regulate and guide that use or exercise, that the end may be accomplished.

If, as has been hinted, much, we had almost said, everything, relative to the power of memory, depends on the clearness and vividness of the original impression or idea, the office of the trainer is plainly two-fold: first, to use every available means for this object, and then, having done so, to see that the specific work of the memory is thorough, is out and out. In reference to the first point, many plans may be resorted to

and means employed. Take the following as a sample:—1st. The teacher must exert his skill and energy in explaining what is difficult, and in simplifying what is intricate. Any technical or conventional terms must be carefully singled out and unfolded. The drift and scope of the whole sentence must be clearly set forth, as well as the distinct import of the various subordinate clauses. The teacher must have it as his unwavering aim and purpose, that whatever is deposited in this faculty is the memory of the understanding, and not the memory of words, and consequently that all his instrumentality must be called forth, not *after but before* the class has mandated the task. This implies the most diligent previous study and preparation, as well as the utmost faithfulness, on the part of the trainer. But the expenditure of the one and the other of these will be amply compensated by the intelligence and progress of his pupils. 2nd. Another means to be employed for aiding the understanding and vivifying the conception of any one subject, is its presentation through the medium of a diagram, or picture on the black-board. The power of the sense of sight in helping to impress the mind, has already been adverted to, and should be reiterated on every befitting occasion. This is particularly the case with the young, who are far more under the influence of their senses than the riper in years, and whose interests are far more likely to be aroused and their attention secured when the words, however correctly conceived or eloquently expressed, are accompanied with appeals to the senses, whether to one or to all. 3. In many cases, it is impossible to present an object or a diagram in illustration of an idea. It may chance, for example, that I am desirous to impress the mind of my class with the ferocity of the tiger, or the harmlessness of the dove, or the gentleness of the lamb, but though I had a living or a preserved specimen that I could show, or though I had the most life-looking picture I could place before them, I could not by such means convey an impression of one or other of these habits or properties. What, then, am I to do? I still present a picture, but it is not a picture to their senses, but to their imagination. I take hold of one or other of these attributes, as illustrated by some object with which the class are perfectly familiar, and, through a verbal picture, get a more vivid impression produced on their understanding. The illustration associates a new with a familiar idea; an interesting and apposite image is presented; and thus whatever is learned is more easily remembered. 4. Another means for impressing any truth or event on the memory is frequent repetition. It is not enough for remembering, that we possess a clear apprehension of any subject or principle, or rule, and that we

can repeat it accurately and fluently. This may do well enough for a period, for a day, a week, or a month, but time, as is well known, produces a marvellous effect upon this faculty; and even those subjects that seemed written as with an iron pen on its tablets, are gradually effaced, until they are almost entirely obliterated. And what is the best instrumentality to prevent such an occurrence? We know nothing so effectual as iteration and reiteration, reviews and re-reviews, aye, and until it becomes part and parcel of ourselves; aye, and until it is literally interwoven in the warp of our mental web. 5. Again, to facilitate the memory process, and to render the facts or truths that have been committed, lasting and permanent, the knowlege acquired should as speedily as possible be reduced to practice, It used to be no uncommon occurrence to conduct children through the rudiments of a dead or foreign language, committing to memory all the peculiarities connected with inflection, rules of syntax, &c., without the slightest attempt to reduce the same to practice, and to evince their utility by their application. Nothing could be more tiresome, irksome, or repulsive. It could not be surprising that in such circumstances, the pupils disliked the grammar, the language, and everything appertaining to it. A change for the better has, to a certain extent, at least, been effected in these and similar exercises. As soon as the scholars have mastered an inflection or learned a rule, they are required to reduce the whole to practice in the construction of short and easy sentences. And the same process is carried on till the grammar is finished. Thus they become pretty well acquainted, both with the leading vocables and structure of the language, before they take up the *Delectus* or any common text-book, This renders further progress desirable for its own sake, and learning is no longer a drudgery, but a pleasure. Would that such a practice were generally prevalent! Such are a few of the means that the trainer may call into requisition as it befits the exercise, with the view of deepening the impression and vivifying the conception of any given subject or topic, and thereby of hanging it up in the storehouse of the memory, that it may be of service whenever the befitting opportunity presents itself. This is the real function of the teacher, the instrumentality he may bring into play. And having thus done all that he can do, that his pupils may grasp the particular thing to be remembered, fully, clearly, definitely,—it, and not something like it, or something about it; his next concern must be to see that it is got exactly, not only materially but formally correct. And this must be done continuously, with every scholar and exercise, from the commencement of the educational career on to its termination.

IMAGINATION.

Nature of Faculty. The distinction between conception and concept, the former signifying the act of the mind in conceiving, and the latter, the result, or the thing conceived, may also be drawn between imagination and image. The image points to the result, or the thing imaged, the picture, the idea, the creation. The imagination points again to the faculty in exercise, or that act by which the mind from the materials in its possession, makes a new combination or a creation. The power then under consideration is neither the parts nor elements, nor principles, on which it operates, nor the image or picture which is produced by the act, but the act itself—the ideal act—the power in exercise—the imagining or imagination.

Imagination, as thus defined, differs widely from all the faculties already discussed. It differs from perception, which requires the object to be presented to the sense as it actually exists; in imagination it is only parts of the object, and these are not presented, but represented. It differs from conception, in which the whole object or thing is mentally reproduced, as it actually existed when presented to the sense; whereas, in imagination, there are only parts or elements represented. It differs, too, from memory, which conveys not only a mental reproduction, but a mental recognition of the thing perceived, at a certain period, in a certain situation, and in certain circumstances; whereas this power is a pure fabrication, existing only in idea, but capable of being reduced to the apprehension of the senses.

But, perhaps, a clearer view of this faculty may be obtained by an illustration. I am a landscape painter of some repute, and I am desirous to produce an ideal landscape of first rate character. How do I proceed? I first of all summon to my recollection all the beautiful pieces or elements of the various scenes of which I have been an eye-witness, along with all the more striking objects; and, having narrowly surveyed them all, and suspended them orderly in the chamber of my memory, I proceed at once to the formation of the fictitious landscape. At first, my conception is very vague and indistinct, and the various elements or parts are but clumsily assorted and combined. I persevere, however, in my excogitating process, and gradually the picture, the complicated image, looms up into shape—its form, and dimensions, and general appearance, become more and more distinct. I subject it again and again to my imagination, and rest not satisfied until I see every object properly adjusted, and in its rightful position, until the whole ideal landscape is as vividly before my mind's eye as any natural

landscape was ever before my naked eye. This is a combination, it is true, but it is more—it is a living thing—a new creation—a systematic whole, with all its adaptations, and arrangements, and adjustments. This is the result, not of a series of contingencies, or of a chain of events, when the mind is perfectly passive or indifferent, but of one presiding, regulating and controlling power,—not of a complexity of agents, but of one simple, active agent, different from all others, and claiming absolute glory in its domain. This is no passing phantom—no abstract speculation—no incomprehensible entity, but a something capable of being grasped, and weighed, and measured, and convertible into a tangible reality—into an actual substantiality—of being subjected to the senses. And surely such an agent is entitled to a distinct appellation, and what more appropriate than imagination.

But we have said that the ideal must be such that it can be realized—such that it can be reduced to actual manifestation. And need we say that this may be done in a great variety of forms. It may be done in words, either prose or verse, or in painting, or sculpture, or architecture, or in other fine arts. And this will depend on the endowment of the individual. If he happens to have great fluency of speech—a great command of vocables, it will take vent in words—in strains of oratory—in tropes of rhetoric. If he is possessed of rhythm—has an ear gifted with a high appreciation of time, then it will assume the form of poetry—it will burst forth in lyrics, tragedies or epics. If he happen to have a good apprehension of form, the ideal will take effect in architecture; and if along with this, colour, in painting. And what is to guide in pursuing the one or the other of these inclinations or directions? It is that power which enables us to discern and to enjoy the beautiful—the result of natural sensibility and of culture; and not only so, but to reduce the ideal of the imagination in any one of the fine arts that shall awaken the sentiment of the beautiful in the great mass of those who may be eye-witnesses of the same. Two faculties are thus indispensable in an eminent artist—a healthful and vigorous imagination on the one hand, and a refined and cultivated taste on the other. The one without the other will infallibly mar and tarnish the whole.

Importance. There are few faculties of greater value, both in its theoretical and practical—in its intellectual and moral—in its direct and indirect bearings, than the one under consideration. Without imagination, this world would be dreariness indeed; with it, the wilderness and solitary places are gladdened, and the deserts are made to rejoice and blossom as the rose. To be more particular: *it spreads a*

beautiful and invigorating radiance over all our other powers and sensibilities. "It gives vividness to our conceptions—it raises the tone of our entire mental activity,—it adds force to our reasoning,—casts the light of fancy over the sombre plodding steps of judgment,—gilds the recollections of the past and the anticipations of the future with a colouring not their own. It lights up the whole horizon of our thought as the sunrise flashes along the mountain tops and lights up the world." *It holds out a high standard of excellence for our aim in every employment, and furnishes a powerful stimulant with a view to its attainment.* "It forms and holds before the mind an idea of excellence in whatever we pursue, a standard of attainment practicable and desirable, but loftier far than any thing we have yet reached. To present such an ideal is the work of the imagination, which looks not on the actual but the possible, and conceives that which is more perfect than the human eye hath seen or human hand wrought. No man ever yet attained excellence in any art or profession, who had not floating before his mind, by day and by night, such an ideal and vision of what he might and ought to be and to do. It hovers before him and hangs over him, like the bow of promise and hope, advancing with his progress, ever rising as he rises, and moving onwards as he moves; he will never reach it; but without it, he would never be what he is."

The passions of men, for good or for evil, are largely under the influence of the imagination, especially under the living voice of the orator. We have seen the glory of this power in the case of all employed in the fine arts, and how it refines and elevates humanity. As a weapon in the hand of the skilful orator, it is all-influential. Perceiving by this power some resemblance or contrast in objects, or things with which his auditors are familiar, he seizes upon it as an illustration of the idea or truth he is earnestly endeavoring to send home or give effect to, and as the one is done another is ready; and these not only thrill the mind and rouse into highest ecstasy; they please and persuade. Hence the whole power of figurative language—of metaphors—emblems, and the like. But fictitious and imaginary narration or delineation is just as influential as plain, truthful statement. Hence the power of the parables of our Lord. Hence the charm and the enchanting enthrallment of such allegories as 'Bunyan's Pilgrim's Progress,' and the other writings of that extraordinary personage. It is by operating through this power on the minds of the rising generation,—that power so early developed, and so omnipotent in its sway,—that the whole value of picturing out in words depends. "The genius of the orator and the inventive power of the poet," says

Abercrombie, "are exhibited in the variety and novelty of the analogies, resemblances, illustrations and figures which he thus brings to bear upon his subject."

But again, the sound and proper exercise of the imagination may be made to contribute to the cultivation of all that is virtuous and estimable in human character. It leads us in particular to place ourselves in the situation of others—to enter into their feelings and hearts, and to participate in their distresses. It thus tends to the cultivation of sympathy and the benevolent affections, and promotes all those feelings which exert so extensive an influence in the duties of friendship and the harmonies of civil and social intercourse. We may even say that we exercise imagination, when we endeavor to act on that high standard of morals, which require us "to do to others as we would that they should do to us." For in this mental act, we must ourselves be in the situation of other men, and, in their character, judge of our conduct towards them. Thus, a man deficient in imagination, though he may be free from anything unjust or dishonorable, is apt to be cold, contracted and selfish—regardless of the feelings, and indifferent to the distresses of others.

Farther, we may be said to exercise imagination when we carry our views beyond present and sensible objects, and endeavor to feel the power of things that are not seen, and the reality of scenes and times yet to come.

The Education of Imagination. If this power exerts the influence assigned to it, it surely demands the most profound study—the most painstaking assiduity—the most persevering diligence in its cultivation; as it is in very proportion to its enlargement that its usefulness is realized, and that it can be rendered subservient to the ends intended. Like every other power, the imagination expands and grows by use. And the grand question here, as elsewhere, is, What are the means best adapted for promoting this expansion and growth. This endowment is, no doubt, more largely developed naturally in some than in others, but there are few, if any, in whose breast it does not dwell to a certain extent; and that from a period almost contemporaneous with the perceptive. What but this gives the young, even before they are able to read, such delight in listening to stories or legends about ghosts—about mysterious, miraculous appearances in some dark and dreary recesses, where the foot of man has seldom or ever trod. This manifests itself again at a more advanced stage, in the perusal of such books as *Cinderella*, *Robinson Crusoe*, *Don Quixotte*, *Pilgrim's Progress*, and the like; and at a more advanced stage, the perusal of novels and

poetry; and at a more remote period still, the construction of ideal landscapes, or of models of certain orders of architecture. These propensities and tendencies should guide the educationist in the administration of his various appliances in the cultivation of this power. We give below a mere enumeration of those exercises best adapted to each successive stage of development; and of these we give a sample. The position and circumstances of individuals can supply any number more.

1. Building of pyramids, bridges, houses, &c., by means of the box of bricks.

2. Directing out-door games, in a way calculated to call forth this power as well as to impart physical relaxation.

3. Explaining and illustrating truth—moral and spiritual lessons, through means of familiar objects, the immaterial by the material—the invisible by the visible—the eternal by the temporal or natural—the infinite by the finite. This introduces the whole subject of word-painting, and this may be continued through every stage.

4. Directing attention to the various figures of speech—showing their aptness or inaptness, &c., and criticising works of imagination of various descriptions.

5. Studying the productions of the various masters in the fine arts—in poetry, painting, architecture, sculpture, and the like; whatever department the mind of the pupils may evince an inclination for. It is by a diligent and careful study of a few of the best writers and best works, and not by the hasty reading or cursory inspection of many, that we derive the greatest benefit from the classics of our own or any other country. We must not only read or glance at, but we must meditate on, the beautiful and sublime, until we feel the full force of their analogy—until we are baptized with their baptism, enlightened with their light, inspired with their spirit, and fired with their fire.

6. But the best school for the cultivation of imagination, and to which all the others should drive us, is that of nature—of nature in all her varieties of phase and force—mountains and vallies—seas and rivers—prairies and river basins—sea-side and upland,—all that is beautiful, picturesque and sublime. It is here where the greatest masters in every department drank most copiously. The poetry of Homer—of Shakspeare and Milton, is filled with the most gorgeous and glowing imagery, which could only have been gathered from the closest study, as she presented herself to them in their dissimilar walks of life. And so with the other writers.

7. But we must go a step further still. The ideal, in all its most sublime combinations—in all its magnificent scenes—in all its majestic

creations, must be cultivated and reduced to practice, in whatever department we happen to select as our sphere. If it is descriptive writing, we should write earnestly, having an end in view, and deeply interested in our efforts to attain it. Imperfection and failure, instead of discouraging, should only inspire us with more determined energy. Nothing was ever exquisitely finished without unwearied and patient labour, and at the cost of repeated and mortifying disappointment. We must be patient with ourselves, and not expect to do without labour, what no other man has ever accomplished. *Paradise Lost* was the work of a lifetime. Every line of Cowper's poetry cost him, on an average, half an hour. And if such incessant toil were necessary to success in minds so highly gifted, surely ordinary men need not expect to succeed without it.

GENERALIZATION.

Reflective Class. Hitherto we have contemplated objects or things concretely, in whole or in part, whether as presented to the senses or represented to the mind. We are now to contemplate them abstractly, or in their relations, properties or qualities. The mind, in the faculties already considered, is to be regarded as the active recipient—as the gatherer in of knowledge; here it is to be looked at in another aspect altogether, either as comparing, combining, classifying, generalizing, or as analyzing, dividing, sub-dividing, &c., the knowledge it hath stored up. As there are, generally speaking, just two relations in which we can look at our conceptions, either as parts in relation to the whole, or as the whole in relation to its parts,—that is, systematically and analytically; so there are just two powers, or classes of powers, which the mind puts forth in this department, viz., generalizing and reasoning, to each of which we now solicit attention. And first as to generalization.

Nature of Faculty. This is that faculty by which we transform our conceptions of individuals into conceptions of generals—by which we proceed from particulars to classes—by which our isolated notions are converted into a coherent systematic whole. All our ideas of things are complex. I saw a lily, yesterday, and, to-day, I have a distinct conception of this plant. But though I can form a complicated conception of this lily, apart from all surrounding plants, I see it as possessed of various attributes or qualities; the white colour, the tall stalk, the green leaves, the agreeable fragrance of this lily. I direct my special attention to the white—the pure white of the flower. I examine another lily—it also is white; and another, and another. This quality

is no longer that of lily No. 1, but of them all. I inspect a snow-drop, and it possesses the same quality; I go from flowers to animals, and the white quality belongs to all. I now conceive of it as a quality by itself, and I call it whiteness. It is no longer the quality of a lily, or of any other object, but it is the abstract conception of whiteness. I look at other objects, and see some of them to be possessed of red, some of green, and some of blue, &c.; and this class of qualities I designate colour. I have now obtained a conception of colour. And so I might go on widening the range. Then I might return to the original object—the lily—and take up other properties; its form, its size, its fragrance, and go through the whole abstractive, generalizing process. Hence our conceptions of general terms—such as horse, animal, form, strength, and the like; and hence a large proportion of the words in general use. They are the names or expressions of general abstract conceptions; abstract, in that they do not relate to any particular object,—and general, in that they comprehend, and are equally applicable to, a great variety of objects. And so is it in reference to words that imply action, or relation, or quality, and the like. Hence the structure of language, and the facilities derived from it, both in writing and speaking.

But it is not less so with the subject-matter of classification. We no sooner see two objects in juxta-position, than we begin to compare them, and to trace the points in which they agree and in which they differ. We examine one object first, both in its external phenomena and in its internal structure; then we do the same with the other; and, leaving out of view the points in which they differ, we place them together on the points in which they are the same; we put them under the same heading, and, by this very act, we have formed a general conception, which lies at the foundation of all classification. This may be very rude and imperfect at the outset; but every attempt enlarges our view of the objects compared—renders our knowledge more minute and thorough, and our powers of discrimination more acute. These more clumsy and rude attempts give place to more extensive knowledge and more penetrating power, and what was at first but a rough classification, becomes at last reliable generalization.

We are now prepared to take a higher position, and to present a specimen of our mode of procedure in scientific classification. I see a cow, for example, and I proceed to inspect and examine it. I note down the leading features, both of external phenomena and internal structure. I compare this description with all the other species, and with a few adventitious circumstances, the birth of contingent events, I

at once conclude that this is a species. I then compare it with others, strongly resembling it in its leading characteristics, and yet differing in a few points, and these not material. Wherever I find these specimens, I observe the same as distinct species, under the same genus; and so I proceed to wider generalizations, and comprehend, under one category, all the animals that chew the cud, giving them the name of ruminantia. I proceed still further in my generalizing process, and call the next highest mammals, or quadrupeds. Not content with this, I generalize still further—give the next stage the designation of vertebrata, embracing all animals that have a back bone in contradistinction to those that have not.

It is in the way now described, that we form genera and species, and the various classes into which, for purposes of science, we divide the multitude of objects which are presented in nature, and which, but for this faculty, would appear to us a confused and chaotic assemblage, without number, order, or arrangement. The individuals exist in nature, not the classes, and orders, and genera, and species. These are the creations of the human mind—conceptions of the brain—results of that process of thought now described as the reflective faculty in its synthetic form.

The Position and Importance of Generalization. 1st. This faculty rivets the attention and whets the powers of observation. It has already been stated, that in every act of abstraction, we must necessarily direct our minds to one particular quality of the complex conception. There is here no new power required, but simply an earnest attention of the sense or senses involved. There must be something more than the mere opening of the eye and the stretching out of the hand, to enable us to discover the various properties or relations of things submitted to our observation. There must be the entire devotedness—the profound attention of the mind, before the sense is whetted to put forth that energy which is necessary for drawing nice distinctions, and for making that thorough analysis which has escaped the detection of those who have preceded us. “Truth,” says an eminent writer, “reveals herself, not to those who pay her mere formal and perfunctory service, but to those who render to her the earnest and heartfelt homage of the whole soul.” And in order to this, an interest must first be awakened in the mind.

2. And this is the best possible preparation for the analysis of mental phenomena—for the detection of all the changes and relations that may take place in our consciousness. This is a more difficult task. In the investigation of external objects and things, the attention and

interest of the mind are much aided by the presentation of the objects or things to the sense or senses addressed. There is no such auxiliary or handmaid in the investigation of the purely mental phenomena. To keep the mind steadily and patiently fixed upon itself—to watch its varied workings, and teachings, and revelations—to observe and trace to their origin and their ultimate effects the changes and shades of difference that may come over us, require an effort and a fixedness of purpose which time and experience alone can impart. Nevertheless, it is attainable; and there is no stepping-stone so suitable and advantageous as the acquisition of the habit of sensible analysis. And what a noble attainment this! In what but in this does real superiority of mind consist! All possess the perceptive in full operation. The grand difference between a great and a superficial mind is this, that the former has the power and habit of continued thought—of patient following out to its ultimate results the knowledge we obtain through our senses; the latter has no such power or habit.

3. By this faculty, the mind becomes habituated to trace both the objective and subjective to first principles or laws; and this is of vast practical utility. The very object of the faculty is to trace the relations of things. It cannot accomplish its end by the mere observance of external phenomena. This is necessary; but it is only so, as a means to an end, namely, the tracing of the relations, and the principles or laws, on which these relations depend. And who can fail to perceive the value of such a habit for all practical purposes, and, still more, as a guide to conduct us in the accomplishment of our designs? We thus become acquainted with the way in which infinite wisdom and benevolence works out His plans and purposes, and we catch His style, and imitate His example. And is not this the royal road to success in every undertaking?

4. But again we have to remark, that, but for this faculty, no real progress would be made in human knowledge, nor the sweets of social fellowship enjoyed. It has been noticed that all the knowledge we obtain from the powers already considered, is the knowledge of facts, of isolated facts, without the least relation or cohesion. And had we no power to go beyond this, neither comparison nor classification would be possible. All our knowledge would be but the knowledge of individual existences. Each object would then become a study for us by itself, and no amount of diligence would even carry us beyond the very alphabet of learning. And how could we enjoy the benefits of social intercourse, if we had no medium

of communication—no means of expression. And this we could not have without this faculty. Then each particular object would require to have a name peculiar to itself; and this would be an undertaking altogether impracticable.

5. It is by this faculty mainly, that we see the order and system that prevail throughout the works and ways of Deity, and thereby taught to recognize Him as a Being of perfect order—to admire and praise the supremacy of His intelligence. The author of our being has seen meet, for the wisest and most important purposes, to present everything to us in an individual character. There is no apparent system, either in the natural or moral world—nay, oftentimes, the most incongruous things are found in close juxta-position. Need we wonder, then, that, to the superficial observer, all things, both in the world of nature and of grace, appear as one confused, chaotic assemblage, without number, order or arrangement. By the legitimate application of this faculty, however, all is changed, and changed most marvellously. From the chaotic mass spring forth order, and harmony, and system, of the most perfect character. And what view of the Divine workmanship better calculated to inspire us with awe and reverence, and, at the same time, with love and gratitude to the great original? And how kind and benevolent the arrangement by which all the objects, both in the world of nature and grace, are presented to us in disunited individuality, that provision might thereby be furnished for the employment of our rational, and aesthetical, and moral powers, and that our convictions that the omniscient Creator is the God of system, might be the result of the legitimate and persevering application of these powers?

6. By this faculty, moreover, it is clear that we obtain a sound and safe view of the properties, the virtues and uses of all things, both in the natural and moral world. All these are designed for the direct benefit of the human species,—all are subservient to the promotion of man's temporal and eternal interests. By the use of this faculty, we can most expeditiously and safely arrive at this knowledge. How stupendous, then, its importance! How direct its bearing, both on the character and perfections of the Deity, and on the welfare and happiness of the human species! And how zealous should be our endeavours to see that it is properly and wisely cultivated!

Education of this Faculty. This faculty is susceptible of the greatest improvement, and its education may, and ought to be, commenced at the earliest period. Is not the training to habits of neatness, and order, and regularity, a part of this education? Is not this the best possible preparation for the exercise of this faculty? Is not

its culture already at work? And may not all this be begun, even before the child is capable of walking? To be somewhat more particular:—1st. This faculty is exercised in every branch of education, the most alphabetical and initiatory, provided that branch is taught in a rational way. The very separation of the vowels and consonants—the most elementary reading lesson—the simplest exercises in addition—the connection between the thing spoken of and what is spoken regarding it, are all fitted, admirably fitted, when the understandings of the young are enlisted, to develop and strengthen this faculty. The utmost care must, however, here be taken, that the young, in reception of this education, are not treated as machines. It is at the very commencement of the educational course that the greatest damage is perpetrated. Teachers, in too many instances, have neither the art nor the inclination to adapt themselves to the unfolding of the infantine mental bud; they compel their pupils oftentimes to learn the most initiatory lesson at the point of the rod, and thus the reign of educational serfdom begins. Let teachers but submit to the drudgery or the self-denial of rendering their scholarship instrumental in making the recitation lessons of their pupils plain, and simple, and intelligible, and this faculty would grow and expand apace.

2. Grammar, when taught synthetically, is well fitted to cultivate this power. By its being taught synthetically, we mean taught as presented in text-books. In all grammars, language is arranged synthetically, or as a science, and no science gives a better illustration of the principle lying at the foundation of all science, than that of grammar. When taught intelligently, and all its relations and dependencies carefully traced and pointed out, it cannot fail to expand and strengthen this power.

3. The various branches of natural and physical science, also present a capital school for the culture of this faculty. No where can we see the varied relations of facts, and their laws of the whole process of comparison and methodizing, of the whole principle of generalization so palpably displayed, as in the different branches of natural science. What more signal or beautiful in this respect than the great law of attraction in its various modes of development. Take it as it is exhibited in chemistry or mineralogy—in geology or astronomy, and what a glorious field of enquiry and research is thus presented. Were the natural sciences studied in their great outlines, not only would this faculty be strengthened and expanded, but the best possible foundation laid for its application in the higher and diversified walks of psychology; and by the careful study of the laws and principles that reign in the

world of mind, and a judicious classification of the same, how much might not thereby be effected for the amelioration of the human species—for the elevation and enhancement of the body politic—for the reduction of those evils that naturally spring from the social compact. Let but an order of sequence be discovered and established in the world of mind, and especially in morals, and it is just as invariable as an order of sequence in physics. The results which God has connected with moral actions will invariably occur, all the created power in the universe notwithstanding.

REASONING.

Nature of Faculty. By this faculty we proceed from the known to the unknown—from the knowledge we already possess to the discovery of that which is new and original.

This is the other inherent energy of the mind—the second of our mental operations falling under the reflective. It is just the reverse of generalization. In this we proceed from particulars to generals—in that from generals to particulars.

All of every age and clime—educated and uneducated—manifest a disposition to render the knowledge they possess, the platform on which to erect the acquisition of new and additional knowledge. All have a natural desire, when certain data are presented, to draw therefrom an inference or a conclusion. If this be so, then, such and such results will follow; or, if the opposite, the results will be so, too. And what is all this but proceeding from the whole to its parts, and affirming of the parts, just as we do of the whole? What is this but a succession of judgments or acts of the mind, expressed by propositions, with certain inevitable conclusions, which conclusions must necessarily be of the same nature with the propositions whence they emanate? If the propositions are certain, so are the conclusions; if probable, so are the conclusions.

We have said that, in this process, we go on from the known to the unknown; and what does this imply? Plainly that we must possess a certain amount of knowledge before we can proceed one step, and this as the foundation of all the other we acquire; and this knowledge must be admitted by all with whom we reason. This has received various designations. Sometimes it is called the knowledge of primary truths; and, at other times, of the principles of common sense,—mother-wit. These truths have, for distinction's sake, been classified as incomprehensible, simple, necessary and universal; so evident, that nothing more evident can be adduced to confirm them. Some of these

have a reference to truths that are altogether unconditional, such as :—The whole is greater than its parts—Things that are equal to the same thing, are equal to one another ; and others, though equally certain, are conditional, such as :—The earth is a spheroid—All the planets revolve round their centre. Reasoning, in the former case, is called demonstrative, and is generally applied to mathematics ; the conclusions are, like the axioms on which they are founded, absolute and infallible ; such as that we cannot conceive them to be otherwise. Reasoning, in the latter case, is called probable or moral, having for evidence, testimony, experience and analogy. The conclusions here may be just as certain as the preceding, though they are such as that we can conceive them to be otherwise.

And these conclusions, it should never be forgotten—whatever knowledge is logically arrived at by means of this faculty—are just as valid as the axioms or first truths themselves, and may and ought to be taken as the groundwork of erecting a more glorious superstructure. And in this way there are no bounds to the extension of our knowledge, save the limitation of the human faculties.

The method by which we give expression and embodiment to this process, is called the syllogism, meaning a reckoning altogether, or a bringing at once before the mind. And what appellation could be more appropriate, consisting, as the syllogism does, of an argument stated in correct logical form, and made up of three propositions :—the two first being the premises, (major and minor), and the last, the conclusion ; and having the property, that the conclusion necessarily follows from the two premises ; so that, if the premises are true, the conclusion must be true also ?

It is quite true that in argumentation, both by educated and uneducated persons, the syllogism is not, in general, formally resorted to. There is no need for it. The propositions are oftentimes so plain and palpable, that it were altogether a work of supererogation to go through all the various stages or steps in the syllogism. It is at times, however, indispensable, and in nothing more so than in showing an opponent the fallacy of his reasoning. Suppose, for example, I am arguing to convince an opponent that Cæsar was detestable, and fail. What do I do ? I take up at once the general proposition for my major premise, “ All tyrants are detestable.” This is a proposition of which the predicate detestable is the genus or class, comprising or comprehending tyrants as one of its parts or elements. For my minor premise, I take Cæsar was a tyrant. The conclusion is irrefragable—Cæsar was detestable.

Importance of Faculty. That this power is of vast, of outstripping glory, no one will, for a moment, hesitate to admit. It is not only the power by which man is characterized as a rational being, but by which he stands pre-eminent amongst all the other creatures of God in this nether world. It is, too, the towering perfection of his intellect. Man, without it, is principally a cognitive or recipient being, and even that would be limited to whatever came under his observation or experience, or under the observation and experience of others. But by this he can go on in the acquisition of knowledge, *ad infinitum*; because every step he soundly takes, but places him on a wider and more commanding area for the erection of a yet more gorgeous palace, than any he has hitherto attempted to upraise.

2. This is the power by which man can most extensively benefit himself—by which he can most fully promote both his own happiness and that of his fellow creatures. Knowledge is power, is a truism universally admitted. It is a truism in the highest possible sense, when rightly directed—that is, directed to the promotion of the noblest and highest part of man's being. It is in this that man's truest happiness consists; and it is by its diffusion, that he can most signally advance the happiness of his fellows. And what but the power before us imparts both the corner and cope-stone of all this knowledge, both intellectual and moral?

3. It is the power which assimilates man to his Maker, more completely than any other, and by which he can bring to Him the richest revenue of glory. Omniscience or infinite knowledge is one of the essential attributes of divinity. This is His royal prerogative, and it is by this He asserts His superiority—His supremacy, over all. Man is like Deity in this respect. He can accumulate knowledge, and by his own efforts add to its stock. And by this he is able to bring a rich revenue of glory to his Creator. All the creatures of Deity glorify their Maker passively, inasmuch as they display, in every part of their being, some lineaments of His perfection. But it is more with man. He glorifies God both passively and actively—that is, he can do so with his heart—with his mind.

4. The nature of this faculty invests its education with unspeakable value. We have already shown, in a great variety of ways, that every accession we make in knowledge, by the legitimate application of this power, we are but spreading out for it a broader platform. It is thus clear and palpable that the more it is educated, we but render it the more susceptible of improvement—we but place it on a higher vantage

ground for a more panoramic prospect—for a more productive exploration; we but add to its capabilities.

Education of this power. Attention has just been called to the special enhancement of the importance of this power by education. This arises from the nature of the power itself; and, by consequence, demands that every possible effort be made for its culture. As elsewhere, the grand specific for this object is the actual exercise of the power itself. We say actual, for too many seem to imagine, that if the particular faculty intended to be cultivated, is but brought into contact with the employment suited to it, it is all that is needed. This is a grievous misapprehension. It is the digestion of the food, and not the mere bringing of it in contact with the gastric juice, that renders it contributive to the support of the body. And so here; it is the faculty's actual exercise with the subject most congenial to it, that goes to the strengthening and developing of the faculty. The French motto, '*A connu a l'inconnu*,' is a principle now pretty generally admitted by all progressive teachers, but, in too many instances, we fear, it is more by profession than by practice. This is pre-eminently the principle that is adapted to this faculty. Let the teacher, in approaching every new subject, be careful that he and his pupils take their standpoint on the *known*—the *terra cognita*. Let him endeavour to make them connect that with the *unknown*—not to carry them over, but make them walk over the bridge, guiding and directing but still making them go themselves. This can, this ought to be done at the very commencement of their educational career, and practised more and more as they advance. In proportion as this power expands,—and it will be doing so the whole educational life,—let this principle be applied with all the greater effect and to all the greater extent.

2. Another means to be called into requisition for the exercise of this faculty, is the storing of the memory with useful knowledge. It is impossible for us to reason well without the possession of large and accurate knowledge. Reasoning is that process by which we pass from the known to the unknown. The known, then, lies at the foundation of the process. Unless there be something known, we cannot begin to reason; and the greater the amount of our knowledge, the larger is our capability,—the more exact our knowledge, the more successfully can we use it in the discovery of truth. He who would enlarge the field of human knowledge, must stand upon the limits of the known, before he can expect to enter the field of the unknown.

3. Another means for educating this faculty is always to speak or

write with an object in view; and for this purpose, to accustom ourselves to read argumentative logical treatises, or such books as Butler's *Analogy*,—such as, by a series of consecutive propositions, never fail to arrive at certain definite conclusions. The perusal of such books in connection with our own personal endeavours, will soon produce a marked effect upon our powers of ratiocination.

4. Mathematics and the physical sciences are branches generally recommended, as well fitted to exercise the reasoning power. This they unquestionably do, but only when properly taught. How they should be taught, belongs to another department of our course.

5. Logic, and the mental powers on which it principally depends, should also be studied. This, of course, can only be systematically done in more advanced Institutions. A good deal of logic, however, may be taught incidentally, without any formal allusion to the word or the science to which it belongs.

THE INTUITIVE.

The Faculty itself. This is the faculty which gives rise to original and independent ideas, occasioned by perception and consciousness; and which ideas, because they are seen or received by the mind immediately, without the intervention of argument or testimony, are called *Intuitions*, and the faculty, the *Intuitive*.

This faculty differs from all the preceding powers of the mind, whether cognitive or reflective. It differs from the former, for it neither presents nor represents any concrete object. However intimately connected with perception and consciousness, it cannot be said to be produced or originated by the one or the other. It is quite independent of them both, and yet it would seem that it would not be awakened into activity, save through these powers. It differs, too, from the reflective or discursive faculties. It neither generalizes nor reasons—it needs the aid neither of the synthetical nor analytical process. Whatever truths or ideas are occasioned by perception or consciousness, they arise instinctively. They are solely the result of the mind's own actings—pure intellections, springing from its own inherent constitution. The knowledge which this faculty imparts, is a knowledge so essential for our guidance, that it cannot wait till the reflective powers are developed.

This faculty manifests itself at the earliest conscious period in the history of the child. Before the little prattler has left its mother's arms, it accidentally puts its finger into the flame of the candle. That instant the sensation of pain is experienced, and the cause of that pain

is at once ascribed to the candle; and, in all time coming, it evinces the utmost dread in approaching too near that or any similar object, according to the adage, "Burnt bairns dread the fire;" or if it does not, as by instinct or intuition, learn this lesson, we conclude that its mind must be in an abnormal condition,—that it is, in short, an idiot. And the same feature is manifested throughout the whole future career of the child. Scarcely has it acquired the power of walking, than you see it deriving the highest gratification from knocking down the pins with the ball. The first time it did this, it was alike astounded and delighted. By the power of perception it saw a change produced. The ball it threw struck one of the pins, and down it fell. Here ended its perceptive power. But the intuitive that instant took it up—conveyed the knowledge that the pin fell by reason of the throwing of the ball;—that this was the cause. But it did not stop here. It went a step further, and immediately communicated the intelligence, that a similar cause, in similar circumstances, would produce similar effects; and, in the firm belief of this, it immediately proceeded to adjust the damage—put up the knocked-down pin—renewed its power, and saw, to its great delight, the same effect. So is it with all primary truths.

And it is the same with intuitive conceptions. Our little prattler has now become an adult in the prime and vigour of his days, and a cube is placed before him. He first of all applies to it all his perceptive faculties, and by these he obtains all the knowledge of its properties he is capable of discovering. He reflects on these various acts of perception, and thus he obtains a knowledge of the state of his mind in performing these mental acts. Had he no other energies, his knowledge would here stop. But if he reflects on his own cognitions, he shall be conscious of much important knowledge, occasioned by these mental acts. Let the object be removed to another place. What is there where the cube formerly was, and where it is now? He then becomes conscious of the fact that it is a condition necessary to the existence of all matter; and he calls it *space*. He finds himself, therefore, in possession of an idea, revealed neither by perception nor consciousness, which, nevertheless, is cognized by the mind from the necessity of its own nature. Without perception, it would never have been cognized; chronologically, therefore, it is subservient to it. As soon, however, as he obtains this idea, he knows that it is a necessary condition to the existence of that which is perceived. It is necessary, physiologically; for, without space, there can be no matter. It is necessary, psychologically; for he cannot conceive of mat-

ter without conceiving of space as a necessary condition of his conception.

Various attempts have been made by writers on intellectual philosophy to classify these intuitions. One of the most complete is that given by Haven. He first makes the two-fold division of primary truths and intuitive conceptions. Under the former he comprehends the following: "Our personal existence—our personal identity—the existence of efficient causes—the existence of the material world—the uniformity of nature; and by others, the reliability of memory, and of natural faculties generally, and personal freedom or power over our own actions and volitions. And under the latter, space—time—identity—cause—the idea of the beautiful and of the right.

Position and Value of this Faculty. It must not be supposed that this faculty, though standing last in the intellectual list, is of less importance than any of those that have gone before. The fact is, it lies at the foundation of all the others, and without it all the others would be of no service in the mental temple. Even the perceptive and reflective faculties would be utterly unavailing without it—would be like the airy fabric of a vision. It is placed at the end of the synthetic arrangement, just because it towers above them all, and soars aloft into the regions of purest intellection, leaving behind all the sensibilities of time—all the tangibilities of matter. Had we adopted another course, and given an analytical view of the powers of the intellect, it would have occupied the foreground—it would have stood first in its own lofty and commanding pre-eminence, and all the others would have been regarded as so many scintillations or emanations, standing towards it in certain indissoluble relations, at a near or more remote distance. This, as already stated, is the course pursued by Dr. Lyall, of Dalhousie College, in his able *Treatise on the Intellect, Emotions and Moral Nature of Man*. This arrangement, however, would not have answered our purpose, so well, as educationists. The course we have pursued is, in our apprehension, not only the simplest and most logical, but the best fitted to present the intellect in its educational aspects—to show what ought to be done for the culture and improvement of the faculties themselves.

But this faculty is admirably calculated to refute the errors and absurdities of materialism. It is a fact, worthy of being noticed, that the great majority of those who have manifested any materialistic tendencies, have, generally speaking, had no clear idea—no distinct apprehension of psychology, or of mind as a specific separate existence—as a distinct essence. Their whole or chief attention

has been directed to the study of organized existences, both in the vegetable and animal developments; and seeing how much the exercise of mind depended on the physical organization, (and this no thoroughly enlightened person will deny), they have landed in the belief that if there is any such thing as mind at all, it is nought but a mass of organized matter, refined and purified. Now, the faculty under consideration is well calculated to counteract any such tendencies, showing that, however largely sensational—however much the knowledge we derive through the medium of the senses, there is one faculty at least independent both of the cognitive and reflective. Calmly and deliberately studying the operations of this faculty, we are shut up to the conclusion that mind is a distinct essence. The more profoundly we investigate the workings of this power, the more completely do we soar into the region of the intellectual. There is still another thought that strikes us, in connection with the importance and utility of this faculty, which we must notice. We refer to the evidence furnished of the existence and character of the infinite mind. ‘Shall He that made the ear not hear,’ says the sacred penman; and here, too, with special emphasis, may we ask, shall not He that made the mind, and made it with such capabilities, be possessed of an infinite mind with the most glorious attributes—with the highest spiritual excellence? Thus we are shut up to the inference that He who made our spirit is indeed the Father of Spirits.

Education of Intuitive. From the very character of the faculty itself—its abstruseness and the high speculation of the themes with which it has to do, little can be said here. A few hints are all that we shall attempt to offer.

1. Every means should be employed to encourage the young to enquire into the causes of things. From the fact of our being such creatures of habit, it not unfrequently happens that those very objects or things with which we are most familiar, we are least of all acquainted with, and manifest not even the slightest anxiety to be so. Constituted as we are, this should not be so. And how is such a spirit to be counteracted and overcome? In no other way that we know of, than by prompting the young to enquire into the causes or reasons of everything they see or engage in. Nothing will so effectually beget and foster such a spirit as well-conducted oral lessons.

2. Every means should be employed to encourage the young to follow out to their ultimate conclusions, the train of their own perceptions and of their own consciousness. In this respect, the human family may be divided into two classes; those who take merely a

glance at their perceptions and conceptions, and pass on from the one to the other without the least meditation or reflection; and those who attend to their own intuitions—examine their character—determine their validity, and follow them out to their most minute—their most remote results. The former, need we say, is the habit of the superficial thinkers, who cognize the facts only, that are visible on the surface. The latter is the habit of the thoughtful and reflective, and, generally, is made up of those who arrive at the knowledge of the hidden relations—the occult causes by which all that is seen is united together and directed. “Millions of men,” says Wayland, “before Sir Isaac Newton, had seen an apple fall to the ground, but the sight awakened no suggestion; or if it did, the suggestion was neither retained nor developed. He seized upon it at once—followed it to its results, and found that he had caught hold of the thread which could guide him through the labyrinth of the world.”

3. These intuitions will be generated all the more abundantly, the more carefully they are attended to. Like every other faculty, the intuitive is strengthened by use. The more diligently we study the intuitions that arise in the mind, in the circumstances in which we may be placed, these will not only recur in greater abundance, but we shall acquire a power and a control over them which will render them far more available—conduct to more important discoveries, and invest with greater reliance and self-dependence.

4. Use every means to train the young to patient investigation and persevering enquiry, and direct to those studies where this will be most necessary.

This, after all, has done more for the human family—for the advancement of science and of genuine philanthropy, than all the flashings of genius—all the exploits of the hero—all the self-sacrificing acts of the christian. And, in truth, there is here more valorous heroism—more magnanimous daring, inasmuch as there is a greater triumph and conquest over the principles of selfish humanity. And far more can be done by education for the infusion of such a spirit and the accomplishment of such an object, than is generally supposed. In no department, perhaps, can this be more effectively done than in the culture of the faculty under review. If it is to be cultivated at all, it must be by following out the knowledge it imparts, by steadfast, persevering patience—by plodding, advancing industry. There ought to be studies prescribed, where, from their nature, such a course is indispensable, and every stimulus given by the faithful and laborious trainer. And we know nothing better, at an early stage, than judi-

ciously conducted oral lessons, and, at a more advanced stage, mathematics and physical science.

III. EMOTIONAL EDUCATION.

Meaning. By this title we are plainly to understand the education of the feelings or sensibilities of our nature—a department of our theme which, all must admit, has been much and culpably overlooked and neglected. Whether we consider the sensibilities in themselves, as the grand springs of human activity—as the motives and the causes which give impulse and direction to all our energies, laying the foundation of character and shaping our history and destiny; or, whether we look at them in their influence on the intellect,—as quickening and enlivening,—as inspiriting, and sustaining all its faculties, we cannot fail to perceive their vast importance, and the obligations laid upon us to educate them, and to educate them aright, so that they shall really subserve these high and important purposes.

Classification of Sensibilities. These sensibilities have been variously classified. Some have viewed them in their origin, and classified them as primitive and derivative; others, in contrast, as cheerfulness and melancholy—love and hate, and have divided them accordingly; others, chronologically, and divided them into immediate, retrospective and prospective; others, as mechanical, animal and rational; others, as instructive and rational; others, as natural and moral; others, as animal, rational and spiritual; others, as passions, emotions and affections; and others, as emotions, affections and desires.

There is, in fact, no end to the variety of classification, scarcely two writers on the subject agreeing. The one we prefer, is the last-named, that of Haven, as being the most simple, the most comprehensive, and the most scientific. Under the simple emotions, he comprises all those feelings which involve delight or satisfaction in the object, or the reverse. Under the affections,—all those which, in addition to the above, involve the wish, more or less definite and intense, of good or ill to the object that awakens the emotion. And under desires, he comprehends all those feelings which have respect alway to some good or apparent good, not in present possession, but viewed as attainable.

Let us glance at each of these in order, and, as we proceed, show briefly what should be done for their education.

Simple Emotions. Haven, again, subdivides these into Instinctive and Rational,—the former partaking more of the animal, and the latter, of the reflective. Under the Instinctive, he comprehends the

following, viz.: 1. That general state of the mind known as cheerfulness, and its opposite, melancholy. 2. Sorrow at loss of friends. 3. Sympathy with the happiness and sorrow of others. Under the Rational he comprizes the following, viz.: 1. Emotions of joy or sadness, arising from the contemplation of our own excellence, or the the reverse. 2. Enjoyment of the ludicrous. 3. Of the new and wonderful. 4. Of the beautiful and sublime. 5. Satisfaction in view of right conduct, and remorse in view of wrong. A few general remarks on each of these two classes of emotions must suffice.

The first class, those simple emotions common to us with the lower animals, point us to that state of mind termed cheerfulness, with its opposite, melancholy, from the character of the objects that produced it, whether good or evil. The state to which we now point is not one of rapturous emotion, either of joyousness or sadness; but a kind of equanimity of temperament, that would be appropriately termed gladness or cheerfulness. Man was made to be happy and cheerful, and, notwithstanding the catastrophe that has befallen his nature, this is the prevalent strain of his life. True, there are clouds every now and again passing over this general sunshine. Some sudden and unexpected calamity befalls him, or, with a stroke, he is bereft of some one near and dear to him, and he is left in bitterest anguish to mourn. But these occurrences are only occasional—they are but as clouds that pass over his generally shining sun. We do not say that this prevailing state of cheerfulness is alike in all; for there are a few in every community whose habitual condition is that of gloom and sorrow, arising in some from physical and in others from mental causes. Neither do we say that this general state is uniform in all. There are certain periods when joyousness rises to a higher and more commanding elevation, and others when it is much lower. The season of youth, for example, is characterized by the former, and that of maturer years by the latter. In childhood and in youth, there is, generally, in all, a full flow, a swelling tide of spirits; all is buoyancy, and elasticity, and cheerful springiness. This is their general condition, evidently a wise and bountiful arrangement of things for the health of the body, the exhilaration of the mind, and the growth of both. Such a state induces constant activity and energy, and thus preserves all in a vigorous and healthful condition. And all this, again, is vastly augmented by a very powerful auxiliary, viz., sympathy with the happiness of others. Of this principle we shall speak at length afterwards, as it forms one of the characteristics in the course. Suffice it here simply to say, that there is nought in which it operates more power-

fully than in the freshness and spring-time of our days, just as sympathy with the sorrow of others operates, most extensively, in our riper and more advanced years.

The other class of emotions,—those in which mind is more deeply involved, and which, in consequence, have been called rational,—is much more diversified, and this by reason of the greater variety of objects that awaken them; and yet, withal, this class may be legitimately ranked under the same category—under the agreeable or the reverse—the pleasurable or the painful—the joyful or the sorrowful. As already stated, there is, first, the joy or sadness arising from the contemplation of our own excellence, or the reverse. This is an emotion that is constantly recurring, ranging, as it does, over a wide area, both in our external or internal condition, whether our excellences are intellectual or moral in their origin, or whether they spring from ourselves by comparing our past and present history, or from ourselves as compared with others of our fellow-creatures. There is a constant disposition in us to do all this, and feelings of the most vivid and powerful character follow. These are commendable in themselves. They only become blame-worthy when indulged to excess, or when directed to improper or unworthy objects, or when we are deceiving ourselves in regard to any excellence, or, if we really possess it, not carrying ourselves aright. The noblest nature is that which does not think more highly of itself than it ought, nor places itself above others in comparison. Another of the emotions of this class, is the sense of the ludicrous. This consists in the grouping or bringing together, in a sudden and unexpected manner, ideas or things that are in their nature incongruous. This incongruity presents itself in a great variety of forms. It may refer to objects or things; it may be accidental or intentional. If the former, it is a blunder; if the latter, it is wit. This wit is a generic term, and is divided into a great many species, such as the pun—the burlesque—the mock heroic—all double-entendres—satire—sarcasm, &c. This emotion, like the preceding, is only of injurious tendencies when carried to excess. When wit is made the predominating quality of the mind, it never fails to produce a blighting influence on the higher and nobler faculties and aspirations: it leads captive the whole mind into the most humiliating and degrading servitude. If, on the other hand, it is kept in its proper place, and is duly moderated, it is of immense service in spreading a vigour and freshness over the whole mental contour. Like music to the soldier on the march, so is the perception of the ludicrous to the weary, and jaded, and exhausted. Another emotion under this head:

is the enjoyment of the new and wonderful. It is not the Athenians alone that have evinced an eagerness in seeing or hearing some new thing. Men, in all ages and in all countries, feel, in course of time, the tiresomeness of unbroken, of monotonous sameness in any one object or pursuit. However charming to the musician's ear may be the finest song to which he ever listened, its constant and unwearied repetition not only palls upon his sense, but becomes positively disgusting; and hence the delight experienced, when, after a protracted continuance in any one employment, an interruption is effected and a change takes place. This is especially the case with the young. Variety and novelty are to them the main charm of life; and hence the gratification enjoyed on the occasion of some new arrival, or the occurrence of some unexpected event, or the display of some lovely scene. This excites their surprise, and, if it is of such a nature as to call forth earnest enquiry, their wonder, or to rouse to highest mental excitement, their astonishment. This emotion is fitted to produce the most beneficial results in the whole of our mental economy. It arouses our attention to present duty, and calls forth our energy on every pressing emergency. It not only rids us of the *ennui* so apt to steal over us, but it presses us onward to the achievement of some nobler and worthier undertaking.

Under this head, should also fall to be considered the emotions of the beautiful and sublime, and of the right and wrong. But as these, from their importance, are treated separately in a subsequent portion of our work, there is no need of saying a word here regarding them.

Education of these Emotions. These emotions impart unspeakable satisfaction and delight to the young, and consequently demand, at the hand of both parents and teachers, the deepest study—the most laborious and pains-taking exertions, and the most unwearied perseverance in their proper, their legitimate culture. If the grand characteristic of the instinctive emotions is joyousness, or a prevailing exhilarating cheerfulness, then it is clear that parents and teachers should provide the means requisite for the play of this spirit—for its chastened manifestation,—1st. By providing the games and amusements befitting the age of the scholars; 2. By so directing and carrying on their studies, as that no improper pressure shall be imposed on the development of this spirit; 3. By extirpating selfishness, through sympathy, with their associates. The education of the other class—the rational emotions—is carried on and promoted generally by the encouraging of what is commendable, and by the checking of what is culpable. There is no more powerful stimulant in the hand of the judicious

teacher, than the emotion of joy or sadness, arising from the contemplation of our own excellence—or the reverse, or, as it is usually denominated, the emulative principle. The stimulants proper for the development and growth of this emotion, will fall more appropriately under the heading of government of schools, where we discuss the propriety of taking places, of prizes and rewards, &c., and when we shall be better able to present the subject in its moral aspects or bearings. In the meantime, it is enough to say, that whatever are the encouragements employed, every possible advantage should be taken of this emotion, that whilst everything should be done to reprobate its manifestations under the form of pride, conceit, arrogance, haughtiness, and the like, everything should be done to show, that the very nobility of our nature consists in that which looks neither at itself, to mark its own acquirements, nor yet at others below itself, to mark its own superiority; but whose earnest gaze is fixed only on that which is above and superior to itself—the *beau idéal* ever floating before it of an excellence not yet attained, in comparison with which all present attainments seem of little moment. Let this ideal be firmly settled in the teacher's mind, and there is little fear of any obstruction being offered to the full and healthful operation of this emotion. Its whole utility to the teacher consists in furnishing a groundwork for the devising of means for securing diligent application to study.

Much use may also be occasionally made of witticisms in their diversified forms. Few, if any children are entirely destitute of a sense of the ludicrous, and for the teacher judiciously and befittingly to call it forth, it cannot fail to operate beneficially and extensively as a stimulant, enlivening and refreshing the spirits, after a season of hard application to study. Only let it be kept in its true place, not in the forefront, but in the background of the varied and busy scene, and it will be found in the school-room, as everywhere else, one of the most valuable mental endowments. Hear Sydney Smith: "But when wit is combined with sense and information; where it is softened by benevolence and restrained by strong principle; when it is in the hands of a man who can use it and despise it—who can be witty, and something much better than witty—who loves honor, justice, decency, good nature, morality and religion, ten thousand times better than wit, wit is *then* a beautiful and delightful part of our nature."

This instrument should be called in more as a relaxation or relief upon the tedium, physical and mental, of protracted study. In such circumstances, when judiciously administered, it may be productive of the most salutary results.

Of a piece, generally speaking, with this, is the enjoyment arising from the new and wonderful. Here, however, something more systematic and formal may and ought to be done in the educational process. This is accomplished by a considerable variety of subjects being presented to the mind at once, thereby involving frequent changes. Not that there are to be no leading subjects of study. According to the epoch of mental development, there ought to be one or more standard branches, to which the greater proportion of the time and application should be directed. But along with these, one or more lateral branches may be carried on with great efficiency and benefit even to the standard branches themselves. It were well, too, to modify, occasionally, the method of conducting these studies, reviewing them in different aspects, and applying them for the accomplishment of different objects.

Benevolent and Malevolent Affections. This, according to the authority we have followed, constitutes the second class of our sensibilities, and is naturally subdivided into benevolent and malevolent; the former being founded on love, and the latter on hate. This class follows and grows out of the preceding. The simple emotions give rise to the affections. But the affections also expand and become more complicated. Unlike the passivity of the emotions, they are active and transitive, passing from the subject to the object which awakens, and that in accordance with our estimate of that object, whether of liking or disliking—of love or hatred. The affections are also more universal than the emotions. There is not a human breast in a normal state in which they do not dwell, and they are confined to no age, or clime, or country; they are even common to us with the brute creation. They are, no doubt, strengthened and expanded, by the circumstances in which we are placed, and by early habit; but they are manifestly instinctive and original principles, implanted in our nature by the Great Author of our being, and this in most beautiful adaptation to the relations in which we are placed, and to the duties arising therefrom. Sometimes they grow into excess, and, like a vessel driven before the winds, they control and domineer, placing us at the mercy of the lower or animal propensities of our nature. Then, they are properly designated passions.

These affections, both benevolent and malevolent, assume various forms, which are classified according to their nearness or remoteness. The former are generally ranked under the love of kindred—of friends—of benefactors—of home and country.

Benevolent. The first of these—the love of kindred—is the nearest

and strongest, and is generally regarded as threefold—parental, filial and fraternal. The love of parent to child, and especially, that of the mother, is, without exception, the strongest feeling in our nature,—much stronger than that of the child towards the parent. And what a wise provision in all this;—how strikingly adapted to the circumstances in which we are placed! These lie at the very foundation of the social virtues. It is the genial influences of the domestic circle that give the best preparation for the activities and conflicts of after life. Not that these are repugnant to true manliness or heroism. The lion and the lamb are often seen dwelling together. The bravest and the most daring are generally the most amiable and benevolent. The second form which this class of affection assumes, is that of friendship. This, too, is evidently one of the original instincts of our nature, founded on and strengthened by the associative and sympathetic principle. It begins with acquaintanceship or companionship, and, by the magnetic bond of the above principle, grows with our growth and strengthens with our strength, even until it ripens into maturest friendship; and when thus fairly formed, it binds man to man with a cord not easily broken, cementing them together in a way that bids defiance to all adventitious circumstances—to all external changes. Even when the object of our friendship has become a moral wreck, and we feel that we cannot and dare not love him as he is, we would still fain cling to him, and love him as he once was. To be, however, of this character—the sweetest balm of life, our friendship must be select—not extended, but confined to a few.

The third form of this class is the love of benefactors. This, like the other affections, consists of a feeling of pleasure, together with a benevolent regard for the object on which the affection rests. The one follows the other, and the two combined constitute the complex emotion which we call gratitude. If this be a proper definition, then the feeling is more directed to the giver than the gift. This is brought out very palpably when we discover afterwards that the gift was for the serving of selfish ends—for the promotion of his own personal aggrandizement. Nevertheless, this is one of the instincts of our being. Whatever be the extent of this affection, or the diversity of ways in which it manifests itself in different individuals, we uniformly expect it, and at once denounce those who evince no such affection. Hence flagrant cases of ingratitude are branded with every stigma of abhorrence.

The last of these forms is the love of country and home. This is the patriotic feeling which poets and writers of a glowing imagination

so frequently delineate. This, like the preceding, is an original feeling in our nature, and is in complete adaptation to the geographical distribution of the inhabitants of our globe—to the rivalries that spring up between nation and nation—to the diversity of language, and the like. But whilst both the love of country and home is thus an instinct of our being, it is greatly strengthened by the law of association. This renders the affection oftentimes the strongest where it is least expected. The poorest hut, and the most barren, rugged rocks have their enduring associations far stronger, than the most gorgeous palace, or the most civilized, highly cultivated country.

Malevolent. As the benevolent affections are all so many forms of love going forth toward a great diversity of objects, so the malevolent affections are so many forms of the opposite principle, aversion varying likewise with the objects. The term malevolent is unfortunate, and liable to serious objections, though it should be carefully noticed that it is used entirely by way of contrast, and not as implying anything criminal in the character of the emotions themselves. The moral character of the affections embraced must be decided on their own merits, and not on the use of the word.

Whatever may be the difficulties involved, it is very obvious that these affections are just as much a part of our nature as the benevolent; and being so, they must be intended for some high and important purpose. When the occasion that calls it forth is some injury or evil inflicted on ourselves, the feeling takes the name of resentment; when others are the objects of that injustice, the feeling awakened is more properly termed indignation. We resent our own wrongs—we are indignant at the wrongs of others. This principle is, in either case, the same, and is as truly a part of our nature as gratitude for favours received, or sympathy with the sorrows of the afflicted.

This principle is evidently designed to arm us against those sudden dangers and assaults, which no foresight can anticipate, nor providence prevent, and which, when they occur, require instant action and prompt redress. It seems to be not less necessary for the punishment of crime and the protection of society.

This, however, is a principle liable to abuse, and requires to be kept in careful check. And nature has provided, in the case of excessive resentment, checks the most needful and salutary. These are such as,—
1. The indignation with which any such manifestation is sure to be regarded by others; 2. The feeling of self-degradation and humiliation, which such a man feels; and 3. There is the natural painfulness

of the malevolent affection itself. These checks cause resentment to assume a more deliberate form.

There are various modifications of this general principle, such as envy, jealousy and revenge. These are the species of the generic term resentment, and vary as the different circumstances and objects vary which call them forth.

Have these affections any moral character? Instinctive resentment has no moral character. Resentment, however, when its operation is deliberate and voluntary, rather than purely instinctive, implying the exercise of reflection and reason, must possess, in common with all other mental acts of that nature, some moral character. Within due limits and on just occasions, it is a virtue; when it passes those limits—when it becomes excessive, or is uncalled for in the circumstances of the case, it becomes a vice. So far as regards those forms of the malevolent emotion—envy, jealousy and revenge—there can be no doubt.

Education of all the Affections. We have dwelt the longer on the nature and importance of these affections, because of their direct bearing on the whole educational process, because, generally speaking, they are so largely susceptible of improvement. These affections are all, as we have seen, instinctive principles, implanted in our nature, and yet they are all capable of great enlargement by a kindly nurture and admonition, by a judicious development and training. And what is more to the point, if this expansion is not effected in our more juvenile years, the probability is that it never will; and that not merely because we are placed in circumstances where these relations are unfelt, but because the mind, in its ennobling sensations and powers, is never so flexible, nor so susceptible of advancement, nor so open to influence. But to the point.

1. Parents and teachers, and others, in charge of the young, should use their utmost endeavors in seeing that the treatment of the rising generation is of such a character, as will impose no obstruction or place any restraint on the natural out-flowing of these affections. From the most infantine period, they require regulating and directing, but care must be taken to see that nought is done that will suppress their natural buoyancy of temper, their inherent elasticity of soul. Discipline, in the shape of denials and punishments, must be dispensed, and the sooner it is begun the easier will it be both for parent and child; but this must be done in a way that will show that it is not in anger, or in wrath, or in vindictiveness, or cruelty, but in very faithfulness and kindness for their good. "And ye fathers,

provoke not your children to wrath but bring them up in the nurture and admonition of the Lord."

2. Parents and teachers must act not only on the negative but the positive, that is, they must endeavour to do their part aright, to regulate their own affections towards the young in such a way as will call forth the legitimate exercise of theirs. Much of the genuine outflowing of filial affection on the part of the young will depend on the way in which parents discharge their parental duties, or regulate their parental love. And so will it be with teachers and taught. Above all, teachers must strive to attemper their authority with kindness; they must oftentimes unbend, come down from their seat of pre-eminence and evince their benevolence to be of such a character, as will satisfy their pupils that they are happy in their happiness.

3. Directions should also be given for the formation of friendships. The young should be instructed that, whilst they ought to love all, they should make special acquaintances of those they like best, provided they are worthy and well-behaved. Parents, particularly, should encourage the formation of such a tie by allowing their children to spend an occasional evening in each others abodes, and by indulging them in such like enjoyments, as well as manifesting an interest in their sports and amusements.

The young, too, should be exhorted to the exercise of gratitude towards their benefactors, and especially towards those children who deny themselves personal gratifications, in order to make them sharers in their enjoyments, &c. They should also provide, judiciously, the means by which their love may assume a tangible shape, and thus place their associates, in turn, under obligations to them.

4. Much may be done to the young for the purpose of cherishing in their breasts a spirit of genuine patriotism. If the country in which they live have any history, they should be made acquainted, from their juvenile years, with the great men that have appeared at different epochs and in the different departments, as well as with their exploits, or discoveries, or inventions. Or, if the country is destitute of renown in the annals of the past, to point to its resources, it may be in the field, or in the mine, or in the warehouse. Or, if scanty in both these, to direct the attention to the glory of the natural scenery, and there is nothing that takes a firmer hold of the youthful mind or inspires with stronger patriotic emotions. Their reading and geographical books should all tend in the same direction. Much, too, may and ought to be done in training the young aright in the exercise of their resentful feelings. In nothing, perhaps, do the young evince at an early period a stronger

disposition than to resist a wrong, either supposed or imaginary; no instinct, in short, seems to take a deeper hold of the constitution than that of resentment; and the sooner, accordingly, the attention of parents and teachers is called to its management and guidance, the better. They should be taught, at the earliest possible period, never to resent, when an injustice is done either to themselves or others. They should be shown the most satisfactory, the most triumphant way of obtaining justice or due compensation in the case. This should be strengthened by notable illustrations, either authentic or fictitious. The amount of good that may be accomplished by patient, persevering industry in the regulation of this feeling, is perfectly inconceivable. Here the influence of example is all but omnipotent.

Desires. The last class of our sensibilities is the Desires, or that class of feelings which prompt us to seek after the possession of objects or things which we know, either from experience or otherwise, to be worthy of being prized. This advances us a step farther. In the first class, there is simple enjoyment or dislike, arising from something in our possession. In the second, there is also a something that is agreeable or disagreeable, but there is more, even a going forth to the object that has awakened the emotion. In the third, there is more than in either of the preceding; there is a previous enjoyment of an agreeable object, and the present or contemplated absence of that object. There is immediately consequent an emotion or affection, proportioned to our enjoyment of that object, and from this arises the desire; and this desire is permanent by reason of the very continuance of the absence of the object. And in this respect it differs from all the other simple and complex emotions. But it differs in a much more important sense; it is the main-spring of all physical and mental activity. "The intellect itself leads not to action; nor do the emotions; they agitate the mind, but it is only as they awaken desire, and that desire fixes on a definite object, possible, but not in possession, that mind and body are both aroused to go forth for the attainment of the absent object of desire."

Some of our desires originate in the body, and others in the mind, and hence the twofold division of animal and mental. The former, sometimes called appetites, are subdivided into natural and artificial; and the latter into the desire of happiness—of knowledge—of power—of society, and of esteem.

The Animal Desires. These desires, as has just been said, spring from, or are connected with the body, and are such as our desire for food, for action, for repose, and such like. There is muscular and

nervous exertion in the operation of these appetites, and then the desire succeeds. Of course, it is only in the latter acceptance that it is regarded as appertaining to psychology. Originating thus in our animal constitution, they perform a most important function in the economy of life, some having a regard to self-preservation, and others to the propagation of the species,—ends, evidently, which could not otherwise be accomplished. When properly exercised and kept within due bounds, they are not of the selfish character they are sometimes supposed. They effect important purposes—impart a considerable amount of enjoyment, and are purely original and implanted principles. There is one peculiarity belonging to them which is deserving of notice, that whilst the repetition strengthens the desire, it also diminishes the enjoyment arising therefrom. This is, evidently, intended as a punishment to those who indulge in them to excess, and a severe punishment it is. And this punishment is still more aggravated with those who form for themselves artificial desires by indulgence in the use of narcotics or intoxicating drinks.

Education of these desires. The education of these animal desires is by no means to be viewed as a matter of indifference or a thing of nought. As they are indispensable for the accomplishment of high and important ends—ends that can only be measured by taking into account the value of mind;—so every means ought to be employed to see that they are kept in such a state as really to serve those ends. The education of all these desires consists in their being preserved in a condition of moderation, that they are never allowed to usurp domination over the higher principles of our nature, and that the young are not only warned against the use of tobacco, and intoxicating drugs and drinks, but that they are carefully trained to avoid them.

Mental Desires. And the first of these that has been mentioned, is the desire of happiness, or self-love. By this is meant the desire that all have for their own good—the promotion of their own happiness. And this is out-and-out a sound and wholesome desire. And that all possess this instinctive principle, we have only to look around us and to contemplate the pursuits and the enjoyments of the human family at large. Whatever the diversity of human employments and engagements, this is the ultimatum to which they all evidently tend. And would that all knew where alone it is to be found! Some seem scared at the very mention of self-love, looking at it as synonymous with selfishness. Every one knows the import of the word selfishness. It just means that principle in man by which he seeks to advance his own happiness at the expense or to the detriment of his

fellows,—that grasping spirit of self-aggrandizement which, for very gratification, unhesitatingly invades the most hallowed precincts of others, and cares little or nought about their misery, if their selfish plans are carried. This is altogether different from self-love, or the desire of our own happiness. This may, and ought to be sought for without the least intention thereby of damaging others. The Bible nowhere condemns such a principle. We are commanded to love our neighbour as ourselves, evidently implying, that we are to love ourselves first, but not to rest there. After we have found true happiness ourselves, we are to seek the good of our fellows. Instead of being criminal, it is highly commendable, and may be regarded both as an original and rational principle. Of a piece with this, if not a form or modification of it, is the desire of continued existence—a desire which generally grows stronger as life wears away. How strikingly does this display the benevolence of the Creator!

Education of the desire of Self-love. What a noble field of usefulness is presented to us in educating this principle! Here we are presented with the spectacle that all are weary and heavy-laden. All striving to gratify this desire by objects and pursuits which never will, which never can meet its wants; and this because there is an utter incongruity between those creature objects and pursuits, and the longings and yearnings of the powers of the human mind. Here parents, and teachers, and others should ply every energy in showing the young the incongruity to which we have just referred, and of directing their juvenile mind to the only true source where they can get the adequate supply for this want.

Here, too, they may inculcate, with much propriety, the idea that this reflects upon the nobility of the human mind. The mind cannot rest short of its Creator, if it is to find true blessedness; and, therefore, the finite must be brought in contact with the infinite, the temporal with the eternal.

Here the young should be directed to the Bible, whose discoveries and truths can alone satisfy the longings of this instinct, and meet all its aspirations. Here it finds a region congenial to its nature, and adapted to all its tendencies. Here, and here alone, the mind gets a resting-place, where it can revel and luxuriate amid the felicities and joys of which its heaven-born nature is susceptible.

Desire of Knowledge. The desire to know all the things and objects around us, manifests itself long before the age of reason and reflection commences. It is akin to, though somewhat different from, that principle of curiosity which all must have noticed in the young.

This, however, has more a reference to what is new, and unexpected, and strange to what is happening around, than to the knowledge of the things itself. It is a powerful auxiliary to the desire of learning, but can scarcely be considered as identical with it. They evidently cooperate and are productive of the most beneficial results, not only in storing the mind with knowledge at the earliest dawn of the human intellect, but stimulating and yielding gratification in the same pursuit during the whole of our subsequent career. It no doubt principally manifests itself in our more infantine and juvenile years; and here we see another beautiful adaptation in the beneficent actings of the great author of our being. Everything around is new and strange to the little prattling child, everything wears to him the air of bloom and freshness; and this desire to know the names and uses of all around him, soon stores his mind with useful information and incites him onward to the acquisition of more. Thus it feeds itself; so that, though stronger and perhaps more advantageous in our more juvenile years, it does not stop here but stretches its influence forward to our more mature years. Both it and the principle of curiosity last on and stimulate one another. It is not merely the little boy that listens with intense delight to the story or narrative, when the *denouement* of the plot is suspended, and the principle of curiosity is raised to the highest pitch of expectation, but the riper in years manifest the same desire, though in them it is more chastened and subdued. Again, we are called upon to admire and praise this bountiful provision of the Author of our Being so to constitute the human mind, that not only knowledge itself, but the very process of its acquisition should be a pleasure. And when we reflect upon the huge strides made in the accumulation of intelligence, and the glorious discoveries that sometimes crown the legitimate application of this principle—discoveries that not only place perennial laurels upon the head of the discoverer, but confer untold benefits on the human family at large, who can adequately estimate the transcendent value of this gift, or sufficiently praise the bestower in rendering this an original and instinctive as well as a rational principle in our nature? And what woes too heavy or burdensome, what punishment too severe ought not to be inflicted upon any who can dare impose, by any voluntary act of theirs, an embargo or an arrestment upon the gradual development of this ennobling principle of humanity? And what honours or rewards should they have heaped upon them, who dedicate their time, and energy, and anxious study, towards its nourishment, its symmetrical growth, its full-orbed display?

Education of this desire. And now, it will be asked, how should the culture of this desire be proceeded with? And in reply to this all-important question, we would notice, in the first place, that both the knowledge imparted and the way in which it is done, should be in wisest and most judicious adaptation to the epoch of development. This is a great principle for which we have pleaded throughout, and its application here cannot be too highly prized and too earnestly sought after. At the earliest stage, this falls under the management of parents, and especially of mothers. The latter may, and ought to do much in the expanding of the tender blade of this rich bud—should particularly labour in the description of the various parts of the things and objects around—giving the accurate nomenclature of the same, —teaching them how to distinguish one thing from another, and submitting these things as objects to their respective senses, to test and make discoveries for themselves. How diligent should mothers be in storing the minds of their offspring with a knowledge of common things around, and not only with a simple knowledge, but with the rationale or philosophy of the same. This plan should be followed out by the regular teacher more formally and systematically, ministering to the feeding of this desire, in wise and judicious adaptation to its digestive processes. This principle shows, perhaps, more than anything else, how the carelessness and the want of progress of the young should not often be more legitimately laid at the door of the teacher, than at their own. In how many instances has this desire been smothered or twisted by the teacher, compelling all to pursue the same course, without even the attempt of submitting to the drudgery of enquiring into the position or peculiarities of each. The fine moral tendency of this desire we do not even touch.

Desire of Power. This is perhaps the most dominant, as it is the most universally prevalent, of all the desires we have yet considered. In all states of society, savage and civilized, in all countries enlightened or unenlightened, in all ages, from the infant of six months to the octogenarian, its influence is exhibited with more or less sway, to a greater or less extent. But the grand peculiarity of this principle is the gratification which its exercise affords. Look at the little child of four or five years of age, when, for the first time, he is perched on the back of the lofty and powerful horse, and feels that gigantic animal at his beck, by the least tug of the reins, moving in any direction he wills, why he seems all but out of himself, and sits like a monarch on his throne. Look at the politician. He is possessed of high, noble rank, has extensive domains—is in receipt of large revenues—has

hundreds upon hundreds in his employment ; but what of all this without his political power ; and, accordingly, you find him ready to sacrifice a large portion of his means, and other enjoyments, that he may maintain that influence intact and inviolate. But the same pleasure seems to flow from its exercise in every other department. In the quiet walks of life, the mechanic, the agriculturist, the merchant, the man of science and the orator, all have highest gratification in its exercise, and all seem willing to submit to every species of toil and sacrifice to gain it. It is, in fact, one of the strongest-ruling principles of our nature, one of the most powerful-impelling motives of human action, and generally proportioned to the novelty of the acquisition and to the apparent greatness of the effect produced. And this is not all, this desire is largely auxiliary to others, and, especially, to our desire of knowledge and our love of liberty. Generally speaking, the more we know, the more and the better we can do. Every increase in knowledge becomes, in some sense, an increase of power. The love of liberty, or being able to do whatever we like, proceeds also from this desire. Whatever deprives us of liberty trenches upon our power.

There are other desires, sometimes regarded as distinct principles of action, but which are so closely allied to the one under consideration, that they may, we think, with all propriety be viewed as modifications. We refer to the desire of superiority and of possession, on both of which we would now make a remark or two.

All unhesitatingly admit the prevalence of the desire to excel amongst men. It is manifest in every age, and in all ranks and conditions of society. It enters the camp—the court—the halls of legislation and justice. It goes into the rivalries of schools—of colleges, and of the learned professions. It feeds and ferments those fearful contests of superiority, which engage nations in hostile encounter on the field of strife and carnage. This is the desire of superiority ; and what is this but the desire of power in one of its most common forms. This principle, which is neither more nor less than the principle of emulation, is not to be confounded, as oftentimes it is, with envy. Envy is pained at the success of a rival. A just and honourable emulation strives only to equal and surpass him. "Emulation," says Butler, "is merely the desire of superiority over others with whom we compare ourselves. To desire the attainment of this superiority by the particular means of others being brought down below our own level, is the distinct notion of envy."

This is not to be ranked among the malevolent affections. It is

not an affection, but a desire, and is not necessarily an evil desire, as if it involved the sentiment of ill will towards our rival, though often found in connexion with it—though often permitted to mingle with it, requiring, therefore, the careful and constant restraints of reason and religious principle.

The other modifications of this desire is possession—the possession of wealth. This assumes two forms; the one is the simple desire of acquiring, that there may be the more to spend; the other, of accumulating—adding heap to heap, both by keeping fast what is already procured, as well as by the amassing of more. The former is called covetousness; the latter, avarice.

Education of this Desire. In proportion to the potency and universality of this desire, so every pains and effort should be put forth in its education. And how are we to proceed here? How is this principle to be directed aright? At the earliest possible period we ought to endeavor to inoculate the minds of the young with the idea, that knowledge is power, and, consequently, that mental strength is far more desirable than mere physical or brute force. This may be illustrated in a great variety of forms. Take labour, as conducted and finished by purely mechanical hands, and the same labour as finished by the same hands, guided and directed by mental sagacity and wisdom. Then show the triumphs of science in various departments of chemistry—in the steam engine, and all the various appliances of steam—in the telegraph, the photograph, &c.

2. The young should be incited to diligence and the patient prosecution of study, to the accumulation of their stock of knowledge, not merely on the ground that knowledge is power, but that knowledge is knowledge, and that the greater our acquisition, the nobler, the more commanding is the vantage ground we occupy. This may be illustrated by appeals to science, that the thorough understanding of classification of one branch of objects, places us on a higher platform for the understanding and arrangement of any other branch. Take also for the same purpose the sublime science of Geometry, rising in majesty and glory step by step, every succeeding step becoming firmer and more stable than the preceding, and all founded upon a few self-evident axioms and postulates.

3. This principle should be taken advantage of, educationally, to show that the more we do know, the higher is the region into which we soar, and the greater the liberty to try unwonted flights. This idea may be enforced by showing that just as ignorance is slavery so is knowledge highest liberty.

4. Stimulate the emulative principle—the desire to excel. Take the benefit of this in all educational arrangements. It may be well here to inculcate the lesson that moral worth is far higher than mere intellectual, that the good is preferable to the great, that character is and ought to be taken into account, as well as high endowments or attainments. The various modes by which this may be secured, that justice may be done to all the scholars, as well as the whole subject of the taking of places, of prizes or rewards, &c., will be considered under the chapter on school government.

5. Educate this principle in the young by convincing them that the accumulation of wealth is but a means to an end, and show the general misery of those who reverse this order of things and make it an end. But there must be something more than verbal instruction here, there must be the exemplification of a liberal spirit; and more still, there must be the training process. The young cannot be too early imbued with the sentiment, that whatever boon or blessing we enjoy, belongs to the Sovereign Proprietor of the Universe, that all are but almoners or dispensers, and that the Giver of every good and perfect gift will, at last, demand a strict account of our stewardship. And along with this, there must be the actual giving, the training process. Every child should be trained to give a certain proportion of what he gets, for benevolent and religious objects, so that as he grows in years the avaricious spirit may be quenched, and the charitable cherished, fostered and strengthened.

Desire of Society. The universality of this desire proves that it has a seat in our very nature—that it is not acquired but an implanted principle.

This desire, so palpably exhibited, is common to man with the brute creation. To see a creature alone, even amongst the lower animals, is accounted an anomalous phenomenon. Some communities of animals—such as the bee, the ant, and beaver—are but typical representations of the State. This disposition in man to dwell in communities does not arise from the benefits it yields. It exhibits itself prior to all education and experience, both in man and beast, and therefore must be considered as founded in our very constitution, and that the natural condition of man is not that of seclusion and isolation from his fellows, but of society and companionship. This may be ratified by a great variety of cases: that, for example, of the French nobleman, with the spider of Silvio Pellico, and of Baron French, and, still more strongly, by the attempts that have been made

to effect the reformation of criminals by solitary confinement, conducting, almost invariably and inevitably, either to natural or violent death.

Education of this Desire. This desire presents a strong argument in favour of public schools. If the lower animals are stimulated by working, or even walking together, man is still more so, and, consequently, must be benefited, in every possible way, by thus comingling with his fellows.

Another application of this principle in education is the whole matter of classification. Here we see the real vantage ground, the towering pre-eminence of the graded system. What is a graded school but the living embodiment, the practical illustration of this principle. Without classification, there would be neither management nor progress in a public school; and this, simply because such a state of things would be in direct contravention to our nature, especially, to this desire.

This principle, too, lies at the foundation of the sympathy of numbers, one of the most powerful intellectual and moral stimulants in the public school. Not only will the greatest benefits spring from a thorough system of classification—from graduation—when the number of scholars admit, but from the whole school, occasionally associating together, and exercised on the outline system.

Desire of esteem of others. The good opinion, the approbation of our fellow creatures in regard to our conduct, cannot be viewed in any other light than that of an original or instinctive principle. If the youngest children shrink with evident pain from the censure they may receive, and are delighted with the approbation of others,—if the riper in years are prepared to sacrifice almost any amount, even to lay down life itself, to maintain an honourable place in the esteem of their fellow men—to preserve a name and reputation unsullied; then, surely, this must be something more than an acquired attainment—it must be part of our nature. All seem to desire the good opinion and the kind offices of their fellow-creatures.

In none of its aspects is this desire more remarkable than in reference to the future. We have all a strong inclination to leave a good name behind us. This can be of no personal gain to us. In no other way can this desire, not unworthy of a noble mind, be accounted for, but by the fact, that it is an original principle planted in our being.

And yet after all, the desire of the approbation of our fellows is not to be relied upon, as a safe rule of conduct. He who would preserve consistency of character and purpose, must often act quite independent

of the good opinion of the people, yea, in diametric opposition to their wishes. Neither should any one profess to disregard public opinion. The true course is to pursue the golden mean.

Education of this Desire. This is one of those desires which should be employed principally as a motive in plying to diligence and good behaviour. In reference to the former, what motive more influential than the approbation of parents—of all in educational authority, and, especially, of the teacher. This is one of the levers with which the teacher should operate on the behaviour and application of his scholars; and it were well, too, that, along with all this, he is provided with certain rewards and encouragements as substantive tokens of his esteem and approbation. If it is necessary to have an appropriate punishment for certain offences, it is equally, it is more so, in reference to good conduct, to have certain honours or rewards ready to be bestowed. There is no child who cannot be worked upon in this way when the cord is discovered that moves, and directs, and controls the youthful mind.

IV. THE WILL.

Nature of Faculty. The various powers of the intellect and of the sensibilities, with the exception of the æsthetical and moral, have been considered. We now proceed to make a few observations on the Will, or, as it has been, with propriety, designated the Executive in the mental cabinet. We have, of course, no intention of entering into the complicated and controverted points necessarily involved in a full discussion of this power. All we attempt is a brief delineation of psychological phenomena or facts displayed in a common act of the Will,—this being indispensably necessary as a basis for its culture and education.

By the Will, we understand the mind existing and manifesting itself in its determining and decreeing state. The Will is the power itself,—willing is the power in exercise, and volition is the determination of the power, or the finishing act of the Will.

In every act of the Will there are always the following constituents or ingredients;—1st. The thing to be done—the end to be accomplished; 2. The motive, the cause, or the reason, by which we are actuated; 3. The choice or the selection we make from the various objects or things that may be presented to the mind. This last ingredient involves several points;—1st. A diversity of objects; 2nd. The liberty of making a selection; 3rd. Deliberation; and 4th. A preference given or a decision come to.

Every one putting forth an act of his Will, if he carefully watch the working of his own consciousness, or observe that of his fellow creatures, will find that the afore-named ingredients, all of them enter into such an act. It may be that in innumerable cases, amid the besetting activities of life, some of these steps or stages are unnoticed or unfelt; but in every instance of a purely voluntary act, calmly surveyed, these steps or stages do enter. Of course, all are ready to admit that in every voluntary act there must be some motive, or incitement, or reason. To assume the opposite view, would be tantamount to the denial of man being possessed of a rational nature. The matter of motive may not have cost the party acting the least consideration, or it may have been the result of a mere impulse of the moment; still there was a reason, and the individual acting unhesitatingly admits it.

The motives or the reasons of our acting may be well designated 'legion;' and yet, after all, properly speaking, there are but two kinds or classes of motives—the agreeable on the one hand, or the desires, and the moral, on the other, or duty. These are perfectly distinct—spring from different sources, and oftentimes war with one another. This is, in fact, the grand conflict or struggle waged in every one's breast—the miniature representation of what is going on in the world on a large scale between light and darkness—truth and error. The duty or the obligation may be readily apprehended and very easily decided, especially when brought to the bar of an infallible standard. It is far otherwise with the desires. These may either have a reference to the body or to the mind, and how conflicting amongst themselves; and, still more so, whenever made to stand front to front with duty or obligation.

But, when we speak of motive in connection with any one act, it must be apparent that we point to the one master-reason, or the one supremely impelling cause; in other words, we use it in its specific, and not in its generic sense. And this plainly implies that we have made a choice out of these that may have pressed themselves on our solicitation or regard. And this brings us a step farther, and introduces us to the consideration of all that appertains to motive in our acting. In every voluntary act, there is uniformly implied a choice or a selection made out of a number. There may be a great diversity of objects presented to me, or I may be shut up by circumstances over which I have no control, to adopt one course. Yet, all things considered, it is my choice to do thus, and not otherwise; and so long as I do choose, and am free to act accordingly, the act is voluntary. My arm has been dreadfully shattered by a machine. In a day or two

the physician declares it to be in a state of mortification, and will, in all probability, in a few hours, reach the trunk of my body, and carry me off; and that the only chance, instrumentally regarded of saving my life, is the amputation of the arm. I am exceedingly loath to submit to the operation, and to lose the arm on which, it may be, I depend for a livelihood; but there is no alternative, and I, therefore, yield. Though, from the pressure of circumstances, I cannot decide otherwise, my choice is still unimpaired, and my act is free. Suppose, in this same case, I refuse to have my arm amputated, despite of all the disastrous results that may ensue, and the physician orders me to be bound, and performs the operation. The thing is done, but I am not in the least degree responsible, as the act is no longer voluntary. But whilst, in the example referred to, I could not do otherwise, in by far the greatest number of cases various and innumerable circumstances are at work, influencing our choice and affecting our decisions. We may, by experience and sagacious observation, be able to predict the probability of human procedure, but hundreds of unseen influences are at work, and thus our calculations and surmises may be scattered to the winds. To the Divine mind—to the eye of Omniscience alone, is the choice known, and all the contingencies weighed to the minutest atom; and thus provision made in all His arrangements for meeting and providing for the case.

In the making of this choice, several things are implied. There must be diversity of objects—liberty of selection from among the objects presented—deliberation, and lastly comes the decision or the preference—the choice. All is now completed, save the executive act of the mind. This may never happen—the opportunity may never offer. But this does not at all affect our volition. We have willed, and with that, our mental action ceases. What remains is physical, not psychological.

Importance of the Will. This is one of the most important faculties of the human mind, and that simply because of the relation it sustains to the others, and the influence it exerts upon them all. It is, in fact, the executive of the mind, serving the same purpose in our mechanism as the mainspring in the watch, or, still more appropriate, as the engine in propelling the steamship. All the energies of our intellectual and emotional nature—all the applications and disposals we make of the varied faculties we possess—all the triumphs achieved by mind over matter—all the activities of our personal and social being, are owing entirely to the influence of this very power. But the Will does not stop here. It pervades all the relations in which we stand

both to the Supreme Being and to our fellow creatures. It largely affects not only the psychological but the theological departments. Nay, we may go a step farther, and maintain, that all the truly great and illustrious in every age who have shed a halo of glory around their name—who have signalized themselves for valorous exploits as well as by magnanimous and heroic patience amid the varied scenes and events of life, have uniformly been characterized by a determination of Will of the most stern and unbending description.

Education of the Will. There is as great, if not a greater diversity of Will, as of any other power of our compound nature. Some are very vacillating and fickle, whilst others are steadfast and firm. Some are flexible, and easily diverted from their purpose; the least opposition intimidates them; the smallest difficulty affrights them. Others, again, are resolute, and immovable; difficulties, apparently insurmountable, but rouse their energy: opposition, the most formidable, but braces them for the conflict. But, however great the diversities of this endowment, there is no form nor degree that is not susceptible of the greatest improvement.

And how is the Will to be strengthened and regulated? In no other way but by exercise. The more the Will is exercised by the carrying out of its own voluntary decisions, the stronger and more resolute will it become: the more determined it is in accomplishing its purpose, just because it has purposed or willed, and not because of any pressure of external circumstances, or even because of any goadings from within, the greater will be its influence over all the other faculties and emotions. It were well here to begin with the smaller and less important affairs of life—to act, with promptitude and decision even in trivial matters, in carrying out our purpose. Thus will the habit of controlling our faculties and sensibilities be formed, and this will be transferred to greater and more important undertakings—into more difficult and embarrassing circumstances. Perseverance and self-sacrifice are here indispensably necessary. The boon, of which we are in quest, is of inestimable value, and is not to be purchased at a small or moderate cost. Whoever makes this acquisition, must be prepared to forego many personal pleasures and gratifications—many alluring and tempting offers; and to encounter no ordinary hardships and privations. But what of this? The reward will far more than compensate for all our acts of toil and self-sacrifice. The result may not be very apparent at the outset, and it may seem as if little or no progress had been made; but let the individual persevere:—let him resist every solicitation that would encourage the tendencies he wishes to suppress,

and soon, very soon will he find that he is obtaining control over his other faculties,—soon, very soon will he see that he has made such progress in mental discipline, as that he can now hold the reins in his grasp, and render all subservient to his purpose.

Of all exercises or pursuits there is none so well fitted to accomplish these high ends as a regular, consecutive and systematic course of education. At this we are under the necessity of applying the mind to the acquisition of certain tasks or lessons. We know full well that these must be got; that nothing but steady and diligent application will enable us to accomplish such an object. This, when persevered in, for a time, will terminate in a habit. Valuable as may be the knowledge that may be laid up, it is not for one moment to be compared with the power of controlling the faculties of the mind, and of steadily directing them, for the time being, to any pursuit. This shows the grand superiority of the Training system to all others,—that, in addition to the knowledge it conveys, it gives a control over the mind, by which we can prosecute the investigation of any one subject on which we have set our heart. This is the greatest of all earthly achievements—an achievement whose results will not be bounded by time, but will stretch into the coming eternity. The education that will ensure all this must consist of something more than fits and starts—half a year now and half a year again, with intervals varying less or more. It must be continued, and progressive, and consecutive.

But, whilst continuity and steadfastness are indispensable, many subordinate helps may be brought to our aid and succour. Need we, for example, refer to the advantages accruing to our mental application, by keeping the body in a sound, vigorous and healthful condition. We have already dwelt long enough on the point of the relation subsisting between the body and mind, and the powerful influence the one exerts over the other. Let the body be in a state of enfeeblement, and it is felt to be next to impossible for the mind to put forth its powers and energies. This shows the propriety of watching very closely the state of the body—of using all means for the preservation of its health and vigour. The reason why the ancients were able to achieve so much mentally, arose from the fact that they exposed their bodies to greatest hardships, and associated their mental work with severe bodily toil and exertion.

Another subordinate means, admirably adapted to give power to the Will over the other faculties, is punctuality,—that is, the doing of any specific work at the time and in the place fixed for it. If, instead

of doing this, we betake ourselves to some other employment—the reading of a newspaper or periodical, or delay, at least, for a little period, by indulging in some pursuit more congenial—we are, the longer we procrastinate, unfitting ourselves all the more for that work; we are doing what we can to render it all the more unpalatable, and are encouraging a wandering, vacant habit of mind. Scholars and students of every description, ought to have a regular distribution of their time—fixed work for every hour, and be resolute and determined in adhering to their arrangements. This variety will prove a rest to some of the mental powers, and thus not only enable the students to continue a much longer period at their work, but to throw off a far larger amount of it.

Another admirable means for giving the Will a control over the other faculties, is the practice of always writing an account of what we read—of making a kind of critique upon it, and of composing that review as carefully as if we intended to print it. This would be followed by many advantages. It would compel us to read or study with steady and constant attention. With a pencil in our hand, and a note book close by, to take down anything remarkable; and, feeling constantly the necessity imposed upon us of following out the thread of the story—of tracing the connection or relation of the various parts, all this could not fail to secure a continuous, steady application. The very thought, too, of our purpose to reduce our views to writing, and to criticize the subject both in matter and manner, will keep up the attention, and thus train to habits of thoughtfulness, of mental industry, and power.

V. ÆSTHETICAL EDUCATION.

Meaning of term. By this title we are plainly to understand the use of all proper means for the cultivation of the sense of the beautiful,—that sense on which the whole of the fine arts depends. The term now usually employed to designate the fine arts, is Æsthetics; and the exercising and strengthening of the principle at the foundation, as well as the carrying out of that principle into practical detail, is appropriately called Æsthetical Education.

Nature of the Beautiful. Various opinions have prevailed as to what constitutes the beautiful. Some have denied that it possesses any objective existence—that it is a mere emotion, or that it consists of certain associations of ideas and feelings with the object contemplated, or that it is the sign or expression of some quality fitted to awaken pleasing feelings in us. Of those again who have given it an

objective reality, equally diversified have been their views as to what it is—what it consists of—what its attributes or qualities. Some have maintained that it is in novelty that the principle of beauty is to be found; others, in order and proportion; others, in utility; and others, in variety in unity. All these make it consist in some form or collocation of matter as such. But there is another theory still, which passes under the designation of the spiritual, making beauty consist in the manifestation given in any one object of the perfections of the invisible Spirit, the Creator of all, in and through the material form—the glory of the unseen Spirit, exhibited in the seen object or work.

Discarding, at once, the idea that the beautiful is merely a sensation or an emotion, and taking it for granted that it is an inherent quality, resident in the object, we have no hesitation in expressing it as our conviction, that the most tenable of all the theories referred to above, is the last—that which makes beauty consist, not in matter as such—not in any mere arrangement of matter in itself considered, but in the manifestation or expression under these sensible material forms of the higher, the hidden spiritual nature or element, appealing thus to our own spiritual nature, which is thereby awakened to sympathy.

This is amply sufficient to account for all the forms and degrees which this principle of beauty may assume. Whatever these are, they are but the inarticulate signs, the symbolical representations of that supreme intelligence that created and presides over all; and the more full and palpable the display of this quality, the more exalted the testimony to the attributes of the unseen one.

The test is of universal application. In whatever object the quality of the beautiful is discoverable, there are we presented with some trait of the invisible spirit. Take the inanimate parts of creation, and look at the chrysalis with its straight lines—its regular angles—its sparkling colours, and collect all the chrysalises of the same mineral or structure, and all are identical with the specimen already examined, proving that these features are innate or belonging to the very constitution of the substance or mineral. And to what does all this bear testimony, but to the uniqueness of the design—the order—the elegance of the Great Creator? Leaving the inorganic, take a specimen or two in the vegetable kingdom, either the tiny violet or the majestic oak; and whether we are attracted by the azure blue, the sweet fragrance and striking modesty of the one, or by the sturdy robustness, the glowing verdure and the symmetrical boughs of the other, we feel persuaded that we have been brought in contact with beauty of a more elevated, a more commanding rank—a beauty vastly more

captivating and winning ; and all this just because these objects bespeak more loudly, and proclaim more significantly, the glories of the unseen spirit in the whole adaptation process, and especially in the displays of goodness, providing for the diversified maintenance of that life, which is but an emanation of Himself—of the living one. There is now not only the manifestation of intelligence, but of sensibility—something not merely indicating the presence of thought, but of feeling. If there is here more to admire and praise, it is just because there is a more copious display of the glory of the infinite mind, and of the surpassing excellence of His character. Passing from the lowest to a higher condition of organized existence, take an object from several departments of the animal kingdom, say an Arabian steed, a bird of Paradise, or a golden fish ; and what do we behold in one or other of these ? Everything that is proportionate in form, dazzling in colour, perfect in their adaptations—one part exactly dovetailing another. And we can gaze upon these with ever-increasing gratification and delight ; and that just because we discover yet more manifold and nobler traces of the wisdom, and power, and goodness of the Great Creator—of the ever-living spirit. But there is a being, vastly transcending all other creatures in this nether world, in the composition of his nature—in the constitution of his person, and in the design and destiny of his formation. We refer, of course, to man—the lord of this world, the very image of his maker. Not only was man designed to exercise dominion over all the creatures—to act as the viceroy of the invisible Creator, and to exhibit, in brightest radiance, both passively and actively, the perfections of divinity : he was pre-eminently intended and fitted to constitute the very concentration of our principle—the very acmè of the beautiful both in his physical and mental nature. And in what does this consist ? Does it consist in the features of the countenance—their symmetry, proportion, complexion or hue—their delicately pencilled lines—their finely drawn figures—their fulness—every material quality in the nicest collocation and adjustment, that can inspire with a sense of the beautiful ? The human face divine may possess all these qualities in highest perfection, but there is something that adds tenfold to their radiance and beauty. It is the fact of each of these features being but the expression of the intelligence and sentiment of the soul within, and that soul the very image or type of the infinite mind.

But man is an imperfect being. Sin has marred and blighted everything that he is and everything that he has. We can conceive, however, an individual of the human species uncontaminated by any

such stain, the great progenitors of our race, for example, as they came innocent and holy from the hands of the all-perfect Creator. We may and do try to reduce this ideal to a visible representation; but we have no sooner finished one picture, than we discern faults; and when we have arrived at the highest elevation, we form the conception of something that vastly outstrips, and so we proceed, without ever arriving at anything like perfection,—and all this because of the very principle on which the sense of the beautiful rests—the spiritual theory, as it is appropriately designated. And what a glorious principle this. How befitting the dignity of the human species! How universal in its application! How honouring to the all-wise Creator!

But it is now time that we attend to the way in which the mind is affected by its recognition of the beautiful, whether displayed in the world of nature or of art. Beauty we have seen to be an inherent quality in objects. This property addresses itself, first to the senses, and through them to the mind. There is thus awakened in the mind, or suggested to it, the original and intuitive conception of the beautiful, and by means of this the quality is discovered. When this quality is presented as resident in the objects submitted to our consideration, the mind compares, and classes, and judges, in reference to these, and this discriminating power is called taste. This, too, has furnished an arena for a large amount of discussion and disputation. The definitions given have been almost as diversified as the persons that have written on the subject, and these are sufficiently numerous. Some have contended that it is a distinct faculty, and others that it is nothing but a combination of others. Some have maintained that it is purely an intellectual faculty; and others, an emotional; and others, a combination of both. Into these disputes we enter not. It is now, we believe, pretty generally admitted, that taste is a purely intellectual power—that by which we discriminate whether this or that object is beautiful, and what renders it so. But just as every intellectual faculty has its corresponding emotion, so is it here. Our sensibilities may and do enter very largely into our taste: they may be even the ground and foundation of their existence; and yet the emotion is not taste, and should not enter into the definition any more than any other intellectual faculty.

It is intimately related to judgment. This power is of most extensive signification and application. It performs the functions of forming opinions and beliefs—of informing us of relations, and of deciding that things are so-and-so. When it is employed in reference to sensible and actual things, it is called understanding; to abstract truth,

reason; to practical truth, conscience; and to the beautiful, taste. The judgment does not furnish the ideas of the beautiful. It merely enables the mind to observe, compare, discriminate, decide, form an opinion. It is highly necessary to distinguish between taste and good taste. But taste is intimately related to sensibility. By sensibility, we understand here the mind's capability of emotion in view of the beautiful or sublime. Viewed as acts, rather than as states or powers of the mind, sensibility is the feeling awakened in view of a beautiful object; taste is the judgment or opinion formed respecting it.

Importance of the Beautiful. This faculty is of great value, because of the influence it exerts. It does not matter as to the object or thing that may be the theme of our contemplation, or the particular faculty that may be called into requisition, the beautiful is at play in them, and spreads an exhilarating and refreshing influence over all. If we turn away from the object in loathing and disgust, it is because this power is in vigorous exercise, and we see nothing to gratify or feed it. If, on the contrary, we see any traits of the beautiful on any object, we are instantly charmed, and the whole is enhanced in our estimate. If this power is properly cultivated, we shall see in every object presented to our view, something to satisfy; whilst others will see nothing to attract or interest. And the more it is cultivated, the more will this be the case.

2. Nothing elevates and refines so extensively as this. The cultivation or education of mind in any one department uniformly brings along with it its own reward, not only in its results, but in its own immediate satisfaction and delight. This is specially the case with the power under consideration. Nothing so dignifies and ennobles humanity, or lifts man more completely above the low, the degrading and grovelling pursuits of the animal, as the pursuit of any one branch of the fine arts. It is not only absorbing, from the deep hold it takes of the mind, but it refines and exalts the whole of his other pursuits and undertakings. It not only inspires with a thorough detestation of all animal appetites and passions; it regulates and controls the temper—refines the manners, and imparts a touch of its own delicacy to every object with which it comes in contact. This renders man not only independent of the lower propensities of his nature for happiness, but even of the giddy round of amusements which the fashionable and pleasure-hunting pant after with such insatiable thirst. Whether in the contemplation of the beautiful, or in the pursuit of any of the fine arts, he is contented and happy, far more, we believe, than all the devotees of fashion and lovers of pleasure.

3. This power is of great utility in a social and commercial point of view. When a community or nation advances in wealth, it naturally does so in civilization and refinement. It has now got possession, not only of what meets the wants of nature, but of an overplus. And how is this to be legitimately expended? In no other way than in the gratification of this principle. The article cannot be added to in the fineness of its quality, but it can be vastly enhanced, in conformity with this principle, in the way in which it is woven or put together—in the way in which it is embellished and ornamented—in the way in which it is adjusted and applied. And to what does all this give rise, but the the cultivation of the beautiful, the division of labor, and the interchange of articles. And surely all this must tend to the encouragement of commerce. Fashion in civilized life is, no doubt, continually changing; but whatever that is, it must have, in all its parts, that which is in accordance with this principle in fixedness and sterling worth. This must necessarily increase the study and the application of all the departments of taste, and, by consequence, the manufacture of the textile articles, and the interchange of commerce. And so the round is going on, all necessarily dependent on this power.

4. This is of peculiar value in the whole range of natural Theology. What constitutes the beautiful in any object, is the evidence it furnishes of the perfections and excellence of the Great Creator—the presiding supreme intelligence—the invisible spirit. Do we, then, desire to see proofs of the power, or of the wisdom, or of the goodness of the Creator, we have only to look at the works of His hands, either on a small or grand scale,—we have only to survey the objects around in their properties, relations, or dependences. Do we wish for evidence of design and of intelligence, we have only to look at the adaptations that universally reign. Or do we seek to rise from the effect to the cause, we have only to trace the various steps in the process, until we can get no further, and then assign all to the omnipotent Creator. In no department of the kingdom of nature are such multiform proofs presented of the reign of supreme intelligence and of boundless goodness.

Education of the Æsthetical. By Æsthetical education we are simply to understand the cultivation of the power usually designated taste. This is an intellectual faculty—a perceptive power—a matter of judgment; and as such, both admits of and demands cultivation. The perceptive or the sense must be educated. It is through the ear that we perceive the melody of sound; the ear must, therefore, be cultivated, to enable us to perceive and appreciate either the rhythm of poetry or the melody of music. It is through the eye that we per-

ceive and admire the various forms and colours, so radiant with beauty, in every object presented to our view. Hence the eye must be cultivated, to enable us to apprehend the beauties of architecture, or sculpture, or painting, or the work of art, of every shape or form. And this cultivation of the senses should be universal. It is true there are some possessed naturally of endowments, bearing on some one department of the fine arts, that make them soar far above all their compeers in their appreciation, their admiration, and, it may be, their execution of works in that department. But all can be taught to have some appreciation, and even those who are more largely endowed, profit by the cultivation of the particular sense. And this cultivation should commence at the earliest dawn. Soon will those who have a natural taste and genius for any of the fine arts, show themselves in the exercises they perform. These should be singled out and encouraged, and a particular course of appliances chalked out for them, that all justice may be done, and that they may be fitted for holding that place in that special department, evidently intended by their Creator. But the judgment must also be cultivated. No forms of mental activity depend more on education and exercise for their full development, than that class to which we give the general name of judgment; and no form of judgment more than that which we call taste. The mind, uncultivated, untrained, unused to the nice perceptions of the beautiful, can no more judge correctly in matters of taste, than the mind, unaccustomed to judge of the distance, magnitude, or chemical properties of bodies, can form correct decisions upon these subjects. It must be trained and strengthened by exercise; it must be made familiar with the laws and conversant with the forms of beauty; it must be taught to observe and study the beautiful in nature and in art, to discriminate, compare, and judge.

2. But there must also be the actual practice. It is not enough to cultivate the powers upon which the perception and appreciation of the beautiful depend, there must be the selection of some one department, and the cultivation of some one branch of the fine arts. Whether it be composition, or poetry, or architecture, or painting, we must exercise ourselves there, if we are to drink into the pleasures and obtain the high regale which such is fitted to yield. And this will operate in the same way as practice does in every other department. The more laboriously we practise, the more shall the faculty be whetted and improved, and this will again react upon the practice.

3. To aid in all this, we ought to make a thorough study of the chief works of the great masters, in any one branch that we covet or are

determined to follow after. Those works in literature and art, which have received the approbation of time and the honourable verdict of mankind, should be severely studied. If poetry, such works as Shakspeare and Milton; if music, Mozart; if painting, Rubens, &c.; The fewer the works the better, provided they are really the foremost. We must ponder over them till we catch the very spirit of the author—till we are literally bathed in his atmosphere—till we are enflamed by his fire. This will produce marvellous results. It is said that Pollock, ere he penned one line of his immortal poem, 'The Course of Time,' was not only thoroughly acquainted with the general scope of 'Milton's Paradise Lost,' but had weighed and studied its every idea—had canvassed its every sentiment, and learned by heart its every expression,—had been imbued with Milton's own spirit—had been baptized into his very tone; and hence his high success. And as with poetry, so with all the other fine arts.

4. And yet what are all these works of art, presided over by the mightiest geniuses, in comparison with those performed by the infinite Creator in the world of nature. Wherever we turn our eyes, we behold in every one of His works the touch of a pencil that is inimitable.

" Not a flower
But shows some touch in freckle, streak or stain,
Of His unrivalled pencil."

If we would produce anything worth preserving, we must sit humble scholars at the feet of nature.—study, with godlike spirit, the various combinations that reign, and strive after a nearer imitation of the great archetype. The nearer the copyist approximates the All-perfect original, the more distinguished, the more glorious, the more imperishable his work. (See details in practical department, under music, drawing, painting, &c.)

VI. MORAL EDUCATION.

Nature of Moral Faculty. By Moral education, we understand the use of all proper means for the developing and perfecting of our moral nature. That all are possessed of this nature, capable of distinguishing between the right and the wrong of human actions, and of realizing the obligation flowing therefrom, is, we believe, universally admitted. There have been speculatists, who have maintained that this principle is traceable, not to an original law of our constitution, but to education, early habit, legislative enactment, and the like, thus sapping the foundation of all morality, as well as tarnishing the glory of the social

compact. In their attempts, however, to substantiate their position, they have signally failed, being compelled to take for granted the very thing they required to prove, and thereby to leave the problem just as they found it. Again, of those who have acknowledged this to be not an acquired but an original principle of our being, not a few have endeavored to resolve it into a mere sentimental emotion—a mere subjective sensibility, thus rendering the high standard of morality dependent on the ever-varying feelings of humanity—on the humour and caprice of fickle mortals. That our ideas of right and wrong partake, in part, the character of an emotion, we readily admit; but this is merely as the consequent of our intellectual perception. They are pure intuitions, perceptions of reason, first truths, principles of the understanding. But though these are primarily apprehended by our intellectual faculties, they never fail to awaken corresponding emotions. They do not, it is true, make one thing right and another wrong; they are simply the reason why we so regard them, the natural outflowing, the spontaneous development of that intelligence with which all are endowed. Viewing conscience in this light, the standard of morality is placed on its true vantage ground. It stands forth in all its native stateliness—in all its imperishable glory, independent of the will or caprice of man; as an inseparable, an essential concomitant or quality of actions, engraven by the finger of the Creator himself on the very core of the human constitution, the transcript of Deity, as the Great Moral Legislator and Governor of the Universe.

But we cannot continue this strain. We proceed to make a few remarks on the nature and authority of the moral faculty.

Every act of conscience, (the name generally given to this faculty in the Scriptures), consists of three constituent parts or ingredients. First, there is the discriminative, or that power by which we distinguish moral good and moral evil. An act is no sooner performed than we pronounce judgment regarding its qualities. It may be polite or rude—generous or niggardly—selfish or disinterested—prudent or imprudent; but distinct from all these qualities, we may always perceive, that it seems to us to be either right or wrong; and with this there is the corresponding feeling of satisfaction, admiration, praise, or the reverse; the emotional, depending, to a large extent, on the acuteness of the apprehension and the interest felt in the manifestation of this quality. The second constituent is the perception of the obligation to do the right and avoid the wrong; to act, in fact, according to the knowledge obtained; and this, too, is accompanied with an emotion, impelling us less or more powerfully to carry into effect that

obligation either in the one direction or in the other ; and, lastly, when the act is done, there is the distinct apprehension of the merit or demerit of the doer—the reward or the punishment due, with the feeling of self-approbation or remorse, when we ourselves are the agents ; or of praise or blame, when others have done the deed.

Such are the elements or constituents of every act of the moral faculty ; but though we have thus divided it, it must not be supposed that that act is to be regarded in any other light than that of the mind existing in certain conditions and relations, in perfect accordance with its constitution. Man, by the law of his being, stands in certain relations to his Creator, and also to his fellows. From this twofold relationship there are particular duties, which, the moment they are apprehended, we are bound to obey, our obedience or disobedience bringing along with it its own reward or punishment. All this has been designated an act of the conscience. That act, for the sake of greater clearness, we have analyzed both logically and chronologically, and found it to consist of three distinctive, cognitive elements, with their accompanying sensibilities ; and yet, in all this, the mind is one and indivisible, existing in certain states and operating upon certain materials. Of course the act is modified by the character of the materials submitted to the mind. If that refer to the Supreme Being, the duties involved will be, strictly speaking, religious, if, to a fellow creature, virtuous. Both guide and regulate the conduct in all the relations in which we can be placed ; and hence the appropriateness of the generic designation moral—i. e. belonging or appertaining to manners.

Importance of this principle. In our synthetic discussion of the powers of the mind, we began at the very foundation—the perceptive, and have gone on progressively, every faculty rising in importance above the one that preceded it. We considered, first, the intellect ; then the feelings ; and, lastly, the will ; and all these, we said, occupied an increasingly higher place in the mental fabric. In the consideration of the æsthetical, we put the roof on the building, leaving the region of mind as affected by the external world or by its own reflections, and launching forth on the wide sea of its own suggestions—its own original intuitions, and looking at powers or energies of the mind, both cognitively and ideally—both intellectually and emotionally. We now put the cope-stone on the whole temple of mind, and bid our readers contemplate that faculty which forms the stability, the excellency, and the glory of all the others, which, like the keystone of the arch, or the flywheel in a piece of complicated machinery, constitutes the guide, the controller, the director of the whole. That con-

science is of supreme authority, and designed to act the part of monitor amongst the other faculties and sensibilities—vicegerent of Deity—representative of the regal will, is a doctrine universally admitted. There may be diversity of view as to the origin of this power or as to its nature, but there is none in reference to its authority. This enters into the very belief of its existence. In support of this, we have only to refer to the spontaneous workings of this faculty itself. What, for example, is the emotion that instantaneously swells the bosom of all, enlightened or unenlightened, noble or ignoble, young or old, when the intelligence is communicated that a fellow creature has, in some momentous concern, yielded to the lowest and most grovelling of his appetites and passions, and lent a deaf ear to all the remonstrances and appeals of conscience? Is it that of detestation and abhorrence? It is that, but it is far more, even that of humiliation and abasement, that a fellow creature should have so demeaned and degraded himself, and thereby not only brought obloquy and shame upon himself, but on the whole human species. What, on the other hand, is the emotion, when a fellow creature, under the strongest possible lures and temptations, the animal, the selfish and worldly propensities of our nature being all appealed to, boldly pours contempt upon them all—walks through the furnace unscathed and unharmed, conscience triumphing over all. It is that of the highest possible esteem, and admiration, and praise. And why but simply because that individual has yielded to the highest impulses of our nature—has hurled defiance on all subordinate persuasives, and acted in a manner worthy of his position and dignity. And what does all this demonstrate? What but that conscience is lord—is supreme. Or we might pursue another line of argument, and show how we feel when we observe the conduct of the lower animals, and compare this with that of any individual of the human species. Suppose, then, that any one of these brute creatures, in a fit of angry passion, puts to death the young it was suckling; and suppose, on the other hand, that some cruel and barbarous mother of the human family, in retaliation for some wrongs, either real or fictitious, lifts a dangerous weapon, and, striking some vital part, kills her child, how would we view the actions of these two mothers. We would commiserate the case of the former, and endeavour to place her in circumstances that she could not again perpetrate a similar act. We might scold and flagellate her, but we would not feel anything like moral indignation toward her. In the case of the latter, however, our feelings would be the reverse of all this. Whilst we merely pitied the poor animal, and said, in extenuation, it knew no-

better, we would denounce the mother of the infant, and the burden of our charge would lie in the fact that *she knew better*—that she *ought* to have acted otherwise—that she had done violence to her moral nature. And does not all this again substantiate the truth of our position? But we go a step higher, and maintain that the supremacy of conscience is necessary for the accomplishment of the object for which man was created. The watch can never serve the end for which it was designed, unless the mainspring is assumed to be the source of motion, and the balance-wheel its regulator. By this relation, the end intended is accomplished; and we, in consequence, draw the conclusion that this was the relation of the parts to each other, intended to be established by its maker. And so is it in reference to man's complicated machinery. The immediate end of his creation was his own happiness, not at the expense of, but in accordance with the happiness of others. And the question here arises, What is the relation amongst the various impelling or restraining faculties of his being that will most effectually accomplish this end? It is plainly by having his passions, his self-love, all the animal and intellectual powers of his nature, in a state of subordination to his moral. The office of conscience is to restrain our appetites and all our impulsive powers within such limits, that the gratification of them will injure neither ourselves nor others. This is its direct tendency and object, however much man may disobey its monitions and resist its authority. Let this relation be destroyed, and all is anarchy, with every species of misery and suffering in its train. Let it be preserved, and all is order, harmony and beauty. But the superiority of this power is apparent, not only from its authority—its supremacy over the other faculties and sensibilities of our nature, but also from its own inherent grandeur—its own transcendent lustre. We have already endeavoured to substantiate the position, that conscience is one of the most exalted of our intuitions—that it possesses a direct relation both to the intellect and the sensibilities—that it participates alike of the nature of the one and other, and thereby establishes its claim to highest dignity and glory. Make conscience nothing but a mere sensibility—a mere subjective emotion, and you undermine the very foundations of morality. You reduce it to a mere sentimental impulse; you subject it to the tender mercies of the ever-shifting whims of unstable mortals. Make it an act of the intellect—the recognition of obligation—the perception of good or ill desert, and you give it an existent reality, investing it with all the substantiality of a quality inseparable from any action—a quality inherent in the nature of things, not fictitious—not the play of human fancy or feeling—not

relative merely to the human mind, but independent, essential, universal, absolute. This gives to morality a quality of durability, lasting as the mind itself—a pyramid, colossal in its breadth and towering in its stature—a lustre all radiant, outvying the glory of the noonday sun. Truly, conscience must be supreme over all.

Now, if such be the nature of this faculty—if conscience is the controlling, regulating power of the whole man—if, through it, all the other powers are properly directed and rendered subservient for the object for which they were designed, it is clear that its development—its thorough cultivation, is a matter of primary—of paramount moment. To what does the watchmaker devote his chief attention in the construction of his watch? It is the mainspring; and that because he knows that any flaw here will affect the whole workmanship—that his other labour will be unavailing, unless all is right here. Why is the engineer of the large manufacturing establishment so deeply concerned that the flywheel be properly adjusted? Why but because that wheel regulates the motion of all—every—the most insignificant part. Let the slightest irregularity or flaw take place here, and that very instant will universal disorder ensue. Why does the architect, in the construction of some fine arch—why does he spend all his ingenuity, and skill, and pains, in the fixture of the keystone? It is because he knows that on it depends the whole stability and serviceableness of the fabric. And so ought it to be with the educationist, in reference to conscience. It regulates and controls the whole of our complicated mechanism. It acts and reacts both upon the intellectual and physical of our nature. It constitutes the main groundwork in the formation of character, without which all other education is comparatively useless. Its culture is as essential for the happiness of man here, as well as for his glory hereafter. But what enhances and constitutes the grand charm of the whole, is its susceptibility of expansion and improvement. Indeed, it would seem that in very proportion to the dignity of its position, and the authority it wields, so is its capability of refinement of all but unlimited extension—of all but endless progression.

Education of Conscience. How is moral education to be most efficiently promoted; in other words, what is to be done to secure the growth and strength of conscience in all its perceptions and sensibilities? In reply, we say, that conscience, like every other faculty, is developed and strengthened by use or exercise, and weakened by disuse or want of exercise. And in order to this, the faculty itself must be exercised. As it is absurd to suppose that the arms can be strength-

ened by the exercise of the feet, or the eyes by that of the ears, or the memory by that of the reasoning faculty, equally so is it to suppose that conscience can be rendered sensitive or improved by the exercise of the understanding. The conscience, if it is to serve the high ends for which it was given, must be itself used, not in part but in whole, both in its cognitive and sensitive departments,—used, too, in accordance with its laws, its properties and capabilities. But to be somewhat more particular. In accordance with the analysis already given, conscience is shown to consist of three constituent elements; and it may not be amiss to consider, first, the education of each of these separately, and then altogether.

1. As to the first element,—the *discriminative*. How is it to be educated? If the act is performed by ourselves, plainly by our meditating on its morality, both before and after it is committed, and by our endeavours to be duly affected by it. If, on the contrary, the act is performed by a fellow creature, we must study its moral quality, and either admire or condemn the agent. By steadily persevering in such a course of reflection, our moral discernment will, every day, become more acute, and our estimate of the quality more highly appreciated. And all this will be enhanced by the study of the life of those who have signalized themselves in the walk of a high-toned morality, and who, amid temptations of no ordinary power, have stood firm and unmoved, or who, under the sheer force of conscience, have maintained a truth amid reproaches and persecutions that beggar all description,—who, rather than swerve one iota from what they held to be principle, voluntarily and cheerfully laid their head on the block. Take the Patriarchs of the olden time—take Daniel and his three companions, or the choir of prophets and apostles—the whole company of martyrs and confessors, and what a galaxy of luminaries have we! Take a witness nobler still—the great Teacher of Nazareth. The best men have failed, and failed, too, in those very scenes and in that very way that was least expected; but the great model of morality—the exemplar and the portraiture of all that was just, and lovely, and of good report, He never failed; His life remained untainted by one stain—one unbroken chain of every grace and virtue. By meditation on these and such like worthies, our perception of the morality of any action, or of the moral lustre of some distinguished personage, becomes increasingly powerful. Thus the discriminative rises to the highest pinnacle of excellence and refinement.

2. The second element is the *perception of the obligation to do the right and avoid the wrong*. And how is this part of the moral faculty

to be educated? Simply, we again reply, by exercise—hearkening to the monitions of conscience, and obeying its dictates. Here there is something more than the mere consent of the understanding to a moral truth, or the mere discernment of right and wrong, without being required to put one or other into practice, or the mere speculative recognition that a stringent obligation to do the right has been imposed upon us. There must be the actual carrying out of this felt obligation; and it is when this is done, that this part of our moral nature is cultivated and strengthened. Some appetite, or passion, or feeling, or act of selfishness, here steps forward—throws down the gauntlet, and assumes an attitude of antagonism to this obligation. Thus the two are set in hostile array, the one against the other, and a tremendous conflict is engendered. If we obey the impulse of conscience, and resist our inclinations, the power of conscience will be strengthened; and if, on the contrary, we obey the impulse of passion or appetite, and resist that of conscience, then, it is clear, that the former will be strengthened. The inference deducible from this warfare is, that the side which gains the victory is strengthened, and the opposite is weakened. This, therefore, is something more than a mere war of words, or a mere cognition; it is an actual combat. In other words, the child must do the thing, and that, too, under the eye and direction of the teacher. If, for example, a lie has been told, and clearly and unequivocally brought home, it is not sufficient to denounce the crime in so many words, or to punish the transgressor for its commission, he must use every possible means in all time coming, not only to deter him from telling lies, but to encourage him in speaking the truth. So is it with any other immorality or misdemeanor. Not only should the children, when they abuse or destroy any of their clothes, be severely reprimanded, but actual steps taken whereby, for the future, this shall be avoided. This is the way, and the only way, of strengthening this ingredient of conscience. And this sense of our obligation, thus circumstantially and vigorously carried into effect, re-acts upon the discriminative—the connexion between the theoretical and the practical is reciprocating. The more skilfully the painter delineates the landscape before him—the higher his attainment in the transferring of the same to his canvass, the more acute do his discriminating powers become—the higher his appreciation of its beauties, and the purer and more refined his tastes. The same reciprocating influences prevail in ethics—in the perceiving and doing, and in the doing and perceiving. This connection is beautifully traced in many passages of the Sacred Scriptures. Take the following as a specimen:—

“If any man will do His will, he shall know of the doctrine, whether it be of God.” “Unto him that hath, shall be given, and he shall have abundance; but from him that hath not,” (that is, does not improve what he has), “shall be taken away, even that which he hath.” “I beseech you, therefore, brethren, by the mercies of God, that ye present your bodies a living sacrifice, holy and acceptable unto God, which is your reasonable service; and be ye not conformed to this world, but be ye transformed by the renewing of your minds, that we may prove what is that good, and acceptable, and perfect will of God.” And exactly so is it between the element under consideration and the preceding. The more thoroughly and completely we carry out the obligation, the impulse, the more acute will the discriminative power become; and this again will reciprocate upon the practical. By this the real distinction between moral instruction and moral education is rendered apparent. We may inculcate the duty of obedience to the dictates of conscience as long as we may; we may describe the sad and the desolating effects of our setting at nought the obligation of conscience; this is instruction, general instruction, of the best description. To reduce this to practice in the following out of any line of conduct, or in the abandonment of any vicious course, and this in the usual every day routine of life, whether under the parental roof or in the school-room—this is moral education—this is emphatically the *training* of conscience.

3. The other element is the *perception of merit or demerit, and the consequent approbation or censure of the agent*, as doing the right or the wrong thus perceived. This is the last of the elements that enter into the composition of an act of conscience, and is the immediate effect of the preceding. There is no encomium so satisfactory, exhilarating and transporting, as that which springs from the testimony of conscience, when its demands have been carried to the uttermost. It is next to the verdict of the All-righteous Judge; it is, in a sense, His verdict. And how are we to secure the perpetuity of such an encomium—how are we to bask habitually under the sunshine of this judgment? In no other way, of course, but that of hearkening, with more implicit obedience, to the dictates of this inner monitor. Every act performed in compliance with its requirements will but place it on a higher and more commanding elevation—will but minister to our gratification, or raise us in the estimation of our fellows. This satisfaction and self-complacency will feed itself by every successive triumph of conscience. That act of benevolence and charity, which would bring death to the heart of the miser, is to the pure philanthropist a source of highest

delight—of the most benign joy. Every victory of conscience that involves self-denial or self-sacrifice, will but add to his meed of praise, or crown with more verdant, with perennial laurels. Every fresh act, too, in the walks of benevolence and of Christian charity, will but open a wider area, a more extensive field, and conduct into new and unexplored avenues, every such exercise bringing along with it a richer revenue of gratification and honour. Such is the method to be pursued in the unfolding and strengthening of the various elements that enter into the composition of an act of conscience. For greater clearness, we have considered these apart, and shown how the same specific exercise is necessary for the education of each. It must not, however, be supposed, that in disciplining conscience to qualify it for its important mission, it is necessary to make this severance of its ingredients. In every purely moral operation, the whole faculty of conscience is involved, and held amenable or responsible. The perception of the moral quality of our obligation with respect to it, and of the merit or demerit of the agent, must all be regarded as one aggregate or whole, and as susceptible, when thus regarded, of the highest possible improvement. And what an immense deal implied in this one act; and how determinedly should we strive, in the use of every means, to render conscience increasingly sensitive and active. And this, as has again and again been declared, can only be done by the exercise of the whole—by the reducing of its every verdict into thorough, practical detail.

It is not enough, then, that the young are morally instructed—that their views of morality are orthodox and high toned, proceeding from right motives and directed to right ends. This is needful, but it is not enough. Neither is it enough that they possess a due appreciation of the worth and excellence of this power, both in its direct and indirect influences and tendencies. Neither is it enough that they have good examples set before them—models of every virtue and grace for their imitation. Neither is it enough that they have pointed out to them the indispensable necessity of reducing all they know to practice. All these things are needful as means, but unless they are productive of certain results—unless they conduct to their legitimate ends, they are utterly unavailing. And what are these ends—what are these results? That the young do the things themselves—that they put their hands to the plough, and hold on till the work is done. And how is this accomplished? By the parent or teacher insisting on their doing the thing—telling them how to do it—showing them how to do it—guiding and directing them in the doing—training them

to do the act. We have already shown the import of training intellectually. It is the use of all legitimate means by which the young shall call into requisition the very power or faculty intended to be cultivated. It is, for example, not merely to make them understand and appreciate the reasoning of others, but actually to use their reasoning powers themselves, and continue till they reach proficiency. And so with all the others. The conscience is to be treated exactly in this way. It is not only to have a knowledge of what is morally correct, but actually to do it until we arrive at the highest degree—until it becomes part and parcel of ourselves—part of our very being—a second nature. And with a view to our arrival at such an ultimatum, an important principle here comes in to our succour: we refer, of course, to that of habit. It is almost impossible to overstate the force of this principle. It is visibly and palpably displayed in every part of our nature—physical, intellectual, moral and religious. It influences individuals, families and nations. You may see its influence, physically, in the gait of certain trades or callings; intellectually, by contrasting the retiring student with the merchant of every-day activity on change; collectively, particular communities and portions of society differing in their modes of thinking, even in the same kingdom and under the same government; one town being noted for honest dealing and courteousness—another, for wickedness, covetousness and chicanery, and another, for evil speaking and tittle-tattling. And to what is all this to be traced, but to the force of early habit—to a reiteration of the same exercise—aye, and until it has become part of our very being.

And not only is this principle all-powerful in imbuing the minds of the young with the emotions and practices that may prevail all around; it is equally efficacious in altering the whole character and conduct of an individual. Suppose a child naturally combative, manifesting the strongest disposition to fight and quarrel with his play-fellows, and that his feeling has been strengthened, in no small degree, by practice—by the state of the moral atmosphere with which he has been surrounded,—suppose that this same child enters a moral training-school, where no such feelings are allowed to be exercised, but where, on the contrary, they are directed to what is noble and useful, and shortly the power of self-control will not only grow into a habit, but the feeling or disposition itself will be greatly subdued. A boy of this description, during the first week of his course, may strike and thrust right and left, but his blows not being returned, and now breathing a moral atmosphere different from what he had been accustomed to, and

participating in a portion of its spirit from the power of sympathy, joined with a more enlightened conscience, his whole conduct is quickly changed into a more Christian and moral habit. This is the experience of all moral trainers in every part of the world in which they have been located, and this oftentimes long before the grace of the Divine Spirit appears in a decided change of heart.

And if such is the force of habit, and such its effects, surely every genuine philanthropist and educationist ought to avail himself of its assistance. And how is this state produced? In no other way than by a repetition of the same act—by the continued exercise of the same power or sensibility. Such, indeed, is the effect of this process, that what is absolutely disagreeable and unpalatable at the outset, becomes an indispensable requisite for our comfort and happiness. This is admitted to be the case with the animal and intellectual, but it is especially so with the moral parts of our nature.

And surely it is all but unnecessary here to notice, that both good and bad habits are most easily and rapidly formed in our juvenile years. Look at the gigantic river, and compare its mouth with its source—the trunk of the aged oak with the first sprouting of the acorn—the old horse with the young colt, and on which of these stages does human instrumentality produce the greatest effect? Unquestionably you will reply, the latter. But this is all the more palpably displayed, when we contrast the young and plastic youth with the old sinner, the grey-haired miser, the notorious drunkard, or the abandoned debauchee. In the former case, our nature may be said to be in a kind of fluid state, susceptible of almost any impression, either for good or evil; if not the one, it is morally certain that it will take the other. Surely, then, it behoves us to ply every energy with the young; and by the repetition of all those acts that are lovely and of good report, to establish those habits that will grow with their growth, and strengthen with their strength. Need we wonder that the Author of our being, who is so thoroughly acquainted with the latent spring of human action, should manifest such solicitude and tenderness in reference to the education of the young, and inscribe, on his own infallible testimony, the precious intimation, “Train up a child in the way he should go, and when he is old he will not depart from it.” Nor can we fail to perceive where our main strength lies as the educators of the rising generation—the towering superiority of a sound, moral education to every species of moral instruction—the inestimable privileges, the priceless benefits of a thorough, domestic, and week-day school training.

The Fallibility or Imperfections of Conscience. Having shown, at some length, what moral education is, and how obtained, were our moral nature perfect, or were conscience infallible, its monitions and practical workings, always in accordance with the laws of truth and rectitude, our discussion would here terminate. But the case is far otherwise. Like all the other powers of our compound being, conscience has suffered in the catastrophe that has befallen the species. It would seem that in very proportion to its original dignity and glory, have been the depths of humiliation and degradation into which it hath been plunged. We cannot here enlarge on the many imperfections of conscience. It were no difficult task to show, did our space permit, that there are innumerable obligations under which man was created, but which his unassisted conscience cannot now discover, or, if discovered, now ignorant of the mode in which they ought to be discharged, or, when both are felt and understood, how, even in these circumstances, he wilfully resists its monitions, acting according to the impulsions of blind, headlong passion, regardless, alike, of his own best good and of the welfare of others, as well as in plain contravention, alike of the laws of God and man. But these are points, generally, if not universally acknowledged. It is, therefore, more to our purpose that we enquire, whether we have something like a sufficient guide—whether there is any external appliance that we can bring to bear upon our moral nature, by which it shall be not only illuminated and regulated, but restored to, and re-established in its original, rightful supremacy.

We unhesitatingly affirm that there is such a guide, and that, too, provided by one who thoroughly understands our nature, both in its pristine glory and in its present dilapidated condition. And where is that guide? Is it to be found in the study of the works of nature—our apprehension in these works of the existence and perfections of the Almighty Creator, or of the adaptations of means to ends, or of the various compensatory arrangements that prevail; or in the study of mind, our perception of the glory of the infinite spirit, as well as of his moral attributes—as the Governor of the Universe? No. With all these exalted views of the Creator, as exhibited in his works, there is no true conception of Deity as the living one—as the person with whom we have to do; or if there is, it is but to discover to us the awfulness of that gulf that separates us from the fountain of all perfection—it is but to perceive the justice of that sentence that seals our condemnation—it is but to obtain a foretaste of the doom that is awaiting us. So long as these barriers lie in the way, we can never,

in the full meaning of the expression, "look up through nature unto nature's God!" or, as we look abroad upon the objects of nature, say, in true appropriation, 'My Father made them all.' But if the works of nature are incompetent—cannot furnish an infallible guide to conscience, what is to be said about the dealings of Providence? Will they make up the defect? That the dealings of Providence, whether regarded in reference to man individually or collectively, are well fitted to impress our minds with the truthfulness of the saying—"Verily there is a God that will reward the righteous;" that the physical and mental evils and miseries—the distresses and tribulations—the havoc and desolation that an All-wise Providence inflicts on individuals, and families, and nations, in consequence of their sins, are sufficient to convince the most stupid and insensible "that the way of transgressors is hard." That these are all premonitory of a day of final reckoning—all confirmatory of the testimony of natural conscience, will be readily admitted; but that they are altogether insufficient to furnish an infallible guide to conscience, must appear plain and palpable to every reflective mind, and that for the following reasons: 1st. Because the lessons they teach are the lessons of experience, and come too late to be of practical benefit; 2nd. Because the lessons they inculcate are at best but inferential—they are not facts; 3rd. Because even if they were authoritative facts—the motives and arguments by which these lessons are brought home, are entirely of a secular or worldly character.

But we need not dwell on these and similar points. Of the utter incompetency of these two means to furnish an infallible guide to conscience, we possess the most indubitable evidence in the whole past history of the race, as well as in the present condition of the heathen world. Every one at all acquainted with the history of those nations unvisited by a revelation from Heaven in bye-past times, is aware that that is but a history of declension and deterioration, even where literature, the fine arts, and systems of ethical philosophy, were cultivated and flourished. And what is the condition of all pagan lands at this moment, the most refined and civilized,—what but one of ignorance—of superstition—of cruelty—of bloodshed and death.

The works of nature and the dealings of Providence are, no doubt, of use—come in as admirable auxiliaries, shedding beams of light on many dark and obscure questions, as well as, in many instances, imparting strength to the findings of natural conscience. But they are utterly devoid of any quickening, renovating, directing or controlling power. Whither, then, are we to betake ourselves? We have

knocked at the door of natural conscience, and found it wanting. We have appealed to the world of nature, and also to the dispensations of Providence, and these, too, we have found to be equally defective.

The Bible, the Bible alone, constitutes the guide we need, meeting and dove-tailing all our wants, and presenting the purest and most perfect, because a divine standard of ethics. More particularly it presents the brightest revelation of the attributes of Deity, both natural and moral—all blended together in one resplendent whole; it makes known a way by which the Almighty, in entire consistency with His personal honours and inalienable prerogatives, and in the complete maintenance and illustration of the principles of His government, can deal with the sinner, and through the medium of views and motives—of aims and ends, in perfect adaptation to his nature, awaken in his breast that principle of love on which all acceptable obedience depends; it declares facts, and declares them with all the authority of a sovereign; it not only provides light—an unerring light for the guidance of conscience, and promulgates a perfect code of morality, but it discloses a supply of resources by which that code may be carried into effect—by which the light may beam upon the conscience, and guide it definitely and unhesitatingly to the soundest and most enduring, because Heaven-inspired conclusions; it derives the grand burden of its motives and hopes from the world to come; it exactly supplements what is defective in nature and Providence, and thereby substantiates its claims to divinity; it is, in one word, the instrumentality devised by infinite wisdom and love for the diffusion and perpetuation of a perfect moral education.

How should the Bible be used that it may accomplish its high errand in reference to Moral Education—that it may impart light and power to the conscience?

Bible not used as a Task-book. Before school text-books were so rife as they are now-a-days, the Bible was used in school and around the fireside, for teaching both to read and spell. This, it need scarcely be stated, is all but entirely discontinued, and it is well that it is so. To use it in this way, was fitted not only to despoil the Sacred volume of that sacredness and reverence with which its perusal should always be associated, but to awaken in the minds of the young positive dislike and abhorrence to its truths.

Much discretion is required in prescribing portions of the Bible to be committed to memory. Every legitimate means should be employed to render the passage intelligible to the whole class, and every circum-

stance thrown around fitted to dissipate every idea of gloom and melancholy, and to make it a pleasing as well as a profitable exercise.

Neither the New Testament nor the Old should be put into the hands of the young till they are able to read it with considerable fluency and ease. If the attention of a very initiatory class is to be directed to any passage, it should be read by the teacher, and that with becoming gravity and seriousness.

Perused with solemnity. And this brings us to notice the solemnity that should characterize the teacher, whenever he takes the Bible into his hand. Three-fourths of the good that will flow from its use to very young children, will depend on the spirit manifested by the teacher. If he betrays anything like a lack of gravity in handling the Word of God—if he reads it in a careless, perfunctory manner—if the tones of his voice are exactly the same as when reading any profane or secular author, instead of doing good, it will do harm, and the sooner the exercise is discontinued the better will it be for the whole school establishment. It will only set the children on the road of treating the most sacred things with derision and scorn, if not with profanity. It will be but to familiarize them with hypocrisy and deceit within the precincts of the divine temple itself. If the teacher would train the young to be suitably affected with truths the most momentous to themselves and others,—if he would have them attend to them with awe and reverence,—and if, above all, he would have them produce any practical influence on their temper and conduct, he must approach the Sacred Record with due solemnity, evincing, by every feature of his countenance, that he is treading on sacred, holy ground. For the accomplishment of these high and important purposes, he should strive to be what he professes; he should endeavour to realize the sacredness and responsibility of his position, and both speak and act in a tone subdued and chastened, and that just because it is to him a matter of heartfelt experience. Then would he awaken corresponding emotions in the breasts of the young under his charge, and his instrumentality prove of real and lasting benefit.

With humility. It should be perused with a humble and docile spirit. This is not the place to prove, and far less to expatiate on, the divine inspiration of the Scriptures. That the Bible is the lively oracles of God, as attested by its external and historical, its internal and experimental evidences; that it is designed for, and addressed to the whole human family of every clime and age, of every rank and degree; that all to whom it comes are amenable to its truths and dependent on its decisions both for time and eternity, for weal or

woe; all these are points that must be taken for granted. We refer to them here with the view of urging upon teachers the paramount obligation to impress the minds of the young under their charge, with the divinity of the Book, its indisputable authority, and its absolute sovereign claim on their acceptability and obedience. For this purpose they should make themselves thoroughly acquainted with the argument in support of the divine inspiration of the Bible,—should show by their tone, their whole demeanour, that they regard it differently from every other book; yea, that they are willing to abide by its decisions, to be directed and governed by its laws, to sit as humble and docile learners at the feet of its Great Author. This will prove of far greater effect in their official character than all the instructions or exhortations they can address them orally, however profoundly conceived or eloquently expressed. This will be of immense reflex benefit to themselves, preserving within them an abiding sense of their accountability as the educators of the young, thereby inclining them to look up for heavenly counsel and strength. Would that the time had arrived when both teacher and taught realized the spirit of the youthful Samuel, when, on occasion of the first public revelation he received, said, "Speak, Lord, for thy servant heareth!" Would that the time had come when all shall hear the voice of God speaking to them in his word, as distinctly as did Israel at the promulgation of the law from Mount Sinai!

Teacher to have the free use of Bible. The teacher, if the Bible is to serve its high end in moral education, must have the free and unfettered use thereof. With the view of removing the possibility of propagating sectarianism in schools, some have resorted to the expedient of allowing the Bible to be read, but without note or comment, that is, the teacher is strictly prohibited from explaining any passage, or inculcating and applying any lesson. He may descant as long as he likes on any of the *ologies*, he may deduce therefrom any lessons he chooses; but the moment the scholars take the Bible into their hand his mouth must remain hermetically sealed, and that lest by the interpretation of any passage, or passages, congenial to his own religious views, he should be found guilty of spreading denominationalism among his pupils. Now, before we utter a syllable in reference to the adoption of this expedient, it may be well to enquire whether there is really any ostensible ground for taking up such a position, if the charge of guilt can really be substantiated against any one teacher in such a matter. We never heard of such a charge even insinuated, and we unhesitating throw it back upon the heads of those who advance

it, as a foul aspersion on the whole teaching profession. In a purely congregational or denominational school, the religious catechism of the body under whose auspices the school is conducted, may be taught, but that any conscientious teacher of a national system of education should have been detected, converting his office into an arena of proselytizing and propagating sectarian views, we venture boldly and unflinchingly to question. We demand facts or cases, and till these are adduced, we hold that there is not the shadow of a ground for the charge. The rivalry of religious sects may have run so high in some quarters, that great fears and apprehensions have been entertained and expressed upon the point, but these, we venture to assert, have been more notions floating in the brain of public ecclesiastics or political partizans, than realities exhibited in the professional life of any painstaking moral educator of the rising generations.

But to return. Will the Bible, thus treated, answer the end designed in moral education? We positively and distinctly affirm that it will not. We, no doubt, love to see the Bible in schools, in testimony of homage to its author, even under the embargo referred to; but whether its being read without note or comment will serve any important purpose to the young, is, we think, exceedingly problematic. At all events, we feel perfectly certain that such a use can not promote the end intended, even that of imparting life, and light, and sensitiveness to the conscience, and, consequently, that it cannot advance the cause of moral education. The conscience can alone be reached through the medium of the understanding; and if the intellect does not grasp or comprehend the truth, or precept, or fact, the conscience must necessarily remain unmoved and uninfluenced. You desire, for example, the conscience to realize its obligations, and to discharge a certain duty. This duty, we shall suppose, springs from a certain relation subsisting between man and his Creator, or Saviour—God. But this relation must first be traced and clearly apprehended. Before that can be accomplished, some exposition is required; it may be the simple explanation of a certain figure or a certain term,—or it may be the whole gist of the passage hinges upon some one technical or conventional expression, or custom, or word, which the class may never have had an opportunity of seeing before; and that, remaining unexplained, the whole is enveloped in midnight darkness. The Bible has been read; part of the means has been used, but part has not; and, therefore, the end is unaccomplished; and this, with beginners, must occur in almost every passage.

Though we advocate the principle, that the teacher must be left

free and unfettered in the use of the Bible, it must not be supposed that we have the slightest idea of turning the teacher into a preacher or lecturer on dogmatic Theology. That may be appropriate work for a congregational Sabbath-school teacher, but not for a teacher of a national school. Besides, there is not the slightest necessity of the pursuance of such a course, even for the teaching of Christian morality. All that the children here require is, to understand their duty, and the motive essential for its acceptance; and surely in all this there is little or no need for doctrinal statements or discussions. Give the teacher the unfettered use of the decalogue with the motives of the love and fear of God, and he is amply provided—he has all the ammunition requisite.

Occasions of using the Scriptures. Having said so much in reference to the spirit in which the Bible should be used, and the position it is entitled to hold in the public schools, it may be proper that we now briefly advert to the occasions on which it ought to be consulted, and the purposes to which it ought to be applied.

1. *In devotional exercises.* And here it may be noticed, in the first place, that the Bible should be read in the devotional exercises of the school. That the Almighty Creator and the All-gracious Saviour should be publicly recognized and worshipped in every school in a christian land, is what all, who make any profession to christianity, readily admit. This should be done at the opening and the dismissing of school—should consist of singing, reading the word of God, and prayer; the whole service, if possible, never extending beyond ten minutes, and conducted in the most solemn manner. This exercise, when properly gone about, is fitted to inspire the minds of the young with awe and reverence for the character and government of God, and especially for His Bible, the whole Bible, and not mere extracts, singling it out, and investing it with an importance and authority above all others, and rendering every saying and judgment as the voice of Jehovah pealing in their ears. This exercise, too, will elevate the whole moral tone of the school, making the matter of management and government vastly more easy, and imparting tenfold effect to every other species of instrumentality.

2. *As a repository of religious and moral instruction.* Again, the Bible ought to be used as the grand repository or magazine of religious and moral instruction. In addition to the purely devotional exercises, there ought to be, in every school in which moral education holds its legitimate position, a certain period daily set apart for religious knowledge. This may occupy twenty or thirty minutes, and

should immediately succeed the devotional services in the morning. Three mornings in the week may be given to historical narratives—one morning to an emblem lesson, and the other morning to a precept. The mode in which these exercises ought to be conducted, is fully detailed under the head of *Religious Instruction*, in chapter on Oral Lessons. Suffice it, in the meantime, simply to state, that as more than the half, both of the Old and New Testaments, is composed of the most captivating historic details, bodied forth in the portraiture or exemplification of living men, thereby investing them with the most persuasive, the most melting influence to the young, notoriously creatures of imitation, so should these details be thoroughly pictured out—the practical lessons deduced, and deduced by the children themselves. Another morning in the week, we have said, should be devoted to a Bible emblem. This wondrous Book delights to convey its truths and its lessons through the medium of similitudes, or, as we style them, emblems. These are nothing but spiritual or moral truths, conveyed through the medium of natural objects or visible things. What the teacher has here mainly to do, is to guide his pupils to a knowledge of the natural picture, when the spiritual, or moral doctrine, or lessons will be discovered and described by the pupils themselves. Another morning should be given to the picturing out of a moral precept. Some duty, generally or specially applicable to the condition of the school, is selected—exemplifications given either of its observance or non-observance, and these held up either to the commendation or reprobation of the scholars. This is an admirable arrangement, by which the teacher can promote the morality of his school, and that without any direct allusion to any individual or number of individuals. By pursuing this course regularly one day in the week, the children will, in the course of three years or so, obtain an extensive knowledge of the preceptive of Scripture—be growing apace in the enlightenment and verification of conscience, and the high ends of moral education served. And all by bringing the moral faculties of the young in daily and hourly contact with the Scriptures of eternal truth.

3. *As the directory in moral duty.* But, again, we would notice, in the third place, that the Bible should be employed as the grand directory, or statute book, in the every day moral duties of the school. These duties may be classified as personal and social. The former are such as the following:—1. Cleanliness; 2. Control of appetites; 3. Temperance; 4. Management of temper; 5. Diligence; 6. Modesty; 7. Decision; 8. Steadfastness. The social virtues may be thus clas-

sified :—1. Truthfulness ; 2. Justice ; 3. Kindness ; 4. Candour ; 5. Tale-telling, and the like ; 6. Giving honour to whom honour is due, as to our parents or our seniors, or those above us in rank, &c. See requirements of the different commandments.

These virtues should be encouraged in every way and by every means, whilst the opposite vices ought to be discountenanced and condemned. Every motive, and argument, and consideration, should be brought to bear upon them. But nothing will so powerfully convince the conscience, nothing better fitted to lead to the abandonment of vice on the one hand, or to the practice of virtue on the other, as an appeal to the Scriptures. Both by precept and example, as unfolded in the Bible, should the young be plied not only in the usual routine of moral education, but particular virtues with their opposites should be inculcated at special seasons. When any vice abounds, or when any youth has been guilty of any great misdemeanour, a passage from the Bible, bearing upon the point, with a corresponding narrative, if possible, should be sought out and applied. The usual routine of duties and exemplifications will prepare for this application. But the occurrence itself should present the loudest call for its being pressed home with more than ordinary earnestness.

Standard of appeal in all the affairs of school. Lastly, the Bible should be employed as the grand standard of appeal in all the general affairs and management of the school. The scholars should be early inoculated with the idea that the Bible is the highest of all authorities, that its clear decisions on any one subject should put an end to all strife. It is indispensably necessary for order and government in any community, that there be some infallible, some common standard of appeal, before which all are prepared to bow and make obeisance. That standard is the infallible word of the living God. How thankful ought we to be that in the school-room, as in every other sphere and department of duty, we have a standard to which we can appeal at all times, and under all circumstances ! How contentedly ought we to submit to all its judgments and decisions, and how gladly unite in carrying out its instructions and requirements ! However much these may run counter to our inclinations for the time, we ought to place implicit confidence in the dictates of infinite wisdom, and feel satisfied that after what He has done for us, there is no command or decision but what, if vigorously carried out, will ultimately serve our best interests, our noblest destiny.

Need of Divine influence. Before closing these remarks on the use of the Bible in the furtherance of moral education, it may not be

amiss to remind our fellow teachers that in the whole matter of the perusal of Scriptures, they should strive constantly to remember that the natural mind cannot perceive the things of the Spirit, and that the Spirit's agency is indispensable to impart those views of divine truth, that are sanctifying and moralizing. Much may be done by erudition, research, and patient industry, to explain difficulties and clear away overhanging clouds. A knowledge of antiquity, of oriental customs, of natural science, of geography, of history and criticism, is all of essential moment to the teacher, and places him on high vantage ground in the explanation of many passages of Holy Writ, but he must endeavour to keep alive within his own breast the fact, as well as constantly remind his scholars, that this will only be of enlightening, and quickening, and renovating and comforting power, when the Spirit himself seals it on the heart and conscience, and that that aid can alone be secured by humble dependence and importunate prayer.

RECAPITULATION OF CHAPTER.

This is the most important chapter of the second book, which accounts for its unusual length. It professes to discuss the essential features of the child's nature; whereas the other chapters are only to be regarded as the appendages, and occupying a comparatively subordinate rank. In each section we have endeavoured to discuss the three topics:—1st. An analysis of the feature or characteristic itself, its attributes and functions,—in other words, its anatomy and physiology; 2nd. The position, importance, or utility of this feature; and 3rd. Its education, or the means to be employed for its development and growth. On the first of these points, it may be supposed by some, that we have dwelt longer than was necessary. This has arisen entirely from our anxiety to lay a solid basis for the educational process. How is it possible to do justice to the education of the faculties, unless we are acquainted with the faculty itself, its properties, its relations and its tendencies? This desideratum is beginning to be felt. So long as education was supposed to consist of little else than a mechanical process, a decent and competent scholarship sufficed; but, to a certain extent, at least, it is now otherwise. There is something like a demand for the strengthening of the faculty, as well as for the imparting of knowledge, or, rather, for the strengthening of the faculty through the imparting of knowledge, and hence the need that is felt for the study of the faculty itself. Comparatively little has been said on the second point, the importance and utility of the organ or faculty

under consideration, and that simply because this, from its very character, must be apparent to every reflective mind. The third and last point is the consummation, the culmination of the whole. Here the burden of our story is exercise. All the plans, and devices, and expedients resorted to, and recommended under this head, are designed, and, we believe, well fitted to constrain the young to do the work themselves, to employ their own powers, to draw their own inferences and conclusions. In some departments this demands no ordinary amount of ingenuity and skill, as well as of patience and forbearance. In fact it is here where the grand difficulty lies, where the mechanical and the rational teacher must part company, where the talents and the superiority of the real scholar and the thoroughly trained teacher are most fully displayed. There is, indeed, comparatively little difficulty in physical, æsthetical, or moral education, or in some of the more mechanical parts of the others, in securing the exercise of each faculty. If I am desirous to strengthen any muscle, or class of muscles, any bone, or class of bones, I must just repeat, and re-repeat the act, until the habit is fairly formed, and has become as much part of myself as any natural propensity. And so it is, to a large extent, both with æsthetical and moral education. If, for instance, I resolve that the child must abandon any particular vice in which it indulges, and must practice the opposite virtue, I have no alternative left, no expedient to which I may betake myself, but just to persevere in the same beaten track, making him repeat it over and over again, till I accomplish the object. Of course, many modifying considerations or circumstances may be summoned into requisition by one teacher and not by another, but the grand recipe must be adopted, the real specific must be employed by all; iteration and reiteration, until the habit is formed, until the one dress is put off and the other put on. But whilst reiteration is the all forwarding law in physical, æsthetical, and moral education, for our arrival at proficiency, it is vastly more complicated, it is much more difficult in the intellectual and emotional. Here we have to do with a grand generic master—power, manifesting itself by seven or eight distinct kinds of operations, with varied phases and hues, modified by age, by internal temperament and external contingencies. What a study this! And then turn we to the subject of appliances. How diverse in their administration and adaptation, even as are the powers and sensibilities themselves! And then, again, what discrimination and dexterity, and patience, in watching the results even in one case, and how much more in 5, 10, 25, and even 50! And then, above all, what enthusiasm and perseverance

are requisite to hold on amid manifold disappointments and discouragements until the victory is won, and the child competent to walk intellectually without a crutch and without a prop!

But to be somewhat more particular. And first, as to physical education. This subject, in relation to the school-room, has been made a mean instead of an end, a stimulus for the excitement of all our activities and sensibilities, an auxiliary to secure the largest possible amount of mental and moral results. This view elevates physical education to its right position, above and beyond all mere mechanical aims and ends, and associates it with the exercise of the rational and moral faculties. It is right and proper, and in every way praiseworthy, to attend to the health of the body, and, for this purpose, to study and apply the laws of animal physiology. It is equally so, it is vastly more so, to employ every legitimate means for the development and growth of the physical condition of the rising generation. But it is the highest of all physical appliances, to render them subservient to the achievement of mental and moral results, as a platform on which to erect the most symmetrical and the most gorgeous superstructures of intellectual manliness and of moral excellence. This renders physical education an employment at once dignifying to the teacher and beneficial to the taught. And what renders all this process of appliances peculiarly captivating and attractive, is the fact that there is not an organ, or a system of organs, that cannot minister to the health and growth of mind, that cannot be dedicated to the nourishment and expansion of the most exalted and godlike principles of humanity. In testimony and illustration of all this, we have shown at length the operation of the functions of the various systems of organs—the nutritive, the supporting, the cutaneous, the muscular, and the nervous, in their application to the ventilation, temperature, and light of the school-room, to the grading of the furniture, to the cleanliness and orderliness of the personal of the scholars, to their attention while at school, and to the regulation and progress of their studies: and we have seen at every stage how largely the physical affects and influences the psychological, how dependent our mental health and vigour are upon the condition of the body. And what more need be said in support of the importance of physical education in the school-room, or how inseparably connected its faithful observance is with the whole aim and end of a sound and enlightened education. The various details of physical exercises, &c., both in-door and out-door, in their adaptation to certain school employments, and to certain ages and stages of progress, will be found under the chapter

on school management. After all that has been said on this subject, it need scarcely be added that we give our most cordial approbation to, and recommendation of the movement now going on, usually called "Military drill." We believe, that these exercises, judiciously gone about with the young, are not only admirably calculated to fit and qualify them for all the evolutions of military tactics when they reach the estate of manhood, but that they promote the health, and vigour, and gait of the body; and still more, that they largely befriend the orderliness and the obedience of the scholars, and higher still, that they impart a zest to all their mental pursuits; but on these, and similar points, we cannot enlarge.

Under Intellectual education, we have first presented a classification of the powers of the intellect; then we have shown what intellectual education really is, in contradistinction to intellectual instruction, and how it is to be reduced systematically to practice; and lastly, because of their importance, we have discussed the various faculties in rotation, with a view to their individual and more exact education. There are two ways of viewing the operations of the mind, just as there are in every other department of the world of nature, analytically and synthetically. The former is the natural method. We then look at the faculty as it exists in itself—in its attributes or qualities—in its relations or dependences. In prosecuting our energies thus—in proceeding from generals to particulars, we are but making the necessary preparations for the generalizing and classifying process. The synthetic is the logical course, proceeding from particulars to generals—from individuals to classes. It takes for granted that the analytical process has been gone through—that the discriminative powers have been in fullest exercise—that every quality or property in itself and in its relations has been examined, and tested, and allocated, and that everything is now in readiness for reducing the whole to some orderly arrangement. This step is taken, and a system or science in actual embodiment—in complete adjustment and adhesiveness, rises up to our view. Almost all the treatises in the Old and New World on the subject of psychology, are presented to us synthetically, of which, one of the best and most compendious is Haven's *Mental Science*, just as one of the ablest and most elaborate, analytically regarded, is that of Lyall, of Dalhousie College, Halifax, to which we have already adverted. As our object in the discussion of the leading characteristics of the nature of the young is simplification, with their practical application to educational purposes, we have adopted the synthetic or scientific mode of classification.

Here we have endeavoured to unfold the grand expedient of intellectual training, called by Stow, 'Picturing out in words,'—an expedient which, though it has been ridiculed by some and denounced as unintelligible by others, is, nevertheless, in our opinion, in as strict accordance with the findings of sound philosophy, as it is with the plainest, the universal dictates of inspiration. All willingly admit the utter impossibility of developing and strengthening any power or energy of our intellectual being, without its being exercised; and how, we ask, can this be done, but by the teacher coming down to a level with his pupils; and how can he do so, without resorting to some such expedient as is here taken hold of? We pause for a reply. With us it is enough, and demonstrative of the impotency of all cavilling, that the teacher of Nazareth—the greatest philosopher the world ever saw, in whom were hid all the treasures of wisdom and knowledge—consecrated all these treasures to the practical application of this principle in every relation—in every scene, and in every circumstance. Or, if such an authority is contemned—as contemned it is by some—then we ask, what is all language but the exemplification of this very principle—the employment of the seen to express the unseen—of the material to show the working of the spiritual, whatever be the objects or the combinations of objects, or the attributes of objects, or the relation of objects, that may be presented to the latter. And why, but because all are familiar with such signs, or symbols, or expressions. Or, if not satisfied with this, we ask them to account for the fact, why it is that all mankind, from the wandering savage to the soaring genius, who wields, at will, the destinies of millions of his fellow creatures—why one and all of them, in their attempts to expound their views—their thoughts—their feelings and their intents to the less initiated—to the less enlightened, uniformly resort to this mode.

In our discussion of each faculty, our aim has been to distinguish the one before us from all others, and especially from those more nearly allied; then to press its importance, with the view of awakening an interest in its education, and, finally, to descant on the means to be employed for that education. In the whole exposition of intellectual education, we have contented ourselves with the statement of great and fundamental principles, reserving details till we come to the practical department. In the third section, on emotional education, after the classification of the sensibilities, we have mainly pointed out what is necessary to be done for their control and regulation on the one hand, and for their being cherished, and fostered, or educated, on the

other. These sensibilities are of immense service in the matter of school management and government—in stimulating to diligence, and awaking mind and securing obedience. The desires are of special value in all these respects, and is accordingly the department we have most fully considered. The subject itself, as a distinct branch of education, is novel; and both for its own sake, and the influence it exerts over all the other parts of our composite nature, presents urgent claims on the attention and study of all enlightened educationists.

After the sensibilities we devote a short section to the will—the determining and executive part of the whole man, giving effect both to the operation of the intellect and of the feelings. As we confine ourselves entirely to the psychological phenomena, little comparatively is said respecting its nature and importance. And yet, after all, we hold that the theological and the purely mental aspects are inseparably linked, and that there is no sound apprehension of the former without its being based on the latter. The real question is, What constitutes the freedom of the will? And the right answer to this question, psychologically regarded, dissipates clouds of ignorance and darkness in reference to the theology of the question. The four elements indispensable for every free act of the will, should be well weighed and pondered by all who desire clear and satisfactory views upon the subject. Much, very much, we had almost said, everything depends on the power we have of this faculty. As our control of the will, so is our control of every emotion and faculty. And here a great deal depends on the educational process—upon our determination to follow out the purposes at which we have arrived, adhering to these at all hazards and sacrifices, and that not by reason of any foreign influence, but entirely by reason of our own resolution. Nothing truly great has ever been achieved, either in the natural or spiritual world, without the will being in highest exercise, both innately and educationally.

In the fifth section, the subject of æsthetical education is pretty fully considered, at least, so far as the principles on which it rests are concerned. If the foundation of all the fine arts rests on the intuitive perception and appreciation of the beautiful in objects or things, whether of matter or mind, our first enquiry here plainly is, what it is that constitutes the beautiful in objects or things? Is it something inherent in the object, which all in the normal condition apprehend, or is it a mere mental state or emotion? And having come to the conclusion that it is not the latter, the question immediately springs up, what is in the object that all apprehend to be beautiful? Here, again, we are introduced into a wide region of speculation, but the conclusion

now all but universally arrived at, that it is not in the object or in the collocations of matter in themselves, but in the object or matter as expressing the character or testifying to the perfections of the fabricator, and that in very proportion to the extent of this display or testimony, so is our sense of the beautiful heightened. And how is the mind affected by this apprehension of the beautiful? Is it a mere emotion that is awakened, or an intellectual perception? Undoubtedly the latter. The intellect perceives certain features and relations. It passes judgment thereon, founded upon these features and relations. This act of the mind is denominated taste. In some it is much more powerful than in others, and these are said to have good taste. This perception is susceptible of immense improvement in all its applications and departments. With a view to this, however, there must be the actual practice. There must be the choice of some one of the fine arts, and a steady persevering prosecution of the same. Whatever department is chosen, nature should be studied, and along with that the best specimens of the masters in that department. The reciprocity here between the mechanical and mental, and between the mental and mechanical, is very marked and palpable.

The sixth and last section is on moral education, the most important of the whole, designed and well fitted to give a legitimate direction to all the preceding. It is the helm that controls and regulates the ship. The nature and the supremacy of conscience cannot be too carefully studied, as fitted to evince better than anything else the importance, the unspeakable, the inconceivable importance of moral education. The principal thing to be here brought out is the radical, the fundamental difference between moral instruction and moral education: understanding by the former the mere imparting of religious and moral knowledge, and, by the latter, the reducing of the same to practice. All the compartments of conscience are susceptible of the highest improvement and refinement. But the grand burden devolves on the second, the perception of and the compliance with the obligation to do the right and avoid the wrong. Here lies the very marrow of moral education. The perception of the moral quality of actions, whether performed by ourselves or by others, as well as the approbation or disapprobation consequent on the performance of the action, either by ourselves or others, these are parts of our moral nature deserving of all heed and of the highest culture; but really to impart tenderness and sensitiveness to conscience is the promptitude wherewith we carry its instructions into practical effect. The obligation which this faculty imposes is the ready, and unhesitating, and cheerful obedience we

render to its monitions. And are we always, it may be asked, to obey its dictates? Always, and unhesitatingly, and without any reservation, are we bound to do so, or else it fails in performing the functions for which it was destined.

But would not all this argue that conscience cannot go astray, is infallible. This introduces another subject altogether, viz., the downfall and degeneracy of this vicegerent of divinity within us, and prompts the enquiry whether in its wrecked and dilapidated condition the lord of conscience has provided any means for its enlightenment and quickening, for its consequent restoration to rightful supremacy. This question we have answered at some length. We have endeavoured to show that whilst conscience is in itself depraved, and cannot, unaided, serve the end for which it was intended, neither natural religion nor the dispensations of Providence can furnish a guide, an infallible guide;—that some other light is indispensable, and that that light is to be found in the Bible, and in the Bible alone, and that the revelation it contains exactly suits the wants of the case. This advances us another step in our argument—the use that ought to be made of the Bible in school so as to secure a thorough moral education. Here we take up and endeavour to defend the position, that, if moral education is to be carried on, the children must be brought into daily and hourly contact with the Bible; and for this purpose that the teacher have the free and unfettered use thereof, not to impart a knowledge of the peculiarities of any denomination, or even to unfold the doctrines of Christianity, but to explain and inculcate the great lessons of morality, with all the aims and motives that can render that morality acceptable in the sight of heaven. There may be difficulties in legislating about the use of the Bible in schools, in countries where there exists a large mixture of Protestants and Roman Catholics, but there can be none as to its use in schools where a sound, moral education is considered indispensable. There, it is just as essential as it is for the sun to give life and vigor to all organized existences, or as it is for atmospheric air to impart healthful respiration to the whole animal creation. The manner and occasions of its use have been fully detailed. The whole efficiency of the moral education will depend on the *how* and the *when* being both properly attended to. As to the general argument of the use of the Bible in schools, derived from its being the birthright of every child—from its being essential for the welfare of communities and states—from the nature of an oath—from the impossibility of divorcing religion from morality, and such like considerations, we have said nothing, as it lay not within our

track. All that we had to do was to consider its bearing on the subject of moral education, and for that it is just as necessary as the letters of the alphabet are for learning to read.

CHAPTER III.

SECOND CHARACTERISTIC.

THE VARIOUS INGREDIENTS OF THE CHILD'S COMPOUND NATURE ARE IN INDISSOLUBLE UNION AND RECIPROCAL DEPENDENCE:—ADAPTATION, SIMULTANEOUS EXERCISE.—INFLUENCE OF MIND ON BODY IN HEALTH AND DISEASE. EXTRACT FROM ABERCROMBIE'S INTELLECTUAL PHILOSOPHY.—INFLUENCE OF MIND ON BODY.—OF ONE PART OF MIND ON ANOTHER;—OF INTELLECT ON SENSIBILITIES, ON THE BEAUTIFUL, ON CONSCIENCE;—REACTION, CONSCIENCE ON INTELLECT, BODY, &c.—ADAPTATION PROCESS; EXERCISE THE VARIOUS INGREDIENTS OF COMPOUND NATURE, INDIVIDUALLY, AND SIMULTANEOUSLY, SO AS TO AID ONE ANOTHER.

Influence of mind on body in health. This characteristic, and the way in which we avail ourselves of it for the furtherance of the education of the young, will be readily perceived. Though, in the preceding chapter, for the sake of greater clearness, we have given to each of the constituent parts of the child's nature a separate consideration, it should ever be borne in mind that they are indissolubly united, and that not in confused medley, but in nicest harmony, in symmetrical order, rising consecutively the one above the other, from the body to the conscience, from that which unites man to earth, to that which unites him to heaven, from that which assimilates him to the animal to that which assimilates him to the divinity. Each part subserves an important purpose, directly and indirectly; and all conspire to form a perfect individual of the human species.

But these ingredients of our compound nature are not only inseparably united, they are also reciprocally dependent, acting and reacting the one upon the other. On a large scale the body operates upon the mind, and the mind upon the body, whilst the mind, in its several compartments, the intellect, the sensibilities, and the conscience, act and react the one upon the other, with no less certainty, yet scarcely so palpably.

Body on mind in health. In our discussion on physical education, we have had abundant evidence of the way in which the body operates upon the mind. Indeed, the grand utility of physical education in the

school-room arises from this very influence. We have seen, that there is not even a single department or exercise in the life-work of the teacher, that the body, when the laws of animal physiology are duly attended to, cannot subserve the high, the ennobling destiny of the mind. It were, then, altogether a work of supererogation again to open up the subject. There is, however, one point to which we must here advert, namely, the influence of the body in disease, upon our mental condition.

Body on mind in disease. Almost all that we have said on this subject under physical education, refers to the body in a healthful condition. The influence of the body, when diseased, upon the mental powers is still more remarkable and potent, and deserves special notice here. "The first mental function," says Dr. Abercrombie, "which is impaired by bodily disease, is usually the power of attention; this we see illustrated in all febrile affections. The patient, in the early or milder stages, is incapable of fixing his mind upon anything that requires much attention, of following out an argument, or of transacting business which calls for much thought or consideration. He is acute and intelligent as to all common occurrences, and shows no want of recollection, or of the power of reasoning, when his attention is excited; but he feels it an exertion that is painful to him. In a higher degree of this condition, he is still intelligent as to what is said or done at the time, or in recognizing persons; but in a short time forgets every thing in regard to the person or the occurrence. He is incapable of that degree of attention which is necessary for the memory, though the powers of perception are entire. In the next stage he is incapable of receiving the full impression from external things; and in consequence of this he mistakes the objects of his own thoughts for realities. This is delirium, and there are various degrees of it. In some cases the attention of the patient can be roused for a time and directed to the true relations of external things, though he relapses into his delirious impressions when he is left undisturbed; in others, the false impression is constant, and cannot be corrected by any effort which is made to direct the attention; and in a third modification of this remarkable condition, he mixes up his hallucinations with external impressions in a most singular manner. He is still capable, however, of describing his impressions, that is, of talking so as to be understood, though what he speaks of relates only to his erroneous conception, or mere bodily feelings. In the next stage, he either does not attempt to express himself at all, or is entirely unintelligible. He is now cut off from communication with external things, and with other sentient

beings ; and the highest degree of this is what we call coma, or stupor, which resembles profound sleep."

This description refers chiefly to the gradations in the state of the mental functions, observable in continued fever. It is particularly interesting to trace them in this disease, because we see the various grades passing into one another, and thus showing, in a connected series, the leading peculiarities, which, in other affections, we have to contemplate separately.

Such is the testimony of the greatest physico-psychologist that, perhaps, the present century has produced as to the influence of fevers in their different stages on the mental constitution. Similar effects follow from injuries of the head, affections of the brain, and diseases of debility, as well as from habits of intemperance and other species of dissipation. These effects may be chiefly referred to the following heads, abridged from Abercrombie — 1. A state in which the attention cannot be steadily directed to a long and connected train of thoughts, or to anything requiring a continued effort of mind ; 2. A state in which the impression made by external things is not sufficient to produce remembrance, though there appears to be at the time a perfect perception ; 3. The third condition is that in which external impressions are either not perceived at all, or are perceived in a manner which cannot convey any distinct notion of their relations to the mind ; 4. A remarkable circumstance for many of the cases referred to under the preceding heads is, that, along with a greater or less degree of incapability of attending to present objects, there is often a wonderful activity of mind in regard to old impressions, and even the renewal of recollections which had been entirely lost ; 5. The last condition is the state of stupor or coma, in which the mind is entirely cut off from intercourse with the external world. This occurs in the worst states of fever—in various diseases of the brain and injuries of the head ; and the same condition takes place, from a very different cause, in the state of fainting.

But not only does disease impair or suspend the mental powers, it also obliterates impressions formerly received and long retained. This condition is sometimes permanent, but frequently is recovered from ; and recovery takes place in some cases gradually, in others very suddenly. A still more remarkable phenomenon, connected with cases of this kind, occurs in some instances in which there is perfect intelligence in regard to recent circumstances, but an obliteration of former impressions. Another remarkable modification of this condition of the mental powers, is found in those cases in which there is loss of

the recollection of a particular period. Though these and similar facts of the influence of cerebral disease upon the manifestations of mind present a series of phenomena of the most remarkable kind, they give no countenance to the doctrine of materialism, which some have presumptuously deduced from a very partial view of them. They show us indeed, in a very striking manner, the mind holding intercourse with the external world through the medium of the brain and nervous system; and by certain diseases of these organs, they show this intercourse impaired or suspended; but they show nothing more.

Influence of mind on body. But we must now turn from this view of the subject, and contemplate for a little the influence of the mind on the body. There is no lack of illustrations on this point. Contrast the physical frame in undergoing fatigue when under strong mental stimulus and when it is not. Look, for example, at the sportsman, and the servant in attendance, the bearer of the spoil, the carrier of the game. They have scarcely travelled five or six miles till the latter begins to give evidence of fatigue, every additional rod becomes a mile in his estimate, every fresh capture is double its real weight, and ere long he is seen lagging far behind, can hardly keep sight of his master, and is well nigh sinking under the oppressive burden. The former, on the other hand, eagerly bent on his sport, traverses mountain and moor with increased activity, and agility, and buoyancy; and it is not till the shades of evening interfere, and put an end to his sport, that he begins to realize the length of the journey he has travelled—the amount of physical toil he has undergone, or even his present state of exhaustion. All this is plainly owing to the mental stimulus and excitement which have all along sustained and impelled him onward.

Again, take the student of nature—the man who can perceive the beautiful in the objects around, and the man who has no appreciation of such objects. The one walks on amid scenes that entrance his whole inner man—amid landscapes ever variegated and ever verdant, and is as fresh at the end of his journey as at the commencement; the other, before he travels half the distance, is tired and worn out, and the reason of this is plain. The former is under mental excitement, and the latter is not. Lastly, compare two individuals walking; the one in company with some genial, cheerful companion, or having some object in view—in search of minerals, or vegetable, or animals; and the other, all alone, with no other object in view save that of physical exercise. Whilst the former is all life, and elasticity, and springiness, the latter saunters wearily along, dragging one foot after the other

with reluctant step, without deriving any, or, at least, scarcely any benefit from this pedestrian exercise. The reason is the same as before.

Influence of one part of mind on another. But not only do the body and mind act and re-act the one upon the other; the various parts of the mind do so likewise; the intellect upon the sensibilities and will, and the sensibilities and will upon the intellect; the intellect, the sensibilities and will upon the conscience, and the conscience upon the intellect, sensibilities and will.

“There can be no feeling without the previous cognizance of some object, in view of which the feeling is awakened. Affection always implies an object, and the object is first apprehended by the intellect before the emotion is awakened in the mind. When we love, we love something; when we desire, we desire something: when we fear, or hope, or hate, there is always some object, more or less clearly defined, that awakens those feelings, and, in proportion to the clearness and vividness of the intellectual conception or perception of the object, will be the strength of the feeling. Within certain limits, the one varies as the other. The man of strong and vigorous mind is capable of stronger emotion than the man of dwarfed and puny intellect. Milton, Cromwell, Napoleon, Webster, surpassed other men, not more in clearness and strength of intellect, than in energy of feeling. In this, indeed, lay, in no small degree, the secret of their superior power.

“On the other hand, it is equally true that the state of the intellect in any case depends not a little on the mind’s capacity of feeling. A quick and lively sensibility is more likely to be attended with quickness and strength of intellectual conception, imagination, perception, and even reasoning. These are quickened and set in active play by its electric shock. A man with sluggish sensibilities, is almost of necessity a man of dull and sluggish intellect. A man without feeling, if we can conceive so strange a phenomenon, would be a man the measure of whose intellectual capacity would be little above that of the brute.”

Influence of Intellect on the Beautiful. But more particularly it might be shown how much the influence of the intellectual is over the æsthetical, and the æsthetical over the intellectual. He who delineates objects of loveliness, finds the discriminating power of taste to improve. This connection between theoretical knowledge and practical application is frequently illustrated in the other faculties. But on this point we cannot enlarge. We would rather solicit attention for a little to the reciprocating of the Intellect and Conscience.

Influence of Intellect on Conscience. The influence of the intellect on the conscience is well known and universally admitted. The grand standard of all morality is the divine law, and this is neither more nor less than a transcript of the divine mind. The knowledge of this standard is indispensably necessary before conscience can discriminate between the right and the wrong in human action, or realize the impelling power of this vicegerent of divinity within. And it is the intellect alone that will enable us to arrive at a right knowledge of this standard. Just as the understanding apprehends the properties of this standard, perceives its inherent perfection, its suitability to our case, and the indissolubleness of the connection between obedience to its requirements and our truest and highest happiness—so will conscience rise to its legitimate position, as the fly-wheel or regulator in our mental mechanism. We have already discussed this subject under moral education, and therefore need not here enlarge.

Of Conscience on Intellect. But the power which the conscience exerts over the intellect is still more worthy of notice. The more implicitly we obey the monitions of conscience, the more acute will be its power of discrimination, and the more prompt and definite its decisions. This effect in morals is frequently alluded to in the Scriptures. (See quotations under Moral Education.)

And how often have we seen the reality of this connection bodied forth and exemplified, in the case of the untutored mind brought under the hallowing influence of divine truth! Not only does the reception of this truth influence, and elevate, and control his emotional and moral nature; it also expands and enlarges his intellectual. This oftentimes, and with great cogency, is presented to us in prayer. On such occasions how frequently have we heard the rudest mind giving utterance to the loftiest ideas in Theology, and these uttered in the most eloquent, because naturally simple language—ideas unsurpassed by the most profound and learned theologian. And this expansion of intellect is not confined to religious truths, but extends also to secular things, not only giving another direction to these matters, but enlarging his natural views and sentiments regarding them, and enabling him to direct his mind to their study with far greater energy, and diligence and perseverance.

But we have said enough to establish the soundness of our position. Whether we consider the body and mind in their broad, distinctive features, or the mind itself in its grand divisions or ways of operation, the direct and reflex influence of the one upon the other is great and

extensive, and, when legitimately used, cannot fail to place a powerful instrument in the hand of the skilful educator. How he should wield this instrument, is what next demands our consideration.

Adaptation process—Exercise each part. It is here that so many betray the most erroneous and circumscribed views regarding the grand end of the education of the rising generation. Looking upon that end in no higher light than that of qualifying the recipients for pursuing their fortune in the world, for putting them in a fair and honorable position of earning a decent and competent livelihood, they naturally enough conclude that that education is ample and sufficient, which imparts a knowledge of those branches most likely to accomplish that object. Accordingly, it is no uncommon thing to find parents instructing the teachers of their offspring respecting their future vocation, and restricting their education, as much as possible, to those branches that have the most direct bearing upon that vocation. They seem utterly unconcerned about their being qualified for the general active duties of life—qualified for running their destined course, and still less for the high and ennobling exercises and employments of an eternal existence. They are, to say the least, perfectly passive in reference to their religious or moral instruction. They do not actually prohibit such instruction, but it is only in so far as it makes no encroachment upon their other more essential secular studies.

Now, supposing these views and directions are perfectly correct, and vigorously carried out by the teacher, it becomes a very important subject of enquiry whether the end in view—the qualifying the young for some trade or worldly employment—is by this course most effectively accomplished. We unhesitatingly reply in the negative, and that on the ground of the very union under discussion. By leaving a part or a number of ingredients without education, or in a state of nature, you are not only destroying the symmetry of the whole, but impairing, to a certain extent, the very vigour of those parts which you are so desirous to cultivate. You are, to that extent at least, withholding the stimulus and encouragement from those very parts essential for their growth and development. The real benefit of the culture of any one depends on the culture of all the rest—and the beauty and perfection of the compound being depend upon the thorough education of every one of its parts, according to their intrinsic and relative value. It is thus plain, that, by keeping any one part of our nature in a state of abeyance, we are not only doing injustice to it directly, but we are preventing ourselves from doing justice

to the very part we are concerned about, and to which we are devoting so much of our time and energy with a view to its improvement and advancement. To dissever where the Creator has united, and to give any one part all our efforts for their education, is tantamount to an impugning of the wisdom and goodness of Providence in making the necessary adjustments for the union of these parts. It is thus clear, that for the benefit of any one ingredient of our compound nature, as well as for the perfection of the whole, all the parts should be exercised and strengthened, or educated according to their intrinsic and relative value. Man is neither a purely intellectual, or emotional, or moral being, but a compound of all; and for the beauty and glory of each, all should receive a due share of attention and regard. Neglect or omit any one, and that instant the whole is impaired, and the very part we are most concerned about, does not, and cannot receive the same measure of justice.

Simultaneous Exercise. To devote a certain amount of time each day to physical and intellectual—to emotional and moral education, separately, is, no doubt, the recognition of the claims of each part, a recognition that the young are compound beings. But this does not render available, for the purposes of education, the dependence of the one part on the other, their acting and re-acting. In order to this, the teacher, whilst engaged in any one branch of education, or in the cultivation of any faculty or class of faculties, must call in the aid of the one as the handmaid or auxiliary of the other. Suppose, for example, he is formally engaged in intellectual work—in cultivating any one of the intellectual faculties, or a class or a number of them, he is there and then to bring to bear on this work the other distinctive parts of the childrens' nature. They are, apparently, listless and indifferent in the work in which they are engaged. Instead of prosecuting their studies with diligence and perseverance, they are literally idling away their time—becoming increasingly restless, and abounding in pranks and frolics. In five cases out of six, the teacher, ascribing this conduct to pure mental indifference, or listlessness, or moral obliquity, commences to scold and threaten—to dragoon and flagellate. But instead of this working any improvement, they are getting gradually worse. The cause, instead of being removed, is daily becoming more aggravated. That cause is purely physical. It may be the class has been made either to sit or stand too long, or to remain too long stationary in one fixed posture; or, it may be, they are now breathing a noxious atmosphere, alike enfeebling to their mental energies and irritating to the teacher. And what, in these circumstances, ought to be done?

A copious ingress of fresh, and an egress of impure air, or a change in their position, should be effected. Or the cause of the lassitude may be an over-tension of some of the intellectual powers; and in that case a season of relaxation should be observed, or another subject taken up—or, if the same subject must be continued, some rest should be given; and this may be done either by a march or by their singing some favorite song. Or, it may be, the cause of their listlessness and inattention is moral obliquity. They have formed their plans, and are bent on mischief. In that case, the teacher should at once appeal to their conscience, pointing out their responsibility for the use of the gifts committed to them—the obligations laid upon them to use every moment of time aright for their improvement. And he has still another resort. Failing in one or other of these, he may appeal to the emotional part of their nature. They have doting parents—*anxious fathers and tender mothers*—toiling for their benefit, and sacrificing their own personal comfort to enable them to give their children a respectable education. And how ungrateful, how unnatural, in these circumstances, to squander away their precious opportunities—to waste their time on trifles! This may stimulate to diligence when everything else fails. And so in the cultivation of the moral faculty or the *æsthetical*; the teacher must avail himself of the connection subsisting between that part of our mental constitution; and the other parts as well as of the body; and use these as auxiliaries or as stimulants, and thereby increase the sensibility and the power of conscience. Whatever, in short, is the part of our being that is, for the time, under training, the teacher should endeavour, at all times and in all circumstances, to avail himself of the reciprocating dependence of all the ingredients of our compound nature, and call in the one as the handmaid of the others; in other words, he is to operate on the one through the medium of the others, according to the strength of the bond of connection. This is a matter of paramount importance, and claims from every painstaking and faithful teacher the most profound and serious consideration.

RECAPITULATION OF CHAPTER.

In this chapter we have elaborated, first the characteristic itself, and then the adaptation process. Under the former, we have mainly dwelt on the influence of the body, when diseased, on our mental condition. This is beautifully and comprehensively set forth by Dr. Abercrombie, from whose *Treatise on the Intellectual Powers* we have

made some extracts. It is interesting to trace the gradation of mental aberration, increasing in severity, as the bodily disease becomes more aggravated, proving to a demonstration the reality of the connection in question. The re-acting power of the various parts is equally remarkable, and shows still more clearly the intimate relation and the reciprocal dependence of these parts. It will be observed that we have taken our examples principally from the adult or the more mature in years. We have done so, just because they come, in such cases, more frequently within the range of our observation.

The same relations and dependencies are as marked and palpable with the young. These influences and tendencies should be all weighed and studied by teachers, not in their general manifestation merely, but in individual cases, in order that special means may be resorted to. It is in this way that that cord of the heart is discovered and taken hold of, by which the skilful teacher may move, and control, and subdue the most rebellious and headstrong.

This acting and re-acting naturally originate a twofold process of adaptation, exercising the various ingredients individually and simultaneously. About the first, there is no dispute or difficulty. All know that the various ingredients of our composite nature are alone preserved in health and strength by exercise, and hence the readiness of all parties concerned to make provision for the same in the allocation of time for recesses—in the various games for which the playground is adapted—in the regular gymnastic and calisthenic exercises—military drill, &c., as well as in the various mental, and moral, and religious studies and pursuits. All these exercises, it is at once admitted, strengthen the particular parts. But the adaptation to the other branch, the reciprocating or re-acting is neither so palpable, nor yet so generally provided for. That the mind affects the body, as well as the body the mind, is at once acquiesced in; but how to take hold of this, and make it minister to the educational force, is the grand point in this characteristic. And yet this is one of the most signal triumphs of Stow, blending the physical, the intellectual and moral all in one, and rendering them all instrumental to the better accomplishment of the object contemplated, both directly and indirectly. After all, what is this, but treating the child as he is, and in adaptation to the nature with which he is endowed. Comœnius and Pestalozzi saw this, and carried it a certain length. But the adaptations and impulses of nature were too enchanting to them; here they laid themselves down—they fed and revelled on these green pastures. They saw not, they felt not, the religious and moral wants of the young, as they did the

natural; and that Book which can alone meet and satisfy these wants, they heeded not, or at least assigned to it only a subordinate rank. Stow seized the moral as well as the natural adaptation, and thereby wove for his brow a chaplet of unfading laurel—spread around his system a halo as dazzling as the sun, and as imperishable as the fountain whence it sprang.

CHAPTER IV.

THIRD CHARACTERISTIC.

GREAT DIVERSITY OF MENTAL ENDOWMENT AND TEMPERAMENT IN THE YOUNG. THE ADAPTATION HERE IS THE PRESENTATION OF A VARIETY OF SUBJECTS, PRINCIPALLY THROUGH THE MEDIUM OF ORAL LESSONS. DIVERSITY OF ENDOWMENT,—IN INTELLECT, FEELING AND CONSCIENCE. ADAPTATION,—GREAT VARIETY OF SUBJECTS, AS WIDELY DIFFERENT AS POSSIBLE. ACCOMPLISHED MAINLY BY MEANS OF ORAL LESSONS.—MORE DONE HERE BY THE MODE OF PRESENTATION THAN BY THE SUBJECT ITSELF. ANSWERS GIVEN BOTH SIMULTANEOUSLY AND INDIVIDUALLY. MODE BY WHICH THE PECULIARITY OR IDIOSYNCRASY OF ONE MAY CONTRIBUTE TO THE BENEFIT OF ALL, VIZ., INVERTING THE RIGHT ANSWER INTO THE FORM OF A QUESTION, AND THROWING IT BACK UPON THE CLASS. MORAL EFFECT OF THIS PRACTICE.

Diversity of Endowment. It is sometimes said that the faculties of the mind are as diversified as the features of the human countenance. Whether this be so or not, it is undoubtedly true that this diversity is immense, whether we look at mind in its broad features or in its more minute details. In some, the intellect is most conspicuously developed,—in others, the sensibilities, and in others, the will; and if we go into particulars, the same diversity of phase will manifest itself. In reference to the intellect, we see one remarkable for the prominence of his observational powers—another, of his abstractive, and another, of his imaginative. Among the members of the same family, one is signalized for the susceptibility—another, for the retentiveness, and another, for the promptitude of his memory; and still more, one is remarkable for the remembering of names and dates,—another, of facts, and another, of principles. The same diversity is apparent in the sensibilities of our nature. Some are excessively amiable, and others irascible; and, between these extremes, every possible phase exists. Some possess a large measure of order, neatness and arrangement in their plans and operations, and others are, as much as possible, in the opposite direction.

Some, again, seem to possess great sensitiveness and tenderness of conscience; and others are blunt, and dull, and obtuse, as if seared with a hot iron. The feats and exploits of mind in every sphere and walk of life, achieved by those who have occupied positions in every way adverse to their development, towering above and beyond others placed in far more advantageous circumstances, are all traceable to the same source—the diversity in their natural mental calibre. Indeed, so notorious is this diversity, and, according to the supposition of some, so utterly beyond the power of the most skilful teacher to adapt himself to it, so as to do justice to each child, that it is oftentimes adduced as an insuperable argument against public education altogether, and the most powerful, by consequence, in favour of private tuition; and we are free to admit, that, were the old-fashioned method of recitation exercises, and of the general conduct and management of the school pursued, this objection would wear a sufficiently formidable aspect. And what, it may then be asked, is to be done? How is the difficulty to be met? And this brings us at once to the consideration of the adaptation process.

Adaptation process.—Now, we have no hesitation in declaring our decided conviction, that this characteristic—the diversity of natural talent—is not only capable of being met, but of being rendered serviceable to the benefit of all the class, or in a graded school, of the whole department. This, however, requires no ordinary amount of skill, tact and management on the part of the teacher, and the pursuance of a system very different from the old mechanical rote system, both in reference to the subjects taught and the method of their presentation. And the first thing we would notice, as being at the bottom of the whole of this adaptation process, is to bring before the mind such a variety of subjects as will furnish ample *pabulum* for this diversity of endowment. By this is not to be understood a long list of subjects, as branches of education, such as sometimes appears in advertisements of scholastic establishments, but a judicious selection of subjects in Literature, Science and Philosophy,—such a selection, in fact, as shall call into play powers and sensibilities as far removed as possible from each other. But these branches of study will require to be largely supplemented by means of oral lessons, in whatever way carried on, whether by the real objects or their representatives, or word painting. These lessons, both in their substance and in their mode of communicating, must be in accordance with the age, or advancement, or habits, or circumstances of the pupils. By this means, a tribute may be levied on the whole domain of matter and

of mind. The analogies may be selected in meetest adaptation to the views and tastes of the great majority of the pupils; and this not in physical and intellectual education only, but also in æsthetical and moral. Aye, and the peculiarities of each of the different classes of individuals can be rendered eminently serviceable to the improvement and benefit of the whole.

But the adaptation process to this feature depends as much, if not more, on the method in which the subject is presented to the minds of the young, as on the subject itself. This does not consist in the teacher proposing a question, and then asking the individual at the head of the class to answer it, and, if he cannot, putting it to the next, and thus going the round of the whole class, till the bottom is reached; or, in first naming an individual, whatever position he may hold in the class, and then putting the question. It consists in his (the teacher's) first throwing out the question to the whole class or gallery, and inviting them to answer it as soon as they have good ground to believe they are capable of doing so. This is the simultaneous method, which is greatly aided by the sympathy of numbers. The other, or the individual method, is to make some sign, and wait a due time, according to the nature of the question and the condition or stage of advancement of the class, till all—the smart and the dull, the clear and the misty, the talented and stupid minds—have had an opportunity of doing their best; then name the person, according to his number, who is to answer the question, and, if wrong, show him that he is so; then ask another, and another, until the right answer is obtained or worked out. As soon as the teacher is satisfied with the answer, it should be turned into the shape of a question, and thrown back on the class, and satisfactory evidence given that every one in the class has received it. And now need we show how all this operates? We shall suppose that the question put, involves a considerable amount of cool, calculating power, and that the great majority in the school are puzzled and confounded, with the exception of one little, retiring, modest youth. He, and he alone, apprehends and grasps the whole question. He is not reckoned a smart, or clever, but a calmly reflective boy. He is also a retiring, diffident youth; and had the question come down to him from the top of the class, or been put to him directly, he would, in all probability, have become so excited, that he would not have done justice to himself, and failed. From the way in which it is put, however, he has full command of his powers and attainments, and deliberately arrives at the right answer. He gives it forth correctly, both in matter and form, and is thus, for

the time being, dux of the class, or, in a graded school, of the whole department. Again, by the teacher's throwing back the answer in the shape of a question to the class, the whole get the benefit of this boy's peculiarity or phase of mind, both in information and intellectual power. And this elicits an important principle, viz., that the more numerous the class, if properly graded, the more exciting, stimulating, and efficient the teaching. In a numerously attended school, there is a greater likelihood, even of the same grade, of having a larger variety of mental shade or hue; so that an answer is secured to almost every question, there being scarcely one asked that is not, more or less, congenial to some one mind or another. The average standard of talent is kept alive by the reception of questions within the reach of the qualifications of a great majority of the class; whilst, every now and again, a mind of peculiar calibre is operated upon by a question in exact adaptation to his liking, or tendency, or bent. And the same method operates most beneficially in a moral point of view. We have already supposed the question to be of such a character as to call forth the exercise of the abstractive or calculating power, met and answered by the modest, retiring boy. The very next question may be more congenial or suitable to the observational powers, when another boy at once steps forward and gives the correct reply with the utmost facility; and he, it may be, one of the boys that looked with perfect amazement at him who answered the previous question, so completely was it beyond his comprehension. He has now, however, got a question in complete adaptation to his tastes and capabilities; he replies without any hesitation; whilst the previously successful boy is non-plussed and astonished that any one should be at all competent to give an answer. He thus feels his own inferiority, and the last mentioned youth, distinguished for his observational powers, obtains the pre-eminence, whilst those who were foremost in other questions, and who had the palm readily conceded to them, are made to feel their own level, and denuded, to a certain extent at least, of their self-complacency and self-importance. The moral effect of this method is thus admirable—in every way fitted, instrumentally, to beget and keep alive a spirit of true humility—the first lesson in all genuine progress.

The diversity existing in the æsthetical and emotional departments of our nature, is met by a similar arrangement, and is equally serviceable for the benefit of the whole.

RECAPITULATION OF CHAPTER.

There is no need, here, of expatiation on the characteristic itself. There are few points more palpable or more universally admitted. How strikingly does this phenomenon contribute to the utility, the beauty and the happiness of all! What a testimony does it lift to the glory of the All-wise Creator! How contented, then, should all be with this arrangement, and how diligently should each improve the talents committed to him, whether in the kingdom of nature or of grace, remembering that he that hath, to him shall be given.

The adaptation process here is triumphant, not so much by the nature of the subject or branch of education, as by the mode in which it is presented to the class. Of all arguments in favour of private education, the diversity of endowments is, perhaps, the most plausible. If this diversity is so great in the case of six, or eight, or ten of a family,—if, in every one, we have a distinct phase of intellect—of feeling—of conscience, and if the province of education is to develop the powers or energies of each, respectively, who will pretend to say that he could overtake the development of more. The very discovery of the minute shades of difference in each case, is, of itself, a study, and if so, what must be the difficulty in the appliance of suitable means for the development of each! But what tends largely to obviate the difficulty in question is, that these eight or ten individuals ought to be viewed as types or representatives, and that the addition of as many more might be all classified under the same ten heads or classes; nay more, not only will the difficulty be thus surmounted, but the expedient propounded will minister to the benefit of the whole. But the principal charm of this expedient is its tendency to promote a spirit of genuine humility and modesty even amongst the most talented and promising; whilst it is, at the same time, admirably fitted to stimulate the mental powers of all.

CHAPTER V.

FOURTH CHARACTERISTIC.

DIFFERENT EPOCHS OF INTELLECTUAL DEVELOPMENT IN THE YOUNG. THE ADAPTATION TO THIS FEATURE, IMPARTING BRANCHES OF KNOWLEDGE, THE BEST SUITED TO THESE SEVERAL EPOCHS. MEANING OF CHARACTERISTIC. ORDER OF THE EPOCHS. REASON ASSIGNED FOR THEIR MANIFESTATION.—ADAPTATION TO 1ST EPOCH, FROM 3—8 YEARS. PERCEPTION. WORD TO MOTHERS. FIRST BUSINESS AT SCHOOL. ATTAINMENTS AT EIGHT.—SECOND EPOCH, 8—12. REPRESENTATIVE. MEMORY AND IMAGINATION. BRANCHES BEST ADAPTED.—THIRD EPOCH, 12 AND UPWARDS. GENERALIZATION AND REASONING. BRANCHES MOST SUITABLE.

Meaning of this characteristic. By this characteristic, it is meant that there are certain periods in the history of the rising generation, when some of our intellectual powers are more fully developed, and, consequently, more matured than others. The powers of the mind have already been compared to the leaves of the bud of a tree; and that just as some of these leaves are evolved at an earlier period than others, so is it with the powers of the mind. The order in which this expansion takes place, is pretty distinctly intimated by the classification of the intellectual faculties. The earliest in their development is the presentative class, or that class which requires the objects which awaken them to be brought into direct and immediate contact with their respective senses; and which, in consequence, are appropriately denominated sense-perception, and in immediate connection, or contemporaneous therewith, is the conception of the external object. The next in order of development is the representative, embracing the faculties of memory and imagination; and last, by the reflective, or the faculties of abstraction and reasoning, or the two mental processes of synthesis and analysis. This is the order in which the mental faculties may be said to develop themselves; not that it is meant that while one of these faculties is in a state of maturity, or in full, vigorous exercise, the others are in entire abeyance, or lying in dormant inactivity. All that is meant is, that, whilst, for example, the first is in liveliest exercise—in fullest manifestation, the others are but in progress, and are only capable of comparatively feeble effort.

Reason assigned. And why, it may be asked, is all this the case? Why are some powers more fully developed at one time than at another? In reply to this question, it were, perhaps, quite sufficient to

say that one set of these powers is more used at one time than at another, and being so, according to a universal law both in the organs of the body and the faculties of the mind, they grow more rapidly, and come sooner to maturity. But this only shifts the question a stage farther back, so that it again recurs, why are we dependent on one class more at one time than at another? The answer to this question unfolds the whole rationale of this arrangement. It arises from the very law of our being—from the very necessities of our constitution. The human mind, it would seem, is little else than a blank, till brought in contact with the external world. This it does through the medium of the senses, and, therefore, it is right and proper that we should place dependence on our senses, which very reliance strengthens and develops, and brings them first to perfection. But our senses are comparatively limited in their range. The knowledge we can amass by means of our own observation, is, in consequence, small. And how are we to add thereto? In no other way, that we know of, than availing ourselves of the observational powers of our fellow creatures, which, if duly authenticated, are perfectly reliable. And the stores of knowledge, thus accumulated, are altogether indispensable, to enable us to generalize and to reason, or to exercise the higher powers of the intellect, and thus, from the concrete, to pass into the region of the abstract, and thereby to luxuriate, as it were, in the region of the invisible—to hold converse with the infinite; and from the materials we already possess, to pass on to the acquisition of other and original knowledge. There is thus in this characteristic nought but the following out of the law of our being; and in that law we behold the most manifest proofs of divine wisdom and goodness. Man's mental constitution is susceptible of cognitions, or capable of receiving information; it is also capable of tracing the relations of the various objects falling under the cognitive—of analyzing their properties, and of forming combinations,—aye, and more still, from the knowledge already acquired, of proceeding to the acquisition of what is new and original. But in order to fit and qualify the mind for these higher functions, there must be a certain store of facts or truths deposited in the mind, which must either be derived from the observation of the parties themselves, or that of others. How wise, then, and beneficent the arrangement, by which the necessity is imposed upon us, from our most juvenile years, to lay up, as in a storehouse, those facts, for future use or service! And how imperative the lesson thus taught us, to adapt ourselves in the educational work to this admirable arrangement of things, to teach the branches more peculiarly belonging to each epoch,

not exclusively but chiefly, to rise in consecutive order, according to the intellectual development!

Adaptation Process. As already mentioned, the first faculties matured are the perceptive, or the knowledge we get through the medium of the senses. And the question here clearly is, What is the material to be presented to these various organs? and how is it to be presented, that the conception or idea in the mind may be vivid and impressive? These two questions are of transcendent importance, affecting, as they do, the whole future of the child, demanding the earliest, the paramount attention both of parent and teacher.

Word to Mothers. Although to some it may seem a digression, we cannot allow the opportunity to pass of tendering a word of counsel to parents, and especially to mothers. And we would urge upon their attention, the serious responsibility devolving upon them, so soon as the observational powers of their offspring come into play, to provide the objects suitable thereto. There does not appear to be any fixed period in the infancy of the human species for those powers coming into operation. In some infants of remarkable precocity, their observation powers are, to a certain extent, at work before they pass the third month; but, generally speaking, all children begin to notice before the end of the first year of their existence; and even then, mothers should commence the work of presenting suitable objects to the senses both of seeing and hearing. Though it were absurd to talk of anything, at this stage being done in the way of formal teaching, mothers should take care, that the tunes of nursery rhymes or lullabies are properly sung or chanted in their hearing, and also that the objects presented to the organ of sight are such as attract—fitted to excite lively emotion, and to form a vivid impression on the conceptive faculty. So far as it may be proper, everything at this stage should be done to exercise the other senses. A strong disposition is manifested, even at this early period, to bring every object within their reach to the test of all the senses, and especially to that of touch. Let this desire be gratified, as far as practicable. After the child has passed his second year, something more pointed and formal may be effected. It is now time to present objects—to call attention to the more prominent features of the same, with the pertinent name, care being taken always to give the reality first, and afterwards the sign or name. A greater variety in the music may be also now administered. At three and four years of age, the children may be pushed forward, bringing to their notice more minute objects, with their appropriate names, and encouraging them to sing or chant simple

melodies. Here, too, may the children be encouraged to repeat short stanzas, without being imposed in the shape of a task. Here a grand desideratum is awaiting—a kind of *vade vecum*—for parents, by which they might be guided in reference to the nature of the objects to be presented to their offspring, and the best mode of doing so, from the very commencement of their noticing powers, till they are five years of age, at least. This guide, to be complete, should also embrace the whole subject of physical and moral, as well as intellectual education. Parents are but little aware of the awful responsibility resting upon them in both these respects. Physically and morally, everything depends on the right starting—perhaps even more than in the intellectual department. Much, very much, depends on food, air, exercise, and cleanliness; if these are all properly attended to for the first five years, the effects will be apparent throughout the whole future career of the individual. It is of essential moment, too, that there is a right commencement made in the moral department. Firmness and decidedness, at the outset, even though it may impose a certain amount of self-denial on the parents, will save much labour, anxiety, and correction afterwards. This is the easiest course for the parents, and it is infinitely better for the children. What a boon would be conferred on any nation, were the mothers thereof properly instructed and rightly directed in this matter! It would lighten amazingly the toil of the schoolmaster, and make the groove of character so deep and indelible that no time or circumstances would obliterate. But we must return.

The children have now reached their fifth or sixth year, and are in attendance at school. And the question here presents itself, What is the first school business, or what, at the outset of the childrens' school career, should occupy the main share of their attention? We unhesitatingly reply, that if the previous training has been, in the main, good, the school-life should be, at the outset, and, as far as practicable, a continuation of the domestic life. The sudden transition that is oftentimes made in passing from the home to the school-life, by chaining the little children to the same fixed posture for hours—by requiring them to look the whole day at a few dead signs or marks, called letters of alphabet, and by the teacher, with the view of maintaining his authority, standing aloof from his pupils in starched, assumed dignity, and when he does condescend to speak, doing so in high, magisterial tones—in the most forbidding and distant term. Such a transition, we say, is injurious in the extreme—fitted to create and foster in the minds of the young a loathing disgust in reference to all school

affairs, and to look on the teacher more with fear and trembling than with confidence and affection. The first aim of the successful teacher should be to inspire his pupils with a liking for the school—for all its operations—its exercises and amusements; and for this purpose, he should endeavour to make them feel, with a slight restraint, that they are still at home, in a congenial atmosphere, and surrounded with many enjoyable objects. The greater portion of their time, for the first few weeks, should be spent in short exercises, adapted to the culture of the various senses, and especially those of touch, hearing, and seeing. Every child should be provided with a small slate, sponge and pencil, and should begin with the drawing of straight lines, the teacher showing the example on black-board, after a full description of the reality. When, after a few weeks, the alphabet is commenced, it should be by taking two or three letters daily, and before the new ones are introduced going back to the first; and these should be taught after the phonic fashion, the mechanical process amusing the children. More formal object lessons, consecutively arranged, should be gradually introduced, and the utmost care taken to give the correct name to every part. Every branch of study should be first brought before the mind concretely and analytically, and, through the visible object, pass to its natural representation or picture; then to the artificial or conventional; and last of all, to the abstract. The music should, as much as possible, be accompanied with sound, wholesome truth, which will be so much more easily committed to memory when married to some sweet, cheerful, and agreeable air. It matters little as to the number of branches taught, provided they are taught after the above fashion. Analysis of objects or things, with appropriate and accurately acquired nomenclature, must form the staple article of this epoch.

Attainments at eight. At eight years of age, with ordinary attention, the average attainments of the young will be such, as that they shall be capable of reading and spelling any common book—of giving the names of the different classes of words, and of the different clauses of a simple sentence, with the various pauses—of presenting the leading features in the Geography and History of their native country, with the general principles involved—of working the fundamental rules in arithmetic, both by slate and mentally, with a ready and prompt recollection of the tables of money, weight and measure, and of drawing any form from nature, and of printing, and of writing an intermediate hand, with some knowledge of colours. And besides all these regular branches, having a fair knowledge of the various objects

around, both in nature and art, with the pursuits and employments that may prevail in the locality. And with this measure of attainment, they are in a fair condition of preparedness to enter upon the more special business of the second epoch.

Second Epoch—the representative. This is appropriately designated the representative epoch, or the epoch when the memory and the imagination are largely developed, and most susceptible of impressions, covering a period of four or five years, i. e. from 8 to 12 or 13. This is the memory period, or that period when this power of the mind is both most capable of culture and most retentive—when there is the least trouble in committing anything to memory, and when, if thoroughly mandated, it seems to produce the most lasting impression. This has been already discussed under the head of intellectual education, so that there is no need of enlargement here. There cannot be a doubt that this is the period when the memory is freshest and greenest, especially in the remembering of words, or facts, or dates. And if this power is early in reaching its maturity, it is equally so in showing symptoms of decrepitude and decay. But what is very remarkable here, and corroborates more than anything else the soundness of our position, is the circumstance, that, though in advanced years, we may not be able to recal what happened comparatively recently, it is quite otherwise in reference to what occurred in our own juvenile years. Everything for the last ten or twenty years may be obliterated, but what transpired or was committed to memory during the epoch under consideration, no time or circumstances seem capable of effacing.

Branches adapted. What, is it now asked, are the branches best adapted for this epoch? Everything, we reply, that requires the sheer exercise of the memory. And all here will naturally direct their thoughts to Language. There is no branch of study demanding a purer exercise of this faculty than language in all its shapes and forms. The skilful and painstaking teacher may do much to simplify what is intricate—to reduce the theoretical to the practical, and thereby to invest it with tenfold greater interest; but no process of simplification—no system, however novel or improved, can do away with the drudgeries of memory in the acquisition of language, and especially any foreign language, ancient or modern. And it is worthy of notice here, that, during no other epoch in our history, does language take a firmer hold of this faculty. There have, no doubt, been a few distinguished linguists who did not commence a foreign language till long after the period referred to, but these are the exceptions. And the

reason seems to be that we depend upon our reflective powers as well as on our memory in the getting of languages afterwards. Ask nine out of every ten individuals what language was most easily remembered, and most available to them, when they reached their 40th year, and, to a man, they will reply, the one acquired during this epoch, or before they had passed far into their teens.

To avail ourselves, then, of this capability, the first thing, we apprehend to be done, is to make the young familiar with the vocables of their vernacular tongue as the instrument of thought and as the record of the myriad elements of consciousness. This process has been going on under the former epoch in reference to what is visible, tangible, audible, sapid or odoriferous. As one of the greatest benefits of object lessons, we have specified a perfect analysis as far as the stage conducts, and to every part assigned the most precise and accurate sign in the shape of vocables, whether these express analysis, or subject, or the quality of either, or the action of the subject. A much greater share of attention must now be given by the young to the whole subject of their native tongue—the source—the structure—the inflection—the derivation of its words—the root, prefix and affix—its compounds, &c. The grammar of the language should be studied at this stage. By means of oral lessons, attention has already been called to this subject, analytically; but it must now be studied synthetically, or as a science, and from a regular text-book. All the niceties and peculiarities of etymology—all appertaining to the construction of sentences or grammatical analysis, and to their arrangement or rules of syntax, should be attended to. Now is the time for the grammars of ancient and modern languages, if these are to be acquired, especially the purely memoriter portions of them. The philosophy of language may be deferred till a later period, but not the elements or those portions requiring to be accurately committed to memory. Of course, much of the practice, either writing or speaking of the languages learned, should go along with the mandating work. At no epoch can languages be acquired, so as to be spoken correctly with such facility, as now, and this without at all destroying the peculiar pronunciation of each. Children have been known to learn five languages at once during this epoch, and to talk them fluently, without any confusion or much apparent difficulty. The children of the pioneer India missionary, Carey, acquired a command of the Hindostanèè vocables long before the father, distinguished linguist though he was, and master of the grammar before he set foot on the shores of Bengal.

Besides language, much may also be done during this epoch in the

storing up of facts, dates, &c., in Geography and History, as regular branches of education, and the technical terms commonly used in the sciences, presented in the form of oral lessons. During this period, the outlines of natural science might be surveyed with great and beneficial results.

But this, too, is the period when the imaginative power is in liveliest and most vigorous exercise, and most susceptible of foreign influences. The act of the imagination supposes that some analysis has taken place. It may not be the analysis of the qualities of objects, but of the parts of objects. And if the mind is specially given to this work about this period, so is it in the combination of parts into a whole, in the formation of new creations. This, accordingly, is the time when the young are fondest of listening to stories—to romantic and imaginative tales—to the perusal of legends, of novels, &c. Some are, of course, more under the influence of this principle than others; but now, if ever, is the epoch of its most powerful impulses. Don Quixotte, Robinson Crusoe, Pilgrim's Progress, &c., are the staple delights of the young at this period. This, too, accordingly, is the time when figurative language or analogical illustration of every sort is most attractive and enchanting, and when the young are most readily and delightfully conducted from the region of the known to the unknown—from the natural to the figurative.

And what is the food most congenial to this power—best fitted to satisfy and gratify? It is to present to it the most graphic delineations of great and important scenes or events—to encourage the study of poetry, and especially of epic poetry—the perusal of the best and most manly novel writers; or, if they manifest anything like a taste for form, to examine and study the different pieces of sculpture performed by the first masters; or, of colours, to direct their attention to the finest specimens of painting, &c.

But this is not enough. At this period, their attention should be directed to the beautiful and sublime in the works of nature around. It does not matter whether these views are microscopic or telescopic, provided the young are brought to look on them as they actually came from the hands of the All-wise Architect and Painter. It is well, too, at this stage, to require them to delineate these scenes practically, either in words, or models, or painting. This is the time when they will evince whether they possess the gift of reducing to embodiment the ideal, whatever bent their taste may take; and in this, the young should be encouraged in every possible way. If there should not be among them geniuses in poetry, or architecture, or painting, scores

may arrive at that proficiency which will prove of immense benefit to their fellow creatures, as well as to themselves. At all events, such pursuits or employments being encouraged, as far as it is consistent with their other duties, will exert a powerful tendency in elevating the whole refinement of the generation.

3rd Epoch—Generalization and Reasoning. The third and last epoch of mental development is the reflective or the discursive, embracing several faculties, but all usually comprehended under generalization and reasoning. The mind is now sufficiently stored with facts and rules—now fully developed for the higher exercises of synthesis and analysis.

And what, it may now be asked, are the subjects best adapted to this last and most exalted of all mental effort in our school days, from 12 or 13, and upwards?

In so far as the synthetic or generalization process is concerned, we would unhesitatingly recommend the propriety of beginning with grammar. This, as has often been stated, is the science of language. Language, concretely regarded, has been presented to the young in all its aspects during the preceding epochs. They are now then fully prepared to consider it in its synthetic form—in all its principles—in all its philosophical and scientific bearings—in all its arrangements and classifications. It were well that grammar, synthetically regarded, were always reserved till this epoch. Then, instead of the unmeaning jargon, it so often assumes, it would be found to be both a delightful and profitable branch of study. Then, too, will the thoughts of the mind be not only more vivid and expressive, but the mind itself be cultivated and disciplined. Another branch, well fitted to exercise and strengthen the synthetic power, is geography in its highest generalizations. What could furnish finer illustrations of this principle than the mountain systems of continents or of the world, or the river systems, or river basins. Arithmetic, in its more advanced stages, too, is admirably calculated to show the principle of proportion in its application to some half dozen or more distinct commercial, arithmetical rules.

Algebra is still better than arithmetic, and should receive much attention at this stage in its higher departments—quadratic equations, &c. Natural science in one or more of its branches, should also be here encouraged. Many facts connected therewith are already stored up in the understanding and memory of the young. Now it should be studied in its classifications. In the inorganic kingdom, what more beautiful generalization than that of the law of attraction from chem-

ical affinity up to its grand consummation in that of gravitation. And so is it in the organic or biological department. This great principle of life can be here illustrated, not in theory or abstractly merely, but in actual existence, before the eye and other senses.

Reasoning power. But there is another exercise of the mind closely allied to this,—we refer, of course, to the analytical process, or going on from generals to particulars. In its highest exercises, this involves the reasoning power, which, in some respects, argues a more matured or developed mind than the preceding, being founded on the principle, that whatever is affirmed of the whole of the class, may also be affirmed of every individual of that class.

Perhaps, upon the whole, the branch of learning most congenial to the exercise of this power, is mathematics, especially that department that has to do with magnitude or geometry, both theoretical and practical. Some of the most distinguished philosophers have questioned the utility of geometry, as a discipliner of the mind. This, in all probability, has arisen from the way in which geometry is too frequently taught, without any allusion or reference to the relation subsisting between the different propositions, and still more, between the merely theoretical and practical. When geometry, both plane and spherical, is thoroughly taught, we can hardly conceive any exercise better fitted to strengthen the power of ratiocination. The elements of physical science might be also prosecuted with great advantage during this period. How admirably fitted are the laws of mechanics—of statics and dynamics—of optics, astronomy, and such like, both in their mathematical and experimental bearings, to give employment to the reasoning faculties!

Logic, too, with the laws of mind on which this science rests, may be also prosecuted here with great benefit to the strengthening of this noble power. Indeed, the whole department of psychology might be here introduced, and the mind advantageously exercised thereon. This is, perhaps, the field for the highest exercise of the reasoning faculty, and will require much training before the mind steadily and earnestly investigate the phenomena of its own consciousness. But industry and perseverance will conquer, and what a victory!

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Here we pursue the same course; first, explaining and illustrating the characteristic itself, and then the adaptation process, or the means to be employed, educationally, by which the great purpose of its exist-

ence may be served. There may, and there does exist considerable diversity of opinion as to the exact periods of these epochs—the number of years that should be allotted to each, and the branches of education best fitted; but as to the feature itself, and the necessity of adapting ourselves thereto in educational matters in some one shape or another, no one seems to entertain the slightest dubiety. Our decided conviction is, that considerable latitude of view ought to be allowed here, and that in consequence of various contingencies, arising both from external and internal causes, over which we have no control. No one, for example, denies that climate affects, and that most extensively, the physical organization, and, by consequence, the mental. This, perhaps, will produce between the young of Nova Scotia and Scotia Antiqua, the difference of a year in point of advancement of intellect, so that if the latter commence their school-life at six, the former should at five years of age, and so on continuously in all the epochs specified.

But we need not dwell longer on this point. We would rather bespeak the attention of our readers to the principle here so strikingly and beautifully exhibited;—we refer, of course, to the law of gradation. This law, as already stated, reigns universally in the works and ways of Deity, alike in the world of matter and of mind. And what resplendent lustre have the discoveries of geology shed upon this law! How interesting and fascinating to trace back, through the interminable links of the chain of organized existences from the creation of man to the time when the first lichen was summoned into being. Surely the infinitely-wise must regard this law with ineffable complacency and satisfaction! And no wonder, when it is considered, that through it He exhibits to all orders of moral intelligences the glory of His perfections both in the world of nature and grace, and maintains the dignity and honour of His preserving, presiding agency. And more than all, that it is through this law He secures our co-operation in the fulfilment of His purposes, and thereby enhances His own excellence, whilst he adds, and adds inconceivably, to our blessedness.

CHAPTER VI.

FIFTH CHARACTERISTIC.

GREAT DIVERSITY OF ATTAINMENT. TEACHING BY OUTLINES, THE ADAPTATION PROCESS HERE. THE UNIVERSALITY AND ORIGIN OF THE EXISTENCE OF THIS FEATURE. MEANING OF TEACHING BY OUTLINES. TWO ILLUSTRATIONS TAKEN FROM TEACHING HISTORY AND GRAMMAR. BENEFITS OF THIS METHOD OF TEACHING.

The universality and origin of its existence. That this diversity in the matter of attainment exists, no one, for a moment, questions. In populous districts there may be well graded schools, and, in rural districts thoroughly classified miscellaneous schools; but, despite of all our pains and faithfulness in classification, there still remains considerable disparity. In the same class, with the children pretty nearly of the same age, and with the same advantages in their previous school course, there are scarcely two exactly alike, even in the same branch, and this all the more in different branches. This, of course, arises primarily from the characteristic already discussed—the diversity of natural talent; for, so long as this exists, it must, of necessity, produce great diversity of attainment; and even in cases where the intellectual calibre may be nearly alike, there is oftentimes such a difference in character and habit, that, by diligent application to study, some are found far outstretching others.

Adaptation—Teaching by outlines. And what is it to teach by outlines? It is to take the leading, salient points of the subject about to be studied, and, by every legitimate means, to get these incorporated into the mental frame-work of every member of the class, if engaged; and, thereafter, by three or four courses, to fill in the details, according to circumstances, until the whole subject rises up in full-shaped manifestation or complete maturity. Take the history of England as an exemplification. To teach this subject by outlines, is first to take the different periods, viz., the Roman, the Saxon, the Norman, the Plantagenet, the Tudor, the Stuart and the Guelph, with their dates; then the reigning monarchs of each period, with the dates of the beginning and end of their reign—their personal life and character; then the domestic, colonial and foreign policy of their reign—the leading statesmen—warriors—authors—men of science, &c., and for what they were famous; and, lastly, the leading events, classifying them as political, commercial, literary, scientific, religious. After

such a series of outlines, clearly understood, and thoroughly deposited in the memory, the class is now in a befitting position to take up the history, and read it, chapter by chapter. With what intense interest is it read, and with what unerring certainty remembered? Take Grammar—systematic or synthetic Grammar—as a second illustration. The three distinct classes of the science of language, viz., Orthography, Etymology and Syntax, with an outline of the various topics embraced, constitute the broadest or skeleton outline. The second stage is the presentation of each of these branches by outline—all about orthography, etymology and syntax; and then the third stage should complete the whole, embracing the most minute points, with all the exceptions and niceties. Not only should these branches be first taught after this fashion, but on occasion of every review, which should be weekly or fortnightly, the same course should be pursued, dwelling more particularly, and at greater length, on the point or points last said in detail. It forms, too, an excellent and a powerfully stimulating exercise in a miscellaneous school, when the various stages of progress in grammar, or in any other branch of learning, are all grouped into one class once a week or so, and especially on days of general review, and examined in accordance with this plan—that is, the younger, or less advanced, answering the skeleton outlines, and the more advanced according to their stage, filling in gradually the detail, until the whole is complete. Indeed, the whole of this outline method of teaching cannot be too extensively practised or too frequently resorted to in a common school. It forms an admirable expedient for arousing and stimulating the mind in any one department, both of the more juvenile or the more advanced. The law of nature proclaims aloud its excellence. Look at the little child, for the first time introduced into the museum. What is it that first engages his attention, and absorbs his interest? It is the more conspicuous objects and curiosities—such as the camel—leopard, the elephant, and the whale,—all, in fact, whose size and colour produce the most dazzling and the most stunning effect. On occasion of his second visit, his mind is more occupied with the objects of smaller dimensions, such as the lion, the tiger, the bear, and the like. And so onwards, in every succeeding visit, he descends lower and lower, till he arrives at the smallest and tiniest objects.

And so with the painter, in transferring the landscape to his canvass. His first effort is to draw the faintest outlines, and specially the background. He next fills in the more prominent and then the more minute objects; and, lastly, he proceeds to give stroke after stroke—touch after touch—at one time to this part and at another to that, until

the whole is presented to his view in living embodiment—in complete symmetry—in perfect beauty. And so is it with the sculptor and the architect. These all carry on their operations by outlines, and this simply because it is the law of nature. Why should not the teacher avail himself of the same natural law? The closer we imitate nature in any of our operations, the more likely are we to approximate perfection.

Benefits of this mode. Accordingly, it will be found that, by the adoption of this course, the teacher is enabled to give his pupils a far more comprehensive view of the subject, than if he were to proceed in regular detail from chapter to chapter. Not only will the scholars obtain a more enlarged view of the subject, but they will see it in all its relations and links of associations, and thus find it far more easily remembered. The broadest outline being thoroughly engraven on the mind, will form a nucleus, around which all subordinate events and all minor matters will cluster, and the law of association will thus come in as a help—as a handmaid to the memory. Contemplating the subject, too, in all its various relations, will impart a more vivid apprehension and appreciation of its beauty—will invest it with far deeper interest, and enable the young to render the knowledge thus acquired far more available during the whole of their future career.

The first thing, then, that all ought to aim at in commencing any new subject, or in the perusal of any new book, is thoroughly to master its prominent features; and, if the book is well arranged, these will be found under the head of the contents. There could scarcely be a more profitable employment than writing out our own views on the subject, having, for our text, the contents of the book. Doing this before we read a word of our author, would not only enable us to test his powers and capabilities, but be of immense practical benefit to ourselves.

RECAPITULATION OF CHAPTER.

This is one of the most valuable of all the adaptations. If there is no feature so prominent as the one under consideration, so is there none so suitably met by what are denominated outline lessons. It is in perfect accordance with the instincts of our being, as illustrated by the child's visit to the museum, or by the conduct of the architect, the painter, the sculptor, the carver. Not one of the professional men, or of the amateurs of the fine arts, ever dreams of finishing the various parts of his performance in detail. First, to pencil or chisel out the

broad outlines, and then to proceed step by step, doing a little to each part, till the whole is finished, and rises up in living reality, is the course pursued by one and all. And so ought it to be with every branch of education. By the pursuance of this plan, not only will a more thorough knowledge of any one subject be more easily acquired, but that subject will be far more serviceable in its application in all time coming. The leading, the salient points being incorporated into the mental framework of the young, the law of association will, when required, cause all the details to spring up and cluster around, and thus whatever is acquired will prove of enduring benefit. Indeed, it is our decided conviction, that were all the branches of education taught after this fashion—were greater prominence given to the outlines and less to the details—were the former more thoroughly woven into the mind of the rising generation, and the latter left for after filling in and the work of self-education, it would tend largely to the development of mind, and to the promotion of the higher interests of the human race.

CHAPTER VII.

SIXTH CHARACTERISTIC.

THE INFLUENCE OF THE SYMPATHY OF NUMBERS IN THE SCHOOL-ROOM, AND THE MEANS BEST FITTED TO RENDER THIS INFLUENCE AVAILABLE. MEANING OF FEATURE, WITH ILLUSTRATIONS. MEANS TO BE EMPLOYED TO GIVE THIS PRINCIPLE EVERY ADVANTAGE AND FORCE IN SCHOOL-ROOM: 1ST. THOROUGH CLASSIFICATION—SPECIALLY GRADED SCHOOLS. 2ND. NON-SEPARATION OF THE SEXES. 3RD. GALLERY, OR ELEVATED SEATS AND DESKS. 4TH. ENCLOSED PLAY-GROUND.

Meaning of feature. The word sympathy, according to its derivation, signifies suffering or feeling along with another—a fellow feeling—a mental sensibility. It has its seat in our constitution as social beings, and is one of the chief elements that cements man to man, and contributes largely to his happiness. It is of extensive application. Primarily, it was used almost exclusively in reference to the sensibilities of our nature, and specially to the feeling of sorrow; but now it is used in reference to all our states of mind, intellectual as well as emotional. We talk of sympathy of views—of tastes—of feelings, both of melancholy and cheerfulness—of sorrow, and of joy. And this principle is no less universal in its existence than it is influential in its operations,

Few, comparatively few, can resist its potency. Let the coldest and most frigid in their emotional frame be ushered into a company where all is hilarity, and mirth, or laughter,—or let the hardest and most stony-hearted be introduced into the apartment where sorrow is depicted on every countenance—where the deepest sighing and sobbing prevail, and where every cheek is suffused with the burning and the scorching tear; and who, in these circumstances, can resist the impulses of his being? But it is not the mere capability of sympathizing with others that this characteristic has to do; it is the sympathy of numbers, or the additional power imparted to this principle by the concentration and proximity of numbers. That great power is imparted to this principle of numbers, must be apparent to every one who contrasts the state of the inhabitants of a densely-peopled city with those of a thinly settled, rural district, regarding any important question that may be agitating the public mind. In the latter, all is quietness and calm tranquility; the people do not seem at all driven out of their usual latitude of action, or from their usual moderate routine of procedure. In the former, on the other hand, all seem to be in a state of excitement—of enthusiasm—of frenzied fever, regarding the subject. They can think of nothing else. They can speak of nothing else. Their whole minds and energies are absorbed. The subject that has produced this diversity of result is of the same value to the one as to the other. But in the one case there are numbers, overflowing numbers, and these in close juxta-position, every day and every hour coming in contact with one another, and exciting and stimulating one another. Be the cause what it may, there is a marvellous power in numbers, when these are in immediate contact with each other, both physically and mentally. How palpably is this phenomenon presented to us in politics—in religion, and indeed in all employments or pursuits, when men are collected for the furtherance of any one common object! How often do we find them, when associated in any scheme or operation, saying or doing what they would never dream of individually. Hence the bravery and magnanimity of soldiers when appeals are made to their patriotic glory and fame. Hence, too, the carnage—the havoc and desolation, created by a tumultuous crowd.

But we have said that to give due effect to this principle, the people must not only be in great numbers but in closest proximity, in place, age, &c. This is an indispensable requisite for the full outflowing of this principle. Let the most popular orator of the day address a large audience on any stirring question, in a Hall, where the people, however numerous, are considerably re-

moved from one another, and he cannot, by dint of all his eloquence, rouse their spirit, awaken their enthusiasm, or even interest them in the subject. Let the same audience be gathered together into an apartment where they are packed closely together, where they are in compact array, and where they can see each others faces and feel each others movements; and let the same individual address them, and how different will be the effect! Every one is roused to highest excitement; indeed so thoroughly have they all caught the spirit of the speaker, that they are completely one with him. Look again at children at play. Let four or so be engaged, two on the one side of the game and two on the other, and how dull and cheerless the whole scene. Let, on the contrary, some twenty enter the list, and let them be well classified in point of strength and capabilities for the game, and what ardour, what struggling will be exhibited. In very proportion to the number and to the equality of the match will be the conflicting on each side for the mastery. Now if this principle is so influential, so omnipotent and so universal in the common affairs of life, at all ages and under all circumstances, why should it not be laid under tribute in the education of the young? Indeed it is the very power of this principle that constitutes one of the strongest arguments in favour of a public education. In the family, there can be scarcely any play given to it. It is in the public school, and in that alone, where a suitable arena can be found for its full manifestation.

Means to be employed in education. And now the enquiry is, How is this principle to obtain full justice in the public school. We reply, first, thorough classification. In the game above referred to, we saw that the violence and determination of the combat depended on two things, first the number, and then the equality of the physical strength and skill on each side. And as it is physically, so is it intellectually, and morally, and æsthetically. There must be numbers, but there must be something more. The scholars must be arranged in such a way as will call forth, in the most complete manner, the working of this principle.

It is here that the real worth, and excellence, and glory of classification are manifested. And hence, when the population will admit of it, the immense advantage which *graded schools* possess over miscellaneous, as they are, in contradistinction, designated. The first advantage mainly appertains to the teacher and his relation to his scholars. If all the scholars under the charge of one teacher are capable of being placed into two sections, it puts the teacher on the highest vantage ground in relation to his pupils. Being one-half of his time engaged

with the one section and the other half with the other, he has every opportunity of plying the minds of every individual with the subject under consideration. Instead of being completely employed with the mere routine of recitation-exercises,—many of which are purely mechanical,—and scarcely able to overtake the work, even in the most perfunctory way, he has abundance of time to work and weave the whole subject into the mental frame-work of his pupils, both by the use of the text-book and by supplementary *viva voce* instruction. This were education worthy of the name. And all this is vastly enhanced and exalted when we add to it the force of the principle under review, the sympathy of numbers, where the scholars are properly classified and arranged. Perhaps as much, both intellectually and morally, depends on the working of this very power as on anything else, the skill and power of the teacher not excepted; and yet it is comparatively little known or regarded as an element of power in the school establishment. And hence the small appreciation of the graded school, the utter indifference of more than a half of the enlightened and educated classes, whether the school is in accordance with this system, or whether it is an old fashioned miscellaneous school. Did those who profess to be interested in the cause of education but know one tithe of the superiority of the graded to the miscellaneous school, that as much work can be done in one week in the former as in two weeks in the latter, and that with much greater effect, they would strain every nerve and put forth every instrumentality to put the system into operation wherever practicable. And all the more, because the characteristic under consideration is only fully met and illustrated in graded schools.

Classification of Miscellaneous Schools. In a miscellaneous school, that the sympathy of numbers may have full and free scope, the classification must be thorough. Everything here must be properly adjusted—the classes neither too few nor too many—the criteria of judgment not dependent on any adventitious circumstance, but on sober, substantial realities, so that when the emulative principle comes into operation, each competitor may feel that he has got an opponent to confront and a prize to win.

Another arena for the display of this characteristic, is the *non-separation of the sexes*, or attendance of boys and girls at the same school till they reach the twelfth year of their age at least. This point has not received the attention it merits. Some regard the teaching of boys and girls in the same apartment as a flagrant breach of all the proprieties of civilized society. Others again treat the whole subject

with passive indifference, or as a matter of no moment. We account it of paramount importance for the mutual advantage of both sexes. All admit the benign, the hallowing and ennobling influence of the female character, when she holds the position in society to which she is entitled. Not only does her presence restrain rudeness and impropriety of every sort—it spreads around the fireside, the social circle, and the public place of meeting, a grace and a charm all their own. Deprive man of the refining power of female society, and he soon approaches to, if not actually sinks into, barbarism; exclude the female, and prevent her from association with the male, and equal, if not more disastrous, will be the results. She will fall, both intellectually and morally. And if such is the reciprocity of benefit that they confer on each other respectively, surely the young of both sexes cannot be brought too early together—they must derive the highest benefit from being trained in the same school.

But the benefits that flow to each sex from both boys and girls being educated together, are marked and decided, evincing, in a way that cannot be gainsaid, the power and glory of our principle. The girls morally elevate the boys, and the boys intellectually elevate the girls. But more than this, the girls themselves are morally elevated by the presence of boys, and boys are intellectually elevated by the presence of girls. The boys stimulate each other, intellectually, and the girls, morally; so that girls educated with boys are more positively moral, and boys educated with girls are more positively intellectual, than if they had attended separate schools—than if educated apart. And all this by reason of the potency of our characteristic, provided, of course, that both the boys and girls are thoroughly classified, and the moral tone lofty and commanding.

Another instrument for giving force to this feature is the *Gallery* or *elevated benches*. Contiguity in place or proximity has been already noticed as imparting vivacity and power to our principle. The nearer, accordingly, the pupils are to one another and to the teacher, the more distinctly they read in each other's countenance the thoughts and sentiments passing through the mind, the more unique will be the sympathy, the more completely will one cord unite the scholars in one adamant bond. No external position or arrangement seems more favourable for the production of this state of mind and feeling than the gallery or elevated benches.

Another instrument not less powerful in the fostering of this principle and deriving from it the highest assistance, is *the enclosed playground*. It is in the play-ground, as has been often said, where the

real character of the scholars is displayed. So long as they remain in the school, they are under restraint. When they are in the play-ground however, they appear in their true character, and the teacher obtains more correct knowledge of their tempers, their dispositions, their habits, &c., than in any other way. Without any lording of his authority, without anything in the shape of espionage, anything in short save a vigilant superintendence, the teacher detects every phase of character, notes every peculiarity of mind, and perceives every habit or disposition of temper. In the various games or employments the sympathy of the scholars will be fully manifested, those of like age, like views and like feelings, all grouping together for the furtherance of the same object, all intent upon the same gratification. And this gives immense power to the teacher, not only in the discovery of character but, afterwards, in the selection, adaptation and effect of his oral lessons. Such knowledge could never be arrived at without an enclosed play-ground.

RECAPITULATION OF CHAPTER.

Sympathy is one of the finest and noblest of the emotions or instincts of our being. Its direct design is to alleviate the sorrows incident to this vale of tears, as well as to enhance and to elevate our joys. But whilst this is the direct design, there are other benefits resulting from its exercise, and one of these is the disposing of the mind to accommodate itself readily to the tastes, sentiments and views of those with whom we have occasion to associate—a disposition this, augmented and strengthened a hundredfold by external circumstances, and by nothing more than the concentration and proximity of numbers. What exploits, what feats of valor and magnanimity have not been achieved by a number of kindred spirits in thick and confederated phalanx, all animated by the same zeal, all goaded on by the same impulses, all bent on the accomplishment of the same high purpose! What would these have been, had they been called to confront the enemy in a state of division, or standing aloof? What but very cowards—miserable fugitives or deserters. Keep them united, and they are bold as lions; they would face any enemy. What will a community not do either for good or for evil, when leavened by the same principles, inflamed by the same spirit, determined to accomplish the same ends, if they remain in close and compact array! Example, they tell us, is more powerful than precept, and so assuredly it is, but sympathy is mightier far than both; it sweeps all before it with one tremendous surge. If such be the

power of this principle in all congregated masses, why not give it fair play in the school-room? So reasoned Stow. He tested it both in his Sabbath and week day school, found it all efficacious both intellectually and morally; and thereby placed a lever in the hand of the public teacher more potent far than all his stores of learning—than all his skill and experience in the art of imparting knowledge—than all his tact in discipline and government.

CHAPTER VIII.

SEVENTH CHARACTERISTIC.

THE IMPRESSIBILITY OF THE YOUNG. THE ADAPTATION TO THIS FEATURE IS A STEADY, CONTINUOUS AND WELL-REGULATED EDUCATION.—UNIVERSALITY OF FEATURE IN ORGANIC BEINGS, AND SPECIALLY IN MAN.—RESPONSIBILITY INVOLVED.—APPLICATION OF THE ADAPTATION PROCESS, A STEADILY CONTINUED AND PROGRESSIVE EDUCATION.

Universality of feature. Every object capable of expansion or growth proclaims the season of human instrumentality the most efficient and most extensively useful, when in a germinative or adolescent condition, or at the commencement of its career. Look at the mighty river, as it pours its broad and deep waters into the devouring ocean, and where is the man, or body of men, that would divert it from its channel? Follow it up, mile after mile, till you arrive at its fountain-head, and what do you see, but an insignificant rill, whose course a child might turn.

This feature is still more conspicuously displayed in organic substances. Look at the trunk of the sturdy and stately oak. Hundreds, aye, thousands of men could not bend it a hair's breadth from its direction. Look at it, when a tender tiny shoot, it sprouts from the acorn, and a little child could bend it, in whatever form or direction he wills. How hard, next to impossible, is it to tame and subdue the wild old and vicious animal, and much more to eradicate any vicious or evil habit which a dog or horse may have contracted! How easy, on the contrary, to educate to almost any mechanical employment or pursuit the young colt or dog! The effect of industry and perseverance in the training of either of these animals, confessedly the most sagacious of the brute creation, is perfectly marvellous.

And the human species is no exception to this universal law. Indeed, there is no creature so plastic, so susceptible of impressions, and of the influence of early training, as man in all the parts of his compound nature, physically, intellectually and morally. We all know the effect of early education on the physical frame of the young of all animals, and especially of man!—of the robustness—the athletic strength, and the capability of physical endurance of those who have had justice done to the training of their bodies, when young, when in a state of growth. The record of the feats and achievements of the Greek and Roman soldiers in the manhood age of these nations, furnish the most ample illustration of the truth of this observation. And the effects of early training are still more visible both in our intellectual and moral constitution. Who can over-estimate the influence of early and sound education on the intellect and conscience of man? We do not here refer to individual minds, for born geniuses will rise to eminence at times, whatever the external obstructions of their more juvenile years; we refer mainly to the average class of minds trained to the exercise of patient thought, and to the hard yet difficult work of self-denial, when in a growing state. What triumphs have the one and the other not achieved, and what blessings untold and priceless, have not thereby been poured out on the human family at large! In full concert with the most palpable, every day observation, are the intimations of Holy Writ. Nothing more to the point or more encouraging, than the hackneyed, yet unspeakably precious saying, “Train up a child in the way he should go, and when he is old he will not depart from it.” And with a few exceptions, which after all but go to the confirmation of the general principle, have we not in the whole history and condition, both of the body politic and ecclesiastic, the most abundant illustrations of the divine truthfulness and faithfulness. What is the secret of the distinction of four-fifths of the men who sway in literary and scientific, in commercial and political matters; and still more of the men who take the lead in all benevolent and philanthropic, in all religious and moral undertakings—what but the advantages they enjoyed in their more juvenile years. And here we cannot refrain from adverting to the striking harmony that obtains between the findings and experience of nature, and the discoveries and intimations of Holy Writ? What is it that gives such power and influence to the early education of the rising generation? It is that principle in our intellectual and moral constitution designated habit; the principle which renders an intellectual and moral act when reiterated, it matters not how unpalatable and formidable it may be at the

outset, part and parcel of ourselves,—a second nature, a very laceration of our inclinations to abandon. And do not all the testimonies of the divine record but go to the ratification and illustration of the power and glory of this innate principle, proving to a demonstration that the author both of nature and revelation is one and the same.

Responsibility involved. And what an awful responsibility is involved in this position, that unless justice is done to the educational work, to the training process at the very season when the mind is growing and most susceptible of impressions, at no other season can that be done? You may redeem the time that has been misspent, you may ply your energies when the powers are more fully developed and matured; and much, in this way, may be laudably accomplished—much permanent good effected; but the season has passed, the golden opportunity has gone and cannot be recalled. You may give utterance to the poignancy of your regrets, and bitterly lament the carelessness, if not the criminality, of those to whom you were entrusted intellectually and morally, as well as physically, as the most precious of all deposits, as one whose education was destined to tell not only on the fleeting moments of a day, but on the whole of your eternity; but you cannot recall the season of improvement. And how powerfully does this enforce the application of the adaptation process?

Adaptation process. And that plainly is, that education be diligently administered at the proper season, when the recipients are in a growing state, and therefore most susceptible of impressions. Though education in its broad features is continuous on throughout time and eternity, its real and most important work is effected in our juvenility, at the commencement of our thinking life. There is no doubt such a thing as ever learning and yet never learning, but still this fact does not affect the position as to the proper season when the basis is laid and a right direction given to the whole superstructure of education. It is needless to dwell on the value of laying a proper foundation here, as in everything else. If infinite wisdom tests a wise and a foolish man by the character of the foundation laid for a house, *a fortiori* must this be the case with education, that building destined not only to shelter and embellish in time but eternity. And what does a proper foundation in education consist of? It consists of a steady, progressive education during the whole of our juvenile years, from 5 or 6 to 15 or 16 years of age. During that period, we have seen that there are several epochs of development, when one set of powers are more fully developed than others, and which require special studies for

their exercise. Unless these epochs are embraced at their proper season, much injury must ensue. Hence, the utter folly of making education a mere succession of fits and starts, a forced hot-house affair for six or twelve months, and, then, a total cessation for as many more. And so this alternation system goes on. At one time, all is bustling activity in the matter, and, at another, all is left off, or whatever is done is the hap-hazard, spasmodic effort of the day. No one who contemplates with calm reflection the nature of mind, can fail to apprehend the damage done to education by the pursuance of such a course. What would be the effect of such a treatment of the body, if the food necessary for its nourishment were withheld for a week, or so many days, and then presented in abundance, even to a surfeit? It would inevitably result in the most disastrous consequences to the body. But the mind is a far more delicate piece of mechanism than the body, and to supply it with congenial food at one time, and then withhold it altogether, is more fitted to unhinge, and derange, and cripple, than to nourish, and strengthen, and mature. And not only should it be continuous, it ought to be protracted. How many parents regard their offspring more as a selfish convenience or worldly gain to them, than as a solemn trust, for which they are accountable to the author of all their blessings; and, hence, so many of the most promising and talented youths are removed from school and sent off to lucrative situations, long before their minds have reached the era of the reflective; and, consequently, before they have been accustomed to turn to practical account the facts they have amassed, or the information they have laid up. Not only are their higher powers unexercised, but their capability of turning to profitable account the education they have received, is never called forth; and, consequently, the education they have received is, in too many instances, productive of no beneficial results, either to themselves or their fellow-creatures. This, then, is a point in which not only parents are deeply involved, but the best and dearest interests of states and churches. Would that the time had arrived when education will be regarded as the true foundation stone of all prosperity to individuals, to nations, and to churches! Then would all parties be found combining their energies and zeal in securing for the rising generation a continuous and well-regulated education, as at once the guarantee of their happiness and usefulness, the bulwark of the State, and the glory of the Church.

RECAPITULATION OF CHAPTER.

This, the last characteristic, is, perhaps, the most easily apprehended, and involving the deepest responsibilities of any we have yet considered. All admit that youth is the season best fitted both for the reception of instruction and for the development of the faculties; and that when these are neglected at that season, they can never be fully repaired; and yet, how careless are too many parents in reference to their offspring enjoying all the educational advantages possible, by their regularly attending school during the whole period of their juvenile years. This is a lamentation, and shall be for a lamentation! This irregularity forms a marked feature over much of this continent—is, in fact, very common in all young countries, and hence, generally, the superficiality of the education imparted. It has been recently proposed by a royal educational commission of the Parliament of Britain, that the number of hours given to education every day should be greatly reduced, and that the time thus saved should be handed over to physical or manual pursuits. We have little doubt of this plan operating beneficially, provided the children carry on their studies during the whole of their school age. If this were done, not by evening schools but by a limited period every day, and continued till they are sixteen or seventeen years of age, it would, we believe, further largely the interests of education. Either this, or a compulsory attendance, till they reach a certain age, will impart a competent education, such as will prove of real service to the recipients, fitting them for usefulness in whatever sphere they may move, and imparting to them at once the ability and the inclination to educate themselves. This were an education worth striving for, and only requiring a nation's extent and a generation's existence to show what it can do for man individually and collectively—for man temporally and eternally.

We have now finished the *Second Book*, or the *Science of Education*. That, as has already been noticed, is founded upon two things; first, the nature of the recipient of education, in its grand, essential features, and the means to be employed for the development and growth of the same; or, in other words, the application of the law of adaptation to the various characteristics of the child's nature, that they may be expanded, and thereby rendered subservient to the high and important purposes for which they were destined. No one, we think, will venture to question the soundness or the legitimacy of this

law. We may make mistakes in reference to the nature of the young, as well as to the proper appliance in certain circumstances; but as to the law itself, and our obligations to comply with it, we possess the highest possible exemplifications, alike in the kingdom of nature and of grace. We lay claim to no infallibility, either in reference to the number, or the exact boundaries of the leading characteristics or features in the young, or in reference to the application of the means. Great diversity of view may obtain as to the first, and considerable modifications may be made as to the second; but as to the appropriateness of the law itself—as the law that should sway and regulate the whole educational process, we entertain not the shadow of a doubt. The characteristics may be increased, and that with greatest ease, and other means, or modifications of means, may be preferred for their development; but as to the excellence of the law itself, we feel that we are standing upon a rock, which will not only bid defiance to every assailant, but which will become all the more stable and enduring in proportion to the fury of the tempest that beats upon it, or the lashing of the waves that wash it. We have attempted to lay the basis of the science of education, or rather we have endeavored to reduce to a system or methodical arrangement the principles embodied in what is usually designated ‘*The Training system*,’ and which were so admirably worked out and exemplified by Stow. That devoted philanthropist and educationist saw clearly, in the light of God’s testimony, the principle or principles on which genuine education rests. With indomitable energy—with consummate skill, and with patient perseverance, he showed the application of these principles to secular as well as to religious education; and having done so, he felt that his task was finished. We have endeavored to gather these principles together, and reduce them to a science. This is all the originality to which we lay claim. If we have succeeded in this, we are satisfied.

BOOK III.

THE ART OF EDUCATION.

The art of education is just the reducing to practice of the whole of the two preceding books. It is the maintenance of this connection—the connection between the science and the art of education, that constitutes, in our estimate, one of the most important and prominent features of our work. Several publications have recently appeared on the business of teaching; some discussing its principles, others its practice, but in comparatively few is the bond of union traced; and even when it is, in many cases the boundary line of each is not very clearly marked, or the relation between them definite and palpable. It has been at least our aim and endeavour,—with what success others must decide,—to advance not even one practical position, but what naturally flows from some principle embodied and illustrated either in the first or second book; and that practical position, not as conjectural statements or plainly deduced logical inferences, merely, but as the result of oft-repeated, severe, and successful experiment.

In taking a comprehensive view of the department now under consideration, it is manifest that one portion of it has to do mainly with the teacher, with the duties arising from the relationship subsisting between him and his pupils; and that the other belongs to the community or nation, whose office it is to provide the necessary school accommodation, furniture and apparatus, as well as the means necessary for the maintenance of a well equipped teaching staff. As the former appertains more directly to the essence of the art, and the latter to the mere outworks, we have designated the one the *Interior*, and the other the *Exterior*.

The *Interior* naturally claims our first attention, not merely because it is the more important, and occupies a much larger space, but

because it regulates, and fashions, and shapes the other. Whatever the system pursued by the teacher, whatever his views in reference to method, it is perfectly plain, if full justice is done to it, that the school-house, the furniture and apparatus, &c., must be all of a-piece; and, by consequence, that the Interior must precede the Exterior. This is the mere scaffolding of the building, that the palace itself, with all its substantialities, equipments and embellishments.

THE INTERIOR.

This comprehends four subordinate divisions:—1st, *The branches taught*; 2nd, *The method of teaching*; 3rd, *The instrumentality*; and 4th, *The teacher, or the living agent*. These embrace the whole of the inner life of education in the practical department, and conduct over a wide and important field. Fully to exhaust these themes would more than fill a large volume. We must content ourselves with a brief glance at the more salient points.

CHAPTER I.

BRANCHES TAUGHT.

THESE BRANCHES DIVIDED INTO TWO CLASSES:—1. THOSE THAT PLAINLY FURNISH THE MEANS FOR THE ACQUISITION OF KNOWLEDGE AND THE DISCIPLINE OF THE MIND; AND 2nd. THOSE THAT IMPART KNOWLEDGE MORE DIRECTLY. I. *a.* MUSIC; *b.* ENGLISH READING—FROM ALPHABET TO THE HIGHEST ELOCUTIONARY EXERCISE, WITH ALL ITS ACCOMPANIMENTS; *c.* GRAMMAR; *d.* CLASSICS; *e.* MATHEMATICS, EMBRACING ARITHMETIC, ALGEBRA AND GEOMETRY, BOTH THEORETICAL AND PRACTICAL; *f.* WRITING, DRAWING AND PAINTING; *g.* BOOK-KEEPING. II. *a.* ORAL LESSONS; *b.* GEOGRAPHY; *c.* HISTORY; *d.* NATURAL SCIENCE; *e.* ELEMENTS OF NATURAL PHILOSOPHY; *f.* PSYCHOLOGY; *g.* ELEMENTS OF SOCIAL SCIENCE OR POLITICAL ECONOMY.

The nature and utility of each branch. To those who regard instruction and education as synonymous terms, who look upon the mere imparting of knowledge as the all in all of education, this is a matter of transcendent importance. Hence, the value which such generally attach to the Text-books, to the mere scholarship of the teacher, to the array of subjects professedly taught in their favourite institutions. Though we cannot and dare not look upon instruction or mere

knowledge, however wholesome and useful, as of equal import with education, we yield to none in our estimate of knowledge as an end or as a means leading to an end of immeasurable value, an end broad as the expanse of heaven and lasting as eternity. We prize instruction in very proportion to the magnitude of the end served by education itself; and in the full tide of this spirit, we proceed to the consideration of the subject before us.

On each of these branches of learning, we shall now offer a few observations, dwelling mainly on their nature, position, and utility, and reserving our observations on the mode of being taught till a subsequent stage. The three branches, *Reading, Writing, and Arithmetic*, have been universally admitted in every age to form the staple branches of learning in all our elementary schools, and this, we think, with greatest possible propriety. How utterly hopeless are the shrewdest and most naturally gifted, when destitute of these branches! But, with these at our command, we can, as with a key, unlock all the treasures of knowledge, and become, if we will, very encyclopædias of learning. Is it not much to be apprehended that these branches, even in our elementary schools, do not receive the attention and consideration to which they are entitled? In too many instances, scarcely have the scholars in our common schools entered into their teens, than they are hurried into what is conceived more advanced studies, and much more becoming their age, whilst the far more essential ones of reading, counting and writing, are all but overlooked or neglected, or, at best, receive but a slender share of attention. In Grammar, or High Schools, they are oftentimes entirely superseded by the higher branches. This, we apprehend, is not only one of the grand sources of the miserable reading to which we are sometimes doomed to listen, but of the comparative indifference, if not absolute neglect, of all reading and mental improvement on the part of two-thirds of those who have received, what is generally considered, a fair common school education. These essential branches they have never entirely mastered, not because they had no opportunity of doing so, but because they were supplanted by others which are now of no practical benefit to them: and having neither the inclination nor energy to overcome the drudgery necessary to enable them to comprehend a piece of common English reading, they naturally sink into a state of utter supineness, in reference to their mental improvement, and not unfrequently give themselves up to the lowest and most grovelling sensual pleasures and amusements.

But to return from this digression. Let us now briefly advert to

each of these branches as enumerated, and this, as stated, entirely for the purpose of indicating their nature and utility in a complete and liberal course of education.

(1.) *Music.* We have given music the precedence of all the others, not because it is to be here systematically taught, but because, even when practically employed, it forms such a powerful auxiliary in the acquisition of all the other branches—such a valuable hand-aid in the ordering and regulating of the whole scholastic establishment. It has been said, that to attempt to conduct an infant or primary school without music, is as impossible as to govern a nation without laws. This is strong language, but it is not, in our opinion, one whit overstated or exaggerated. What is the natural condition or temperament of children of four, five or six years of age? It is that of high buoyancy of spirits—of mirthfulness and joyousness,—a state, this, evidently as necessary for the health and growth both of the mind and body, as it is for the happiness of the young. And this spirit or temper must have its outflowings; and if these are not controlled and directed within some legitimate channel, they will, erewhile, produce such confusion and disorder, which it will be no easy task to quell and rectify. Now, we know not a better or more advantageous channel in infant or primary schools, than that of music, accompanied, occasionally, with physical exercises. But it is not only in the most initiatory departments that music may be turned to profitable account. It is oftentimes of the greatest possible consequence in the more advanced stages. It operates powerfully in preserving order. No small amount of the disorder occurring in schools, originates in the changes that take place in the different recitation exercises, and still more, in the entering or returning from school-room, whether for a longer or a shorter period of intermission. Everything connected with such movements must be strictly regulated and watched, and every means resorted to, to prevent pressing, or jostling, or pushing, or quarrelling, or disturbance of any sort. And we know not a better regulator, in all these movements, than the accompaniment of suitable music. The children, trained from their earliest years to keep time to the music, and to march in concert with one another, are constrained, in spite of themselves, to conduct themselves with decorum, and to avoid everything that would create confusion. But music, when judiciously called in, constitutes, even in more advanced schools, an admirable mental stimulant. The brainy system—the seat of thought and volition—is liable to the same law of contraction and relaxation as the muscular, and consequently demands repeated

changes. Look at the class or form, tired and exhausted. They have been in the same posture for more than an hour, and their minds are worn out, and no longer capable of vigorous effort. The teacher has exhorted them over and over again to diligence and perseverance, and accompanied his exhortation with every species of threatening, but all to no purpose. The children, from no mental, but purely from physical causes, have sunk into a state of perfect listlessness and indifference, which not only bids defiance to every kind of remonstrance and appeal, but coolly vents itself in tricks, and pranks, and mischief, of every description. In these circumstances let their position be changed, and let that be associated with some cheerful, some well known air, with stirring and exciting sentiment; and their whole condition is altered, and their emotional nature is translated from a state of dormant lethargy to one of highest excitement. The energies of the intellect are rested, resuscitated and invigorated—the youths prosecute their studies with fresh ardour and determination; and all this is effected in the space of a few minutes.

But music in the school-room is not only a powerful intellectual stimulant, it also elevates and refines the whole tone of its morality. Why is it that all, or mostly all children prefer to learn a piece of poetry to prose; and still more, why do they learn more easily and remember much longer a song married to some agreeable air, than any other composition? It is evidently because of the facility with which they commit anything to memory that is associated with sweet melody, it is evidently because of the gratification thereby imparted, and the delightful emotions thereby enkindled, producing far deeper and more lasting impressions. Let the sentiments and thoughts thus mandated be true, and manly, and christian, and this the teacher should see to, and the whole moral tone of the school will be elevated and purified.

On these and similar grounds we insist that music, if it were to serve no other purposes than those just specified—a means leading to such important ends, ought to be ranked as one of the branches of a common school education.

But there are other reasons equally powerful, conducting to the same conclusion, and which must be here noticed, though we can do little more than barely enumerate them.

1st. Music is one of the instincts of our being. "Singing," says Currie, "is as natural to man as speaking; and, for any reason that appears to the contrary, it should be as universal. The parent speaks to the child, and the child speaks after the pattern thus given him;

both act upon instinct: the parent sings to the child, and the child learns to sing to itself by imitation; in this, too, both follow their instincts. In childhood, speech, as the intelligent utterance of thought and emotion; and song, as giving intensity to the utterance of the emotions, are alike common." "Children," says Morrison, "are instinctively fond of music. The nurse soothes the young infant with snatches of some simple melody, and the smile on the little cheek betrays the pleasure which the song conveys. As they advance in years, children manifest a strong liking for all kinds of music, and readily pick up those tunes which make the deepest impression on their minds, or those which they are in the habit of hearing most frequently. These are facts familiar to all who have to deal with children, and it must be evident to any one who has reflected on the subject, that all that is necessary to render them tolerable, if not good musicians, is to accustom the ear to musical sounds, which will thus be acquired with little apparent effort. Continuous systematic training begun in infancy, and carried on during the whole period of the child's school life, will accomplish far more than any amount of convulsive, spasmodic exertion."

Surely, then, if music is thus an instinct of our being, if an endowment bestowed less or more upon all by the beneficent Creator, it must have been intended to be cultivated and developed, and how could that be more effectually done, than by making it a branch of education in our common schools?

2nd. Music opens up to the possessor, sources of the highest gratification, of innocent and refined amusement. This is discussed at some length elsewhere.

3rd. Music, both vocal and instrumental, adds largely to the domestic and social happiness. Whatever may be man's industrial pursuits, neither his physical nor mental condition will admit of constant labor. He must have his seasons of recreation and pastime; and what better adapted for these purposes than music. An hour or two given to such exercise after the toils of the day are over, sweetens the domestic tie, and enlivens and exhilarates the social circle. And if the sentiments embodied are suitable for family or social singing, instead of paralyzing, they will stimulate to industry, and largely enhance the comforts and enjoyments of household life, as well as elevate the moral tone. These advantages could not be half so extensively secured, unless all are taught to sing, just as they are taught to read.

4th. Music inspires the peasantry of a country with loyal and patriotic sentiments. The ballads and songs of a country are power-

ful either for good or evil. How injurious, for example, have been the effects of many of the songs of Scotland's bard upon the general character of his countrymen. How beneficially instrumental, on the other hand, might school-music be rendered, in counteracting these results, and in impressing the highly susceptible minds of youth with truths of the last importance to their present and future welfare. But the nation's legends and triumphs—its chivalry and heroism, are, generally, preserved and embalmed in song. This constitutes the grand medium by which the peasantry of a country are brought in contact with its past history—its heroic achievements—its noble exploits. In acquiring these, in school, tuned to some national melody, they are inspired with confidence in her strength and prowess; and should they be obliged to take up arms in defence of their country's rights and liberty, how will these very songs that they acquired when their minds were so pliant and so easily impressed, set to those very tunes that thrill through their inmost soul—brace them to face, with unshaken fortitude and with magnanimous daring, the cannon's mouth or the lion's gory mane; and surely, in all this, we have a sufficiently powerful argument in favour of music in our common schools.

5th. Music is indispensable in exciting and keeping alive a flame of heavenly devotion in the soul of the spiritual worshipper. Under every dispensation of the divine method of salvation, music has formed an essential part of public worship. It has been strictly enjoined by the Great Author of our faith; and wherever it has been engaged in with spirit, it has been productive of the most softening, chastening, and heaven-inspiring results. But these results will not be realized in anything like their full extent by the mere listener to music, however seraphic the strains, whether performed by instruments or the human voice. To be fully appreciated, and to derive all the benefits intended, it must be actually celebrated—we must sing with our lips; and to accomplish this, all should be taught to sing according to their natural ability, and this can only be, by making it a branch of education.

Reading. It were a waste of time to go into any argumentation to prove that this is a branch of education. It stands forth conspicuously as *the* branch of branches; as that on which we are more dependent for our gratification, our advancement and elevation, than on any other—than on all the others put together; that through which we obtain access to all the others, and by which we can impart the greatest extension and perpetuity to our own instrumentality or agency. Next to the glory of mind, is that of articulate language, the vehicle by which we give embodiment and expression to all our mental opera-

tions—to all the myriad elements of our consciousness ; by which we can, as it were, annihilate space, and send our cogitations, as winged messengers, to the utmost ends of the earth, or transfer them to generations unborn. With what power does this branch of education invest us—a power by which I can address, instead of a few thousands, a whole world of thinking beings, and by which I can add to my own slender stock the accumulated stores of past generations ! And how vastly has this boon been enhanced by the art of writing, and still more by the art of printing !

And when should this branch of education be taught ? At the very commencement of our school life—a position universally acceded to it. Wherever there exists such a thing as education, whether public or private, the first acquirement—the first thing learned, is reading, as not only the key to all other knowledge, but as the key of the outer door, without which we could never open those that are within. And surely there could not be a stronger testimony to its outstripping importance as a branch of education ! It may be a time before we can use it for the benefit of others ; but to acquire knowledge—to know the workings of others' minds, it is indispensable, and that throughout all the stages of our educational career. Would that it received, both in its initiatory and advanced stages, the attention and care to which it is entitled ! Would that the conviction were more generally prevalent, that it is only as the symbol of thought—as the manifestation of the inner workings of the mind, that it is significant, and displays its power ! Would that from the commencement of our educational career up to the most advanced stages, the thoughts were always associated with the vocables, and that means were taken with the teaching of this branch, by which this bond of union were more palpably realized and exhibited. Then would it appear in all its inherent worth and glory. Then would it be seen to be, both in reference to ourselves and others, the instrument of instruments—the key of keys.

But innumerable also are the indirect benefits flowing from this branch of education. It cultivates the observational powers in the distinguishing of the different letters. It helps largely in giving to the young power over the workings of their own will, and over all the mind. If language is what Isaac Taylor calls it—the engine of the mind's operations—the record of its stores, and the index of whatever is cognizable to our external and internal senses—then how invaluable is that instrument—how immense its power ! How deep the responsi-

bility connected with its teaching! How exalted the privilege of wielding it with dexterity!

3. *Grammar.* Every scholar is aware that this branch of learning is neither more nor less than language methodized, or reduced to a science. Language is the expression of thought, and thought is an act of the mind by which something is affirmed or predicated respecting any object or objects that may be submitted to it. 'Snow' and 'white,' for example, are two distinct objects presented to the mind, suggesting certain ideas or notions, but as yet no verdict or judgment has been arrived at. When, however, I say 'the snow is white,' that moment is an act of the mind performed. The mind, by reason of its own constitution, affirms or declares something regarding the snow; and when this act is given utterance to by sounds, or expressed in words, it is designated a sentence, or, logically regarded, a proposition.

The above expression, 'Snow is white,' is called a simple sentence, because it consists of a single subject and predicate. It is capable, however, of every possible expansion or enlargement, and this is accomplished by means of additional words and clauses, according to circumstances. "The snow, lying on the ground, is white;" or, "the snow, which fell last night, is purely white." Whatever the terms applied to these words or clauses, it matters not. They are the creatures of the mind, and are summoned into existence to apprise our fellow-creatures of its actings or cogitations. Now, the business or office of Grammar is to take these words, or sentences, or clauses, and classify them, or reduce them to a science. But, before this can be done, these sentences and words must be analyzed, or reduced to their respective elements—the sentences, if simple, are regarded in their essential parts—the subject and the predicate, and these again in all their attributes and enlargements, &c. Again, if the proposition consists of a leading thought, and others dependent, the former is designated the principal clause, and the latter, the subordinate. If the sentence is made up of a number of clauses, all independent of one another, it is designated a compound sentence, and the clauses co-ordinate. But sentences or clauses are made up of words, and these, too, are all analyzed and reduced, first, to their classes; secondly, to their subdivision, or the distinction that obtains in each class; and thirdly, to the relation they bear to one another in the sentence. But again, words are made up of their elements, called letters—the forms—the power—the names, and the combination of which, must be all carefully considered.

Now, the reduction or analytical process is at an end. The language,

whatever it be, is now resolved into its elements, and all is in readiness for the synthetical organizing process, or that process by which these elements are examined—compared—classified, and a science formed called Grammar.

Grammar is thus a purely abstract science, and bears the same relation to language that Botany does to plants, or Zoology to animals, or Astronomy to the stars in their magnitudes—their relations, their revolutions, with all their classifications, technicalities and abstractions; and just as it is before these sciences can be constructed, the analytical process must be gone through—the plants and animals must have their parts, or elements, or ingredients, examined—compared, and their resemblances and differences carefully noted, so must it be here in reference to language.

We have been thus particular as to the mode pursued in the formation of language into the science of Grammar, that we may the more clearly apprehend its position and utility as a branch of education, when and how it should be taught. And from what has just been stated, no one, we think, can fail to perceive the utter folly of attempting to teach Grammar as an abstract science, the only way in which it is presented to us in treatises on the subject, to very young children, however intelligent or precocious. Such may roam at will among the mysteries of technicalities; they may commit to memory, and that most accurately, a long series of definitions, and rules, and examples; but their whole acquisition is, after all, nought but a species of symbolism, or nominalism, or wordmongery, destitute of all practical benefit, either in the future use of the language or in the disciplining of the mind. The very command they have got of a few vocables or terms, operates more as an obstruction than as an auxiliary to their apprehension of the idea or thought couched underneath.

But whilst we would denounce all such attempts to teach very young children any one branch of abstract science, and especially that of language; and that simply because those faculties, by which alone they are apprehended and appreciated, are not yet developed; we are equally decided in affirming that much may and much ought to be done in teaching the young those elements of language that lie at the very foundation of Grammar in its most synthetical form. So soon as the child is able to read and understand a simple sentence, he is capable of analyzing it, or looking at it in all its parts—of drawing the distinction between the thing spoken of and what is predicated or affirmed regarding it—of divesting the subject or object of all its adjuncts, and the predicate of all its extensions and modifications—of

observing and detecting at once a difference of meaning under a difference of form, and that not only in clauses, but in phrases and vocables, and even in letters, and thereby obtain a knowledge of what constitutes the very essence of Grammar, though the technical terms of Orthography, Etymology and Syntax, have never once been sounded in his ears. Nay, we are prepared to go a step further, and maintain that a child, able to read, with ordinary fluency, an elementary sentence, is capable not only of comprehending the various ingredients, but of deriving the greatest possible benefit from the exercise. It is admirably fitted to arrest his attention, and to whet his thinking powers. It will concentrate his thoughts on the meaning of the passage, and enable him to distinguish between the leading and subordinate ideas. It will place him on firm ground, and give him a known region on which to stand when he proceeds to the regular study of grammar in all its scientific bearings and relations—in all its classifications and technicalities. And what is this after all but walking in the footsteps of the original compiler of a grammar, who must pass through the analytical before he attempts the synthetical process—who must thoroughly understand the elements before he proceed to generalize thereon. Nay, even supposing this child never systematically studies the science of grammar, he has, by analysis of language, obtained a boon of inestimable value—a boon, by which his thinking powers are developed, and by which, too, he looks upon language with another eye altogether—an eye that is never satisfied till it has penetrated the innermost recesses of the thoughts conveyed.

With such a course of preparation, I need scarcely say that the youth, when he reaches his ninth or tenth year, will enter upon the study of grammar, not only with the highest zest and delight, but with the greatest success and profit. That the study of grammar is an essential branch, not only of an advanced but of a common school education, is abundantly apparent from its all but universal adoption. There is scarcely a common miscellaneous school in any country where it is not taught in some shape or another. When properly taught, it should be carried on contemporaneously with reading, as, in fact, it is but a department of it. Many are the benefits flowing from its systematic study.

1st. It teaches the theory of correct expression, and thus we imitate those who speak correctly, more confidently, more intelligently, and more rapidly; whilst, on the other hand, it fortifies against the influence of incorrect example.

2nd. It imparts the habit of correct speaking and writing, and

thereby gives greater precision and exactness to our conceptions and our judgments.

3rd. Grammar makes us acquainted with the essential principles, the leading laws and operations, of the human mind, Language is but the expression, the tangible representation of these principles and laws, and these are substantially the same, everywhere, and in all. In reducing these to a science, we have mind actually embodied before us.

4th. But the indirect benefits of the study of grammar are numerous and valuable. Amongst others, it whets our discriminating powers. In the prosecution of this study, we are compelled to compare one thought with another—one word with another, and this naturally sharpens our powers of comparison, and our ability to trace relations. But the principal faculty it cultivates is that of generalization. This is the power mainly called into play in the construction of every branch of science, and not less in grammar than in any other. In the prosecution of this study, our minds are naturally brought into contact with this exercise; they catch the process, and thereby discipline and develop it more and more extensively. And what an exalted—what an ennobling power this! How admirably fitted to exhibit the order, the symmetry and beauty that pervade all the works of nature, and thereby to elevate the mind from the contemplation of the visible to the Invisible One—from the works, to the Creator, of whose mind they are but the transcript.

Classics. The Roman people were divided into classes, and the highest were, by eminence, styled *Classici*. Hence the name afterwards came to signify the highest and purest class of writers in any language. But whilst the term is not unfrequently applied to authors or works of the first rank, it is commonly used to denote those Greek and Latin authors who flourished and wrote in their respective countries, and that at the times when their countries, generally, had reached the highest stage of civilization and literary refinement. It is needless, here, to give a catalogue of these authors, or to point out the leading peculiarities of each, or the order in which they are usually studied. This we may have occasion to do at a subsequent stage in our course. During the Mediæval ages, the study of these languages, and, especially, the Latin, was all but entirely confined to the Roman Catholic clergy. In consequence of the use of Latin in the rites of their church, their influence and power could not be obtained, save through its knowledge, and the churchmen accordingly gave up the study of his mother-tongue, and prided himself only in his Latinity. The

wider diffusion of these languages in connection with the invention of printing, constitutes, as is well known, the foundation of the revival of learning which took place in the fifteenth and sixteenth centuries. Then, the learned throughout Europe wrote principally in Latin; and hence, the large number of words, of Latin origin, to be found in English and other modern languages. Hence, too, the endowment and establishment, about this time, of Grammar Schools, as they are called, in England, and other advanced seminaries of learning over Europe, with a view to the encouragement of the propagation of the grammar and literature of these languages. The principal of what are now considered the first class schools in England, all sprang into existence during this period—all intended and adjusted to prepare the youth for the then existing Universities through the study of their grammar; and hence, we apprehend, the real origin of the term Grammar Schools. From about the middle of the sixteenth century till about fifty years ago, these languages held undisputed sway in all our advanced institutions of learning—were universally admitted to constitute the basis and superstructure of a liberal education. As science in its varied appliances advanced, and refinement and commerce grew, the question arose,—and was argued with no small amount of earnestness and pertinacity,—Whether the study of these languages yielded compensation adequate to the time and means expended in their attainment; and whether the mathematics, both pure and mixed, as well as the sciences generally, should be consigned entirely to our colleges; or should not be studied, at least, in their elements before entering within their walls? This subject agitated the educational world not a little about fifty years ago, or less, and, we think, with the greatest gain and benefit. The public mind has now settled down into a general, if not universal conviction, that whilst the Greek and Latin languages lie at the foundation of a liberal education in all our advanced schools or academies, there are other branches which should be associated with them, such as Mathematics, Elements of Natural Science and of Natural Philosophy, Modern Languages, &c. In our opinion, great changes are still required both in the allotment of time to these branches, and in the method of their teaching, before these serve their respective purposes, even on the understanding that the Classics are allowed to hold the preponderance.

The advantages of the Greek and Latin languages, as giving a claim to their merited pre-eminence, are twofold—linguistic and literary. On account of the former, they are entitled to the palm; 1st. Because of the regularity of their structure; 2nd. Because of their logical

accuracy of expression; 3rd. Because of the comparative ease with which their etymology is traced and reduced to general laws; 4th. Because of their severe canons of taste and style; 5th. Because of the very fact that they are dead, and have been handed down to us directly from the periods of their highest perfection, comparatively untouched by the inevitable process of degeneration and decay."

"As literature, these languages furnish the most graceful and some of the noblest poetry, the finest eloquence, the deepest philosophy, the wisest historical writing; and these excellences are such as to be appreciated keenly, though inadequately by the minds of the young, and to leave, as in fact they do, a lasting impression. Beside this, it is at least a reasonable opinion that this literature has had a powerful effect in moulding and animating the statesmanship and political life of Britain. Nor is it to be forgotten that the whole civilization of modern Europe is really built upon the foundations laid two thousand years ago on the shores of the Mediterranean; that their languages supply the key to our modern tongues; their poetry, history, philosophy and law, to the poetry and history, the philosophy and jurisprudence, of modern times; that this key can seldom be acquired except in youth. And that the possession of it, as daily experience proves, and as those who have it not will most readily acknowledge, is very far from being merely a literary advantage." But the indirect benefits of the Classics are even greater than the direct. They call into play and discipline all the powers referred to under Grammar, setting all on a higher pinnacle. They are specially well calculated to develop and train the whole of the abstractive and æsthetic faculties—to regulate and to elevate the most important of our mental powers.

Mathematics. Webster, no mean authority in Etymology, derives this word from the Greek *manthanō*, *mathētēs*,—I learn,—a disciple, thus signifying, in accordance with its derivation, 'things learnt.' But how it came to pass that this department of knowledge should have received, by way of eminence, such a designation, he does not attempt to trace. Very probably it arose from the circumstance that as, at the time when this name was given, Mathematics was in high repute among the Greeks, was considered indispensably necessary for a liberal course of education, so it had assigned to it this honored appellation. But, be this as it may, it is palpable to all that it opens up a most extensive and important field, and one that will amply repay the most diligent and laborious cultivation. It treats of quantity in general, and comprehends all that can be measured or numbered. It is divided into two parts: 1. Pure or speculative, in which abstract quantities or

geometrical magnitude or numbers are the subject of investigation ; and 2. Mixed, in which the deductions are made from relations, which are obtained from observation and experiment. To the former belong Geometry, Algebra, Conic Sections, &c. ; and to the latter Arithmetic, Practical Mathematics, Land-Surveying, Navigation, &c.

The three principal branches upon which the others are dependent, are Arithmetic, Geometry and Algebra, on each of which we shall now say a few words.

Arithmetic. This term, derived from *arithmētikē*, belonging to number, and this again from *arithmos*, number, is used to indicate that branch of Mathematics which treats of number or calculation. It may be regarded both as a science and as an art. In the former sense, it treats of the properties and relations of number, and is called theoretic arithmetic ; in the latter, it computes by figures, or reduces our knowledge to practice, and is therefore called practical arithmetic.

The grand elementary principle in this science is unity, or the state of being one, oneness ; and it is by adding to unity and then taking from it again, that the whole of its practical operations is carried on.

It has its origin in our social nature ; our dependence on one another for life and all its comforts, leading not only to an interchange of thought and sentiment, but of commodity. Hence the necessary traffic between man and man, nation and nation, clime and clime ; and hence, too, the whole rationale or philosophy of commerce. As no one can lay claim to absolute independence of his fellows, so no one can exist without an exchange of goods, whatever form that exchange may assume.

At a very early period, the young obtain clear and distinct ideas of number in the concrete. They no sooner discover any two objects to be alike than their idea of unity merges into duality, and so by the addition of another and another, they rise in their complexity of thought, and in their power of computation. If, then, arithmetic is taught at first through the medium of sensible objects, before the abstract or the slate be attempted, it can scarcely be commenced at too early a period in the history of the education of the young. Indeed many, at five years of age, may be more ripe for counting than they are for deciphering the forms, or understanding the powers of letters. And if it should be begun thus early, it should be carried on continuously during the whole period of the school life, rising from the most initiatory to the most advanced, and that both mentally and with the slate.

The following is a brief summary of the benefits conferred by this branch of education :

1st. It is of practical service to all grades of society. It is a great mistake to suppose that this branch of education is only of use to those who are following the mercantile calling. It is no doubt true that the regular merchant has much more to do with such exercises, but no tradesman or day-labourer should be without his account-book, or the capability of inserting therein his daily transactions—what he earns and what he expends. This, whilst it will enable him daily or weekly to ascertain the state of his affairs, will, at the same time, stimulate to industrial and frugal habits. There is therefore no position in society, no condition in life, where arithmetic is not available, and consequently should not only be universally, but efficiently taught.

2nd. But arithmetic also is of the greatest possible benefit for training and disciplining the mind. When carried on without the aid of the slate, it rivets the attention, improves the memory and exercises the abstractive powers. When carried on conjointly with the slate, it weakens the tendency to take things upon trust, if the proof or truth be within reach. It imparts precision and exactness to the judgment. It strengthens the powers of invention and originality, especially when the rationale of the rule is expounded, and any effort put forth to work out the same results in a variety of ways. In one word, arithmetic is admirably calculated to cultivate and strengthen all the reflective powers of mind, and is perhaps, next to reading, and writing, the most essential branch of a common school education.

Geometry. This term is derived from *gē* the earth, and *mētron* a measure, and is that branch of Mathematics which treats of that species of quantity called Magnitude. Magnitudes are of one, two or three dimensions, as lines, surfaces and solids. They have no material existence but they may be represented by diagrams. Theoretical Geometry treats of the properties of magnitudes, and Practical, of their construction. That branch which refers to magnitudes described upon a plane, is called Plane Geometry. A system of Geometry proceeds from simple axiomatic and incontrovertible principles, to the demonstration of new truths ; and, from the combination of truths previously known, new truths are continually evolved ; and thus, by a process of logical deduction, a system of Geometrical Science is established.

There have been disputes as to the exact position that Geometry and the cognate branches should hold in our advanced or academic

seminaries, and, especially, as to the relative proportion of the time that should be dedicated to the study of Classics and Mathematics ; but there is now happily no diversity of view as to the propriety of the latter holding a conspicuous place in every institution of learning, and this opinion, as philosophy and science advance, is taking deeper root and extending its branches more and more widely. The following are some of the main benefits flowing from the study of geometry.

1. And the first is its practical utility in measuring distances, heights, surfaces, and solids, in artificers work, gauging, land and marine surveying, navigation, in nautical and practical astronomy, in the arts of the machinist and the optician, in carpentry, engineering and planning, perspective, and in the construction of maps and charts.

2. Geometry is a powerful instrument in enabling us to investigate and extend our knowledge respecting many phenomena in the physical world. By the help of Geometry, have the principles of theoretical mechanics, of vision, of electricity and magnetism, the theory of the propagation of sound and of light, the laws of the equilibrium and the motion of fluids, been investigated. Without the rules derived from Mathematical science, the navigator, even with all the advantages of the compass, could never have ventured out upon the wide ocean, and, consequently, our knowledge of the globe would have been comparatively limited. Without it, too, our knowledge of the planetary system, and still more of the system of the universe, would have been exceedingly circumscribed, and the ennobling science of Astronomy yet in its infancy.

3. Another direct benefit arising from Geometry, is the numerous and striking abstract truths it makes known, which constitute a source of highest gratification to the cultivated mind, and which, of themselves, entitle Geometry to a prominent place in any course of liberal education.

4. But the indirect benefits of Geometry, as a discipliner of the mind, plead still more powerfully for its occupying a high place as a branch of education. It improves the memory ; it secures continuity of attention and coherency of thought ; but it principally cultivates and strengthens the reasoning faculty ; for what is every proposition in Geometry but a chain of deduction, where each truth hangs upon the preceding. Some writers of high reputation have recently attempted to impugn this view, on the ground that mathematical study has merely to do with necessary or abstract, and not contingent truth ; and that as the former is beyond the sphere of our observational powers, beyond the range of our experimentalizing, it can be of little or no benefit in

the practical affairs of life, and that, in fact, profound mathematicians have often proved themselves exceedingly feeble and helpless when they attempted to bring their reasoning power in contact with contingent truth. That such specimens of intellectual calibre may have occasionally been exhibited,—men profound in abstract science and at the same time very unobservant, very stupid in reference to the common affairs of life,—is what we are not at all disposed to question. We have sometimes met such characters; but this, we apprehend, has not arisen from the nature of the subject or truths about which they reasoned, but from some inherent defect in their observational power or some idiosyncrasy in the reasoning faculty itself. “A step of reasoning,” says a distinguished writer, “or a syllogism, consists of a major and minor proposition, and a conclusion; and by a law of our mental constitution, whether it be called judgment or the faculty of relative suggestion, the conclusion follows as a necessary consequence from these premises in reasoning in any subject as well as in Mathematics; so that reasoning is exactly of the same nature in the investigation both of necessary and contingent truth—with this difference, that in the former the chain of sequence is of almost indefinite extent, and the premises incontrovertible, while in the latter it is generally brief and usually only probable.”

A step of reasoning in Mathematics is clear and satisfactory when once perceived, which is also the case in other subjects; for in them the vagueness or unsatisfactoriness accompanying any discussion properly conducted, originates, not in the reasoning but in the uncertainty and sometimes in the multiplicity of the principles involved. And all this has been illustrated and ratified by the fact that profound mathematicians have often signalized themselves, by their investigations and discoveries in fields, where not only close and consecutive reasoning was indispensable, but severe study, experimental testing, and extensive observation.

Algebra. The prefix of this word is evidently the *al* of Arabic origin, signifying *the*, a prefix occurring often in words of Oriental origin. What the *gebra* is derived from does not seem at all determined by philologists, some taking it from *geber*, a philosopher, and others from *gifr*, parchment.

This is another branch of Mathematics, performing its calculations by means of letters which represent numbers or quantities, and symbols which indicate the operations to be performed on them.

To ascertain the length of a line, some unit of measure, as a foot, is assumed, and the number of feet in the line is called its length. The

numerical value of a quantity is expressed by the number of times that the assumed unit of measurement is contained in it. Thus, if a foot be assumed as the unit of measure of a line which contains 20 feet, its numerical value is 20. The same line may have different numerical values according to the assumed unit of measure.

When the kind of units of which a number is composed, is not mentioned, the number is said to be abstract, but when the denomination is specified, it is said to be concrete.

Since quantity may be represented by numbers, and are always supposed to be so in Algebra, the letters denote numbers, and in the theory of Algebra, the letters have no numerical value, so that they represent any number or quantity, that is, general or abstract quantity.

Theoretic Algebra investigates the properties of abstract quantities, and the rules of Algebraical computation, and practical Algebra is concerned in the solution of questions in which the given quantities either have particular values, or may have such values assigned.

In Algebra as in Geometry, there are two kinds of propositions, Theorems and Problems. In a theorem, it is proposed to demonstrate some stated relation or property of numbers or abstract quantities.— In a problem, the object is to find the value of some unknown quantity or numbers, by means of given relations existing between them and other known numbers and quantities.

This branch is perhaps the most important of all the mathematical sciences and its elements ought to be taught at a much earlier period than is generally done. The following is a summary of its benefits :

1. It is of the highest practical utility, and not as some seem to imagine a purely theoretical exercise. And in proof of this, it may be stated,—1st. That it establishes the properties and the relations of numbers by general reasoning. 2nd. That it investigates and establishes the rules of Arithmetic so that any one who understands it has not only a clearer comprehension of Arithmetic, but, if need be, is vastly more competent to teach it. 3rd. That it enables us to make valuable discoveries both in reference to the powers of number and quantity.

2. There are few branches of study so admirably fitted to improve and discipline our intellectual powers, treating, as it does, of numbers in the abstract, and employing characters without any risk of ambiguity.

Writing. If it is desirable that we acquire the art of reading to increase our stock of knowledge from whatever quarter it come, it is not less so, that we retain the knowledge we have got, whether that is the result of our own observation and reflection, or that of others. To retain it within the compass of our own understanding and memory

were vastly the most satisfactory method, but for this, our finite capacities are utterly inadequate; and hence the inconceivable value of the art of writing, so as to give permanence to thoughts the most transcendent, and endurance to facts, or truths, or discoveries which would otherwise be speedily obliterated from the tablets of our memory. By means of this art, we are provided with a kind of ready-reckoner, by which we can summon back to our mind any fact or thought long ago effaced, and render it available for the present emergency; by which we can transmit, as by a winged messenger, the products of our investigations or explorations to the most distant lands, so that they all but obtain the property of ubiquity; and by which, too, we can hand down for the benefit of generations unborn the additions made to useful knowledge in every succeeding age. What a boon this, especially when we take into account the facilities added, both by the cheap manufacture of paper and the invention of printing!

But, again, writing must also be regarded in its indirect benefits. When properly taught it cultivates and improves the taste. It is in reality a species of drawing—of linear drawing, and in this character it necessarily levies a tribute upon our imitative powers. We must for this purpose have as perfect a model as possible set before us, and we must continue our work until we arrive at the highest proficiency. This naturally improves our taste, and imparts an ease and command in the use of the pencil.

But still further, writing is a mechanical art, and involves certain principles, which it is the bounden duty of the skilful teacher to explain. Every art has certain elements or principles, and so has penmanship. In more recent times, these principles or elements have claimed a much larger share of attention, in consequence of which penmanship has been elevated to a much more commanding platform, cultivating as it now does the faculties of memory, of attention, and of the understanding.

Every pains should therefore be taken in the acquisition of this art, every means used to see that the penmanship of the rising generation be plain and legible, that it serve the end intended. Correctness is the first essential requisite,—correctness in point of form, distance and inclination; expedition will follow in due course. How all this may be effected in strict consistency with our system so that the mechanical and the intellectual shall be combined, will fall to be considered in a subsequent part of our course. Suffice it now simply to state that teachers of all grades and classes should be deeply impressed with the conviction that this is no minor or indifferent branch

of education, and that, from the fact of the acquirement depending so much on the principle of imitation, it is indispensably necessary that they themselves aim at high proficiency therein.

Drawing and Painting, or Form and Colour Drawing. Already has it been answered why there are comparatively so few of the human family, who really see and appreciate the beauties and graces that reign in the world of nature around them. It is not because there is no innate sense whereby they may discern these graces, but purely because this sense has not been cultivated, has been allowed to lie in a condition of total dormancy, nothing having been done for its whetting or improvement. This is doubtless wrong in reference to any faculty or sensibility that the merciful Creator has bestowed upon us, but it is specially so in reference to the emotion of beauty, seeing that its cultivation contributes so largely to our elevation and refinement, and affects so deeply our varied relations and tendencies. But in order to draw out and develop this sensibility, to do anything like justice to its universal existence, either in greater or lesser measure, it must be taught in our schools, it must form one of the branches of a common school education. It is somewhat akin to music. The sooner the ear is brought into contact with melody the more likely will the love of this art be awakened. And so it is with Drawing. The reasons why it should be considered and treated as a distinct branch of education are the following :

1. It opens up to the possessor innumerable sources of gratification and delight. Wherever he roams, in whatever field of nature he may happen to move, he sees, in every fresh object presented to his view, beauties and attractions that excite his interest, his warmest admiration and praise.

2. The general diffusion of the development of æsthetic faculties, would extensively promote a nation's happiness and usefulness, and especially if that nation happens to be largely employed in manufactures and commerce. It would impart such a general appreciation of the beautiful in nature and art, that could not fail to elevate and refine their minds, and thereby lift them far above those low and grovelling pleasures in which they are so prone to indulge.

3. It so cultivates and whets the senses, especially the sense of sight, as that not only deeper impressions but more vivid conceptions of the external object are presented and represented to the mind. This gives a clearness and force to our ideas of the utmost possible value to all our mental processes of analysis and synthesis, and enables us,

at the same time, to express our thoughts with a precision and simplicity and cogency which no sophistry can arrest or misconstrue.

4. A practical application of the graces that abound in the world of nature, cannot fail to awaken and keep alive most impressive views of the wisdom, power and goodness of the all-glorious Creator.

Book-keeping. Though this is the last of the indirect branches of study which we intend to notice, it is not by any means the least important. It is indeed frequently imagined that this branch requires to be taught only to those who mean to prosecute the mercantile calling. This is a great mistake. A thorough knowledge of Book-keeping, both in theory and practice, is indispensably necessary to the merchant, but though it may not be so to others, it is to all highly advantageous, whether engaged in mechanical, agricultural or professional employments; at all events, such a knowledge of it as shall suffice for the recording of their daily transactions, of their income and expenditure, whether that be in specie or value, in physical or mental effort. And all this for the following reasons:

1. Because we are bound to see that we owe no man anything but love. The duty which lies at the foundation, and which indeed pervades the whole of the commandments of the second table of the law, is, justice, righteousness, giving to every one his due. This can only be done by scrupulous care that our expenditure does not exceed our income; and how can this be done but by calling ourselves to a strictly periodical account of the state of our affairs? This is obligatory upon all, and for this a certain knowledge of Book-keeping is required. It is a fundamental rule in ethics, and a rule whose observance never fails sooner or later to bring its own reward, that we never go beyond our income, however limited that income may be.

2. Because the daily record of our transactions stimulates to industry and frugality. It is a well understood law in economics, that the individual who has anything laid up in store, possesses the strongest desire to add to it; and the gratification of this desire renders him all the more industrious and saving. Nothing but a constant reckoning with himself, a careful inspection of the debit and credit side of his cash book, will secure this desirable end.

3. Because it will promote order and neatness in all our arrangements; and this will operate beneficially upon our activity and lead us to combine caution and care with all our undertakings.

4. Because we are laid under the most solemn obligation to devote a certain proportion of our means or substance to benevolent and religious objects. We cannot be in a position to deal fairly with such an

application of our means unless we know accurately our profits and losses, and this can only be done by systematic Book-keeping.

SECTION II.—EMBRACING THOSE BRANCHES WHICH PRINCIPALLY IMPART KNOWLEDGE.

In proceeding to the consideration of those branches on which we mainly depend for information, it is scarcely necessary to premise that, by such a division of the branches of knowledge, it is not intended to convey the impression that there is none imparted by the study of those branches we have just discussed. All that is implied is, that this is not their direct or main object in the educational process, but that it is to furnish the best means and methods of acquiring knowledge. Neither is it to be supposed, that in this second department on which we now enter, there is nothing done either to discipline the mind, or to impart greater skill and dexterity in the use of means and methods. All that is meant is that, whilst these are not by any means neglected, the grand aim is the communication of knowledge in the best possible form. We begin with

Oral Lessons. This is comparatively a novel branch of education; and being, in our apprehension, one of paramount importance, both for the imparting of knowledge and the development of mind, it demands our earliest and fullest consideration. It is, in fact, neither more nor less than giving a shape and a systematic form to the great principle pervading the whole of the science of education, viz., exercise, which, if faithfully followed out, would produce a complete revolution in every department of our theme. Generally regarded, an Oral Lesson is just instruction delivered by word-of-mouth, and not read from any written composition. Educationally regarded, however, the expression has received a peculiar and a more extensive application, both as it respects the subject-matter introduced and the mode of discussing it. In reference to the former, its specific object is to bring before the minds of the rising generation a large amount of information regarding things and pursuits with whose appearance they are familiar, but with whose structure, or parts, or qualities, or application, or origin, or history, or relations, or benefits, they know little or nothing; in all which things they are deeply interested, and to the exposition or explanation of which they give the deepest possible attention, as most directly bearing both on their present interests and their future usefulness. In reference to the latter, or the way in which this knowledge is communicated, the expression before us, as applied to education, has a still more peculiar or special acceptance. It repudiates and denounces the

old-fashioned style of conveying knowledge in the shape of a continuous oral address on the part of the teacher, and of simple listening on the part of the scholars. It is equally opposed to a series or succession of questions and answers, the questions, as usual, put by the teacher and the answers given by pupils. Its grand aim in imparting knowledge, is to operate upon and develop mind, and accordingly the teacher puts questions to ascertain what the pupils know; what they do not know, he tells them, and what they know, he allows them to relate; and, when it is desirable to make applications, or to draw inferences, he encourages them still to carry on the subject. In one word, the grand object of the teacher is to train and not to teach. An Oral Lesson, then, is neither a lecture, nor a series of questions and answers, but a colloquy or conversation between the teacher and taught, carried on by questions and answers, and ellipses.

There are two distinct classes or sorts of Oral Lessons, originating in the mode in which they are given, viz.:—1st. Object-Oral Lessons, and 2nd. Word-painting Oral Lessons—the one being addressed to the perceptive, and the other to a diversity of faculties—the one being more in accordance with the Pestalozzian, and the other with the Stow or Training system. The object-lesson, again, may be regarded in a two-fold aspect, first, as the cultivator and strengthener of all the senses, adapted mainly for the young, and, secondly, as the hand-maid of brighter views or deeper impressions on any one subject or object, and this for persons of all ages. The word-picture oral lessons may also be subdivided into those that are figurative and those that are literal, meaning by the former those that convey thought through a figure of speech, either an allegory, or parable, or similitude, or metaphor; and, by the latter, where the picture must be made; and this is most easily done by using the exterior or natural for the interior, or moral, or spiritual, and holding up these as pictures to the mind. These kinds of oral lessons will be fully elaborated under the mode.

Subjects of Oral Lessons. It has been already noticed that whilst any subject or branch of education may be presented to the young by means of oral lessons, there is a class of subjects regarded by educationists as the more peculiar province of these lessons.

The class to which we now refer consists of all those objects or things with which the young have been perfectly familiar from the very commencement of their observational existence, but with whose nature, properties, relations and history, they are entire strangers. They have been accustomed to look at, to handle, and to use these objects every day, and every hour of the day for very important pur-

poses, but beyond their mere external qualities or habits, or their general usefulness, they literally know nothing. Let these objects, however, form the theme of investigation and discussion, let their nature be explained and their properties and relations pointed out, and they listen with the greatest attention and earnestness, and that just because they are profoundly interested therein. This is the class of subjects that more specially falls under the category of oral lessons. And surely no one can fail to perceive the vast utility, the transcendent importance of these topics. It is a great achievement to rivet the attention, to secure the earnest application of the mental energies of the young to any one topic. It is greater still to have the opportunity of expounding to them the properties and relations, the principles and laws of those very objects and pursuits with which they are most familiar, and which, in all probability, they will be viewing, and handling, and grasping, and combining, the remainder of their days. But it is the greatest of all triumphs so to arouse and direct the mental and moral energies of the rising generation, so to train them to habits of application in the use of these energies, that their reflective powers are expanded and developed, and rendered capable of investigating and scrutinizing any object or subject that may, during their future career, come within the range of their enquiries. But we cannot follow any longer this strain of remark. It is more to our purpose that we go into particulars regarding these topics themselves. Here, as usual, in accordance with our system, we begin with those that are dearest and nearest, with those that are best known, and proceed to those that are more remote or unknown, so that the latter may be reached and explained by the former. The way of discussing these subjects will of course depend on the state of intellectual development of the class or party exercised. The perceptive power, as is well known, lies at the foundation of all mental activity, and is the first developed. The first stage, then, of Oral Lessons, should be mainly directed to the cultivation of the senses, and should have those objects presented to them which are suitable and congenial to their nature. This, then, is the stage which demands the greatest number of Object Oral Lessons by which the senses may be respectively cultivated, and thereby more vivid conceptions of external objects in all their properties and qualities impressed upon the mind. Our knowledge of the external world, of its objects and pursuits, has not advanced far, when the mind evinces a disposition to trace the relations between one thing and another, to point out resemblances and differences, to apprehend analogies in the

various departments of knowledge; and what is this but the faculty of the imagination beginning to exhibit itself and to send forth its cry for materials or food? This, then, constitutes the second stage in Oral Lessons, and it is in this department where word-painting comes most fully into operation. The same class of objects may be again employed, with a higher exercise of mind, even the faculty of simple generalization and imagination. We can now take a synthetical view of any subject or series of subjects, and from certain data called premises, the mind can deduce certain conclusions. This is the highest exercise of the human mind, its combining power, and has very appropriately had assigned to it the third stage in these Oral Lessons. The very same subjects may be taken in all the stages, and treated in such a way as to be in complete adaptation to the intellectual development of any one stage. We may take, for example, a plant or an animal for each stage; and, under the first stage, call attention to the various parts palpable to our observation; and, under the second, trace the relations subsisting between its parts, or between it and any other object; and, under the third, point out the place it holds in the system, with its various uses or applications, and all for the purpose of exercising our reflective powers. But whilst this may be done, it will be found more satisfactory and more interesting to have separate lists of subjects for each stage.

SECULAR SUBJECTS.

Stage 1st.—Primary. 1. Articles of food; 2. Of dress; 3. Of furniture; 4. Common trades in the locality; 5. If country schools, the various pursuits of the farmer, if town, the manufactures, &c.; 6. The most common domestic operations; 7. The different sorts of shops in the neighbourhood with their respective materials; 8. Common plants growing in gardens, bushes, and trees; 9. Common animals; 10. Miscellaneous list of common things, such as cleanliness of person, punctuality, its advantages, &c.

Stage 2nd.—Juvenile or Intermediate. As the perceptive faculty is mainly exercised in the first stage, so here the principle of comparison, by which the relations are traced between one part and another in the same object, or between one object and another. Hence it is clear, that the very same subjects may be taken up, at least, such of them as furnish good material for the exercise of the principle of comparison.

Compare, 1. The cow and the sheep; 2. The elephant and camel; 3. Hen and duck; 4. Cat and dog; 5. Lion and tiger; 6. Sloth and

hedge-hog; 7. Hare and partridge, habits, means of defence; 8. Mole and beaver; 9. Teeth of a cow with those of a beaver; 10. Modes by which animals defend themselves; 11. The different and more prominent parts of the human body; 12. The manufacture of salt from sea water and other salt; 13. Glass, of what composed, and how manufactured, and so with paper, soap, gunpowder, candles, leather, &c.; 14. Smoke, how consumed; 15. Evaporation, what is it, and how caused; 16. Sheep's wool, why different in texture, in different countries, advantages of this to the animal and manufactures; 17. Clothes, of what use: would certain sorts be equally suitable in all climates; 18. Perspiration, sensible and insensible—picture out uses; 19. Compare weaving and sewing—felted cloth with woven cloth; 20. Compare lead and iron—qualities and particular uses of each—beat iron and cast iron, screw, pulley and saw; 21. Flesh of the different animals used as food, viz., beef, mutton, lamb, pork, venison, fish and fowl; 22. Clay, sand, lime, and other soils; 23. Compare needle-making and pen-making with their different forms and uses; 24. Comparative use of roots, barks, stems and leaves of plants; 25. The distinction between boiling, roasting and stewing; 26. Yarn and thread, picture out the process of making each; 27. Warp and woof, should there be any distinction in strength, &c.

Stage 3rd.—High School. This stage has a special reference to the training of the reasoning powers and to the inferring of consequences from premises laid down. This is well put by Smith in his "Prize Essay on Education." "By books the pupil can never be properly exercised in reasoning. As conclusion and premises follow one another, both of them being placed before the reader, he is under great temptation to assume both on equal authority. Hence the means must be used in the first instance to induce him to draw inferences which he has not thought of beforehand. Some men entirely unexercised in reasoning, know just as much as they are told in plain language, or as they can perceive by their senses; but all men of ordinary capacity are able to acquire the power of concluding something involved in what is sensible, and deducing inferences from the information communicated to them. We would set out in lessons of this sort, from something which the pupil knows, or which can be made patent and palpable to his senses, and go on from simple processes to more difficult, the complex conceptions thus acquired forming the components of new reasonings."

The subjects here should be of a much higher and more systematic description, with special reference to their practical application, the pupils themselves drawing the inferences. Every lesson here should

aim at turning the attention of the pupils to an examination of those phenomena that meet them in their daily life. Of course the train of reasoning here will be much longer than in any previous subjects.

NATURAL SCIENCE.

1st. *Mineral kingdom.* Metals ; properties, process of manufacture, and uses to mankind. Rocks ; kinds, crystals, clay and soil. Fossil remains of plants and animals. Coal ; its formation, manner of deposit, varieties, association with iron ore, manufacture of coal gas, gas works. Salt ; as found in mines, and manufactured from sea water or salt springs, its general distribution in nature, and valuable qualities. Sulphur ; its properties, what kind of countries principally found in.

2nd. *Vegetable kingdom.* Difference between plants and minerals, vegetable life. Tissues of plants. Organs ; root, stem, leaf, flower, seed. Nutrition of plants. Flow of sap. Distribution of plants. Of development of plants. How plants of all climates may be found in same latitudes.

3rd. *Animal kingdom.* Difference of vegetable and animal life. Tissues of animals. Skin ; nature, functions. Bones ; composition, uses. Muscles. Nerves. Digestion. Flow of blood in veins and arteries. Respiration. Difference of air inhaled and exhaled. Man fitted to inhabit all climes, &c.

PHYSICAL SCIENCE.

1st. *Properties of bodies.* What essential, what secondary Properties. Different forms of attraction.

2nd. *Mechanics.* Laws of motion. Mechanical instruments. Levers, practical example of wheel and axle. Pulleys, advantages of. Inclined plane. Wedge. Screw.

3rd. *Fluids,* at rest and in motion.

4th. *Pneumatics.—Heat, Optics, Acoustics, Magnetism, Electricity.* Pressure of atmosphere. Air pump. Common pump. Forcing pump. Fire engine. Philosophy of draughts. Evil effects of prevention. Heat, communication of heat, conduction, radiation, absorption. What kind of clothes most suitable for summer and winter wear. Expansion and contraction. Thermometer. Liquefaction. Vaporization. Elasticity of steam. Steam engine. Light. Reflection and refraction of light. Description of the eye. Uses of spectacles. Telescope. Microscope. Magic lantern. Effects of light on vegetation. Various sources of artificial light. Its mode of travelling and wherein different from that of sound. Colours,

bleaching. Mirrors. Concentration of heat and light. Prisms.— Burning glasses. The daguerotype. Sound, how produced and conveyed. Echoes. Bells. Speaking trumpet. Magnetism. Discovery. Properties. Polarity. Earliest use as indicating cardinal points. Mariner's compass. Electricity. Its name. Electrics, and non-electrics. Various means of collecting it. Electrical conductors and non-conductors, insulators, leyden jars, ordinary electrical machine—identity of electricity with lightning, lightning conductors, effect when discharged into vegetables and animals—thunder, how produced. Galvanism—Its discovery and origin of name, connection between galvanism, electricity and magnetism, construction and principle of the galvanic battery, effect on animal bodies—its application as a medical agent—principle and arrangement of the electric telegraph.

ANATOMY AND PHYSIOLOGY.

Human body and its health. Head. Trunk of body. Legs. Arms. Hand. Eye. Ears. Hair on head. Circulation of blood. The heart. Lungs. Liver. Stomach. Bowels. Nerves. Nose. Tongue. The human brain. Perspiration, sensible and insensible. Philosophy of exercise, of washing the skin of the whole body, of sleeping. Effect of cold feet on health, &c.

MIND.

Outlines of Psychology and Ethics. Various powers of intellect, various emotions, will. Ethics—man a moral being—relation to God—relation to man—duties therefrom.

Apparatus necessary for these Lessons. 1. Gutta percha tube. 2. Glass tumbler. 3. A Florence flask. 4. A water-hammer. 5. Glass globe with tube attached. 6. Glass syphon. 7. Glass tubes. 8. Barometer and Thermometer. 9. Prism. 10. Gonigraph. 11. Horse-shoe magnet and couple of bar-magnets. 12. A magnetic needle balanced on a simple stand. 13. A magnetic and index needle. 14. Electric machine. 15. A microscope. 16. Air pump. 17. Magic lantern. 18. Specimens of minerals, plants, animals, &c.

RELIGIOUS SUBJECTS.

Having thus pointed out the subjects of the different stages in the secular department, it may not be improper if we refer briefly to those in the religious. The stages and the modes of imparting, here, are exactly the same as in the preceding. The subjects of course are different, but though they are, they ought to be selected in adaptation to

the development of the intellectual powers, on the same principle as the above.

Stage 1st. The first stage should embrace Bible stories, taken either from the Old or New Testament, according to circumstances. The teacher may desire to correct a species of naughtiness or rudeness, or any particular sin that may prevail among the scholars, or to elevate their notions and appreciation of any virtue, and he accordingly selects the story, where the one or the other of these is exhibited. Such a story should always be presented in pictorial form, or else it will prove a failure, but of this more anon. And so with the truth embodied and the lesson taught. The other subjects here are emblems and precepts of the plainest, the simplest, and most familiar character. The emblem should always have the natural picture of an object, or thing, that the youngest children are acquainted with, and they will be able to deduce the lesson. The precept, too, should always be accompanied with some story whether true or feigned—whether from Bible or our own observation and experience. Here the teacher must strive after an adaptation to circumstances.

Stage 2nd. The emblem and precept are continued, though, of course, more details are presented. The Bible narrative, too, is also continued, but more consecutive, or, in other words, presented in historical form, both with dates and names of places or sacred geography. The principal new subject here introduced, are the doctrines of Christianity, and these arranged, of course, in systematic form. In public schools no ecclesiastical catechism, where these doctrines are systematically arranged, can be introduced. This may do in a congregational Sabbath School, but in a public week-day school they are inadmissible. But these doctrines, with the headings of Sin and Salvation, could be cast into a systematic form by passages of the Bible, with the simplest title of the doctrine. In this way a smaller or larger system of doctrine may be very easily constructed, beginning with the analytical form instead of the synthetical, as in general Confessions or Catechisms.

Stage 3rd. Here all the preceding are continued, though carried to a much higher minutia of detail. Other exercises may be introduced. Some of the more important of Paul's epistles, such as the one to the Hebrews or the Romans, should be thoroughly studied and committed to memory.—Connection between the Old and New Testament.—The subject of fulfilled prophecy, Jewish and Oriental antiquities, &c.

Uses of Oral Lessons. The value of these lessons, if properly and

judiciously conducted, is inconceivable, both in imparting knowledge and in disciplining mind. Their peculiar benefits are the following:

1. They impart useful knowledge. The channels by which knowledge is imparted are many and diversified. Each, in the estimation of its advocates, has its own special advantages. We claim for Oral Lessons the highest and most marked. 1st. Because they strikingly combine the practical with the theoretical, both in things secular and sacred. 2nd. Because the knowledge acquired is more likely to be retained for two reasons;—it is, much of it at least, our own manufacture, that is, got by the dint of our observant or reflective faculties,—it is presented to the mind through the medium of visible or tangible objects, or illustrative analogies.

2. They excite an insatiable desire for more knowledge, both in reference to what is already deposited in the mind, and all kindred topics, as well as all other kinds.

3. They develop and strengthen mind for future application and work.

4. They awaken a spirit of enquiry into the cause of things, and especially into the rationale of common things.

5. They generate an inventive spirit, even amongst common tradesmen and labourers.

6. They raise the mechanic above the mere machine, and the farmer above the clod-hopper.

7. They turn all education into a practical and profitable bearing.

8. They make man not only in theory but in practice a thinking being.

9. They combine the speculative, the active, and the moral powers of our nature into one resplendent, harmonious whole.

10. They fit and qualify for the investigation and study of the character and attributes of Duty.

Geography. In so far as the matter of information is concerned, this is perhaps the most comprehensive, as it is the most important and interesting of all the branches of learning. It is only but as yesterday that it has made its escape from the prison house in which it had been so long confined. For a long period, even as a branch of education, it was considered to consist merely of a catalogue of names of mountains and rivers, of countries, of capitals, and of towns; and he was considered to be a geographer of no ordinary celebrity, who could recite these with fluency, or tell for what they were noteworthy. But not only did the whole excellency of this branch consist in the nomenclature of places and things, that nomenclature was a pure rote or

memoriter process, not only destitute of all associating ties or links, but without anything to invest it with intelligence or interest, and, as we shall see in course, taught in the most irrational way, conducting the scholar not from the known to the unknown, but from the unknown to the known. No branch of learning has undergone a more thorough revolution in these modern times, whether we look at its extent or its mode of teaching. Now, it permits us to range at will both throughout the works of God and man, from the most minute to the most grand and sublime, from the most secular to the most ethereal and spiritual, from what is visible to what is invisible, from what is transporting around us, back to the most remote epoch in the history of our planet. There is scarcely a science or an art upon which it does not levy a tribute, or call in to its succour and advancement. It has to do, and to do most extensively, both with the science of Astronomy and of Geology, the one ranging throughout the illimitable bounds of space, and the other diving into the very depths of the most remote antiquity. It roams at will throughout the various departments of Natural Philosophy and Science, availing itself of the great principles and laws that reign in the world of physics, whilst it garnishes itself with substances both inorganic and organic, from the pebble in the brook up to the most beautiful and most complicated of animal existences. But it takes a higher platform still. It looks at man in all the aspects in which he can be exhibited to us individually and socially, as connected with the world of matter and of spirit, as the denizen of the present scene and controlling all its movements and operations, and as an expectant of a higher sphere of being, and in course of preparation for its enjoyments.

But the extent of the range now opened up by this branch of knowledge, is but a subordinate part of the improvements that have been effected. The whole subject is regarded in its dependences, relations, and adaptations, so that the Almighty Creator and Preserver is seen to be acting out one grand system, and all for the instruction, elevation, and happiness of the human family. Here we are compelled to study the relations subsisting between the solar system and our world, or between Astronomy and Geology, and that for the purpose of accounting for phenomena every day and every hour presented to our view, and which, from the very condition of things, must have been in operation ages gone by, as well as at present. Here, too, we are required to study the various, and yet complicated, relations and dependences that obtain throughout the departments of the kingdom of nature, the dependence of the organic on the inorganic, of the

vegetable on the mineral, and of the animal on the vegetable. Here, especially, are we required to trace the relations between man and his surroundings, the influence of his external circumstances on his internal state, of the physical on the intellectual, and these both individually and collectively. But we may, and ought to advance a step higher still, and contemplate man as the subject of moral government, the relation subsisting between the dispensations of Providence and the body politic. In one word, this branch of learning is now prosecuted in connection with its causes and effects, and whilst it imparts valuable and useful knowledge, it exercises almost all the intellectual and moral powers of our nature. In accordance with these wide and extensive views of our subject, various subdivisions have been given. Perhaps the plainest and most palpable division is into Secular and Sacred, then Ancient and Modern, next Natural and Artificial, and, last of all, into Mathematical, Physical, Political and Historical.

But there is another division of still greater importance, though perhaps more appropriately belonging to the next chapter, we mean the Oral, or the Elementary, and Systematic. One of the most remarkable and interesting features of this branch is that, whilst it furnishes material for the loftiest genius and the highest attainments, it is at the same time capable of being taught to the youngest scholar, and taught in perfect adaptation to the stage of development of his intellectual powers. Indeed, there is not perhaps one single branch of learning so completely adapted to every stage of development. This, however, requires such an acquaintance with the nature of the recipient, and such a thorough familiarity with itself, as are but rarely met with on the part of the most skilful teacher. The whole of the elementary parts of Geography may be taught to the primary department through the medium of objects with which the children are perfectly familiar, such as the hills or mountains, as represented by the rising ground; the rivers, by streams at hand; the lakes, by pools, &c., and these can be either drawn on the black-board or exhibited on a map.

The benefits which flow from the study of Geography are many and valuable. After what has been said, a simple enumeration is all that is necessary.

1. It imparts valuable information in the most impressible form, even through pictorial representations.
2. It makes us acquainted with the laws of the heavenly bodies, the planetary system, as well as with the general laws of the system

of the universe, in connection with the practical application of physical science and mathematics.

3. It conveys accurate information regarding the resources and capabilities of any country, whether in agriculture, mining, manufacture, or in commercial pursuits.

4. It provides statistical data by which we may form a fair estimate of the character of any nation, its responsibilities, its immunities and its probable destiny.

5. It enables us generally to comprehend what is going on among the nations of the earth, through the usual channels.

History. This, as well as the preceding branch of knowledge, is only beginning to occupy the position to which its importance entitles it. Just as Geography was at one time considered, as all but synonymous with topography, so was this with chronology. And that individual was lauded as the greatest adept in history, who could recite with fluency the battles fought during some particular epoch in the history of the world, repeat the dates of the commencement and termination of the reign of the various sovereigns in any one country, their pedigrees, their individual history, &c. More enlightened and befitting views are now beginning to gain sway. History is no longer regarded merely as a record of events or of facts, but of their causes or effects, or of events and facts in connection with the principles whence they emanated. But we take still higher ground, and maintain that History is neither more nor less than a record of the dealings of Providence with a nation or nations, with the effect of these dealings as expressed in the words and deeds of that nation. These dealings must be regarded not as the hap-hazard occurrences of chance, but as the fulfilment of the Almighty's decrees or determinations, for the accomplishment of high and important purposes. Every event then happens in accordance with the will of an over-ruling Providence. Every individual, however humble or exalted, but plays his part in the great drama of life,—whether he knows it or not. The history of a nation, then, or any particular period, or epoch, or event thereof, is the representation in so many verbal statements of the effect of these dealings. And where are the materials for such a representation to be got? They are to be gathered from a great variety of sources. We cannot penetrate the human mind or read the thoughts that are passing through it, but we can gather what these thoughts are from the sayings and doings of every day life, and still more from that nation's acting in some important crisis or conjuncture. These are preserved and handed down from one generation to another, in the

writings of the time, the architecture, the sculpture, and the fine arts, in the various observances both civil and sacred, in the amusements, pastimes, pursuits, &c. From these we arrive at just conclusions respecting the character, the views and sentiments, the principles and motives, the aims and ends, of the nation or people at large, or any particular party or individual.

Divisions have been assigned to History, diversified according to the object contemplated in that history. If it regards man in his spiritual or religious character, it is designated Ecclesiastical History; or, if it regards him in his temporal or social character, Civil History. If it is contemplated in its general aspects, inclusive of all the characteristics of the human species, all the nations upon earth, from the most remote period of authentic records to the present time, it is generally subdivided into Ancient and Modern, the former coming down to the birth of Christ, and the latter thence to the present day. Sometimes it is more minutely subdivided into Ancient, Mediæval and Modern, the first conducting us from the most remote period of authentic history to the fall of the Roman Empire; the second thence to the commencement of the Reformation, and the third thence down to the present time. Besides these there are several varied subdivisions. When the history is limited to any one particular nation, such as that of Britain, it is called the History of Britain, and when it extends to all nations, it is called Universal History.

This branch of knowledge is of surpassing importance, as may be specified under the following heads:—1. History is of great utility, because of the nature of the knowledge it imparts; as from the lessons of the past, we may obtain suitable directions for the future. 2. The knowledge which history imparts is still of greater value when the effects are studied in connection with their causes or *vice versa*, and principles in connection with the facts evolved. 3. It is of still greater benefit to the young, inasmuch as it unfolds facts or truths, by example; and, therefore, as a moulding or transforming branch of education, peculiarly adapted to them, as more under the influence of the imitative principle of our being. Indeed, next to religion itself, there is no branch of knowledge, better fitted to awaken attention and mould and fashion character, provided the teacher uses all diligence in holding up to the execration of his pupils, whatever is blameworthy in the hero of the narrative, on the one hand, or whatever is commendable, on the other. This, of course, implies, on the part of the teacher, not only a thorough knowledge of the facts involved, but that he has his

mind completely made up on the conduct of the different parties introduced, and on the nature of the events themselves.

4. History is, above all, beneficial, inasmuch as it brings us into contact with the inner life of our fellow-creatures, points out the effect on their minds of a certain procedure in the divine economy, and hereby enables us to study man in relation to the higher destinies of his being.

Natural Science. By this branch of knowledge we are simply to understand the classification of all the objects in the world of nature, both inorganic and organic. It differs from natural philosophy, whose business and province it is, to observe the phenomena existing in the material world, to investigate the principles and laws on which these phenomena depend, and carefully to study their practical application. This branch differs also from natural history, which has respect merely to the external structure and habits of the object, depending upon and deriving all its information from the observational faculties; whereas Natural Science adds to this, the examination of the internal structure by the aid of the scalpel or anatomical knife. It must be seen with a glance that this is one of the most extensive subjects or branches of education we have yet touched, and involves the consideration and examination of the following sciences, viz.: Chemistry, Mineralogy, Botany, Zoology and Geology. It must not be supposed, however, that in introducing this branch of knowledge into our schools, we pretend to make any encroachment on the province or prerogatives of collegiate institutions. We are decidedly of opinion that instruction should be given in this department almost, if not entirely, free of technicalities, and principally in the shape of oral objective lessons. With this limitation and explanation, it may be begun at a very early period in the history of the education of the young. Every child has a natural desire to obtain some knowledge of the gold, or silver, or copper, or lead, or iron, he has so often seen, and handled, or of the rose bush he has so often admired and smelt, or of the mouse, and cat, and dog which have yielded to him such a fund of amusement and gratification. And what is all this but an appetency for this branch of knowledge in its more simplified forms? It is, of course, in every way desirable, that the teacher possess a scientific knowledge of each of these departments, but it were the very excess of pedantry, if not the very height of folly, to bring them in this shape before the minds of their pupils. No one can teach with accuracy without such a knowledge; and yet the utmost vigilance must be observed in the avoidance of all allusion to the intricate terms employed

in their consideration as distinct sciences. Of course, it is perfectly allowable in the more advanced classes in any school establishment, or in Grammar schools, or Academies, to go more thoroughly into detail, and to observe greater continuity in the discussion of the objects under each department; but even then, every effort must be made to avoid, except in cases of extreme necessity, all technicalities; and, when necessity compels, these should be pictured out, so that the pupils shall have a distinct apprehension of the ideas couched under them.

The grand distinction to be made in bringing the subjects embraced under these branches of Natural Science before the different stages or degrees of advancement in scholars, must rest, not so much on the subjects themselves, as on the mode in which they are presented and discussed. But this falls under teaching department.

The study of Natural Science, when prosecuted aright, and in adaptation to the various stages of the development of mind, cannot fail to be productive of immense benefit during all the future career of the recipients. It communicates knowledge of great practical utility in almost every sphere and pursuit of life. It imparts enlightened views to the house-wife in all culinary operations, for all cooking is less or more the application of chemistry. To the agriculturist—the fisherman—the tradesman—the merchant—the capitalist—it gives that information which is capable of being reduced to large actual gain, both on the score of income and economy. To the physician, it is of great use, both in the department of disease and remedy, or of pathology and therapeutics, enabling him to become better acquainted with the human frame, and to adapt his application thereto with still greater skill and success. To the theologian, and, especially, to the missionary among the heathen, it is of equal, if not of greater advantage, for imparting a clear apprehension of the figurative language of scripture, and who does not know that two-thirds of the volume of inspiration is couched in emblems or parables borrowed from the objects and things of external nature? And it is a fact now well established that that missionary, instrumentally, is the most successful wherever his field of labour may be, who is most familiar with the various departments of the world of nature around, and can borrow, with facility, illustrations therefrom. In all this the theologian, both at home and abroad, is but copying after the example of Him, who spake as never man spake, and whose thoughts were of course couched in the language best fitted for producing the end intended. And to what study can the young betake themselves better calculated to lead them away from

the world of visibilities to that of invisibilities, from matter to mind, from the finite to the infinite, from the creature to the Creator ?

And if this branch of study is of inconceivable value in all the practical pursuits of life, it is equally advantageous in the disciplining of the mind. What better fitted for cultivating the perceptive powers than the analytical process that must be gone through with every object in the world of nature, in the determination of its character, and in the allotment of its legitimate place in the system to which it belongs ? And the power thus cultured and brought into healthful exercise and strength will operate, and that most extensively, upon the reflective class, and, especially, upon the abstractive. And all this, again, will form a most powerful means in helping us to analyze mind itself, in imparting the capability of sitting as sentinels over the workings of our own consciousness.

Natural Philosophy. The term, philosophy, signifies the love of wisdom; but, as a general term, it is used to denote an explanation of the reason of things, or an investigation of the causes of all phenomena, both of mind and matter. When applied to any particular department of knowledge, the word Philosophy implies the collection of general laws or principles, under which the subordinate facts or phenomena relating to that subject are comprehended. Hence it is not unfrequently defined the science of causes and principles; the investigation of the principles on which all knowledge and all being ultimately rest. "Man," says Fleming, "first examines phenomena, but he is not satisfied till he has reduced them to their causes; and when he has done so, he asks to determine the value of the knowledge he has attained. This is *Philosophy*, properly so called, the motive and governing science, the science of sciences." Accordingly, that branch of Philosophy, which treats of God, His attributes and decrees, is called Theology; that which treats of the intellect, is called Intellectual Philosophy; and that which treats of the material world is called Physics or Natural Philosophy.

The term Natural Philosophy is considered by some authors as embracing the whole extent of physical science, while others use it in a more restricted sense, including only the general properties of inorganic matter, the forces upon which it acts, the laws it obeys, the results of those laws, and all those external changes which leave the substance unaffected. It is in this sense we use the term now, the other grand department being occupied by Natural Science.

In this restricted sense, it comprehends the general properties of bodies, both essential and accidental, mechanics or the laws of motion

with the six mechanical powers. Natural Philosophy not only discusses the statics and the dynamics of solid bodies, but those of fluids too, called Hydrostatics and Hydraulics, meaning by the former the nature, gravity and pressure of fluids, and by the latter the motion of fluids and the construction of all kinds of instruments and machines for moving them. It takes a wider range still, and discusses the nature, properties and effects of æriform fluids, or Pneumatics; the nature and laws of sound, or Acoustics; the laws, properties and operations of heat, or Pyronomics; light, colours, and vision, or Optics; Electricity in all its forms and modes of manifestation, and Astronomy or the Science of the Heavenly bodies.

This, it will be observed, opens up a wide and extensive field of study and contemplation. And when prosecuted to its full extent is sufficient to occupy the matured reflection of the human mind, of those whose minds are not only developed but well disciplined. It will be observed, however, that in so far as the school is concerned we have confined the limits of its study to the mere elements. And surely these, in their fundamental properties, can be easily expounded so as to be within the compass of the understanding of the advanced pupils in a common school, and of the whole pupils in a Grammar school or Academy. Whatever can, along with the verbal description, be presented to the senses, and, still more, be rendered the subject of experiment, interests and excites the attention of the young, and in almost every department this can be done, and this, too, with objects and things with which the young are perfectly familiar, being subjected almost daily and hourly to their personal inspection or observation. Were oral lessons of eight or ten minutes duration given every alternate day on these themes, even in our common schools, it would not only turn out more intelligent and useful men and women, but instead of detracting from the amount and quality of their other scholarship would greatly enhance and increase it. And this leads us to notice the advantages to be derived from this branch of knowledge.

1. It is here especially where the science of common things can be most extensively dwelt on, than which there is no kind of knowledge more useful, or interesting, or exciting. The real province of philosophy is to unfold the reason of things, and especially of those things subjected every day, or, it may be, every hour to our observation. This constitutes the true secret of the development of mind. It never fails to awaken a spirit of enquiry, and this increases spontaneously at an amazingly rapid ratio.

2. More particularly, the knowledge thus imparted is peculiarly

valuable to the day-laborer, the tradesman, and especially to the agriculturist and the mechanic. And do not these in every nation constitute the greatness; and do they not form the very substratum of society, on which the main bulwark and strength of the nation depends?

3. The knowledge thus imparted dignifies and ennobles manual employment. Physical labour is too often undervalued. This ought not to be, except when it is unaccompanied with the exercise of mind, as it then assumes the character of brute force. Let it be associated with the exercise of our reflective powers, and then it becomes the best of all kinds of exercise alike for mind and body.

4. This knowledge is beneficial to all. It may not be of direct service to many pursuits or employments, but it has proved the means of awaking mind, of exciting a spirit of inextinguishable enquiry; and this has only to be transferred to the particular calling, to redound most largely to the benefit of all.

5. There are few, if any, branches of knowledge better fitted to show to the mind the vastness of the material universe, and thereby to impress the heart with the majesty and glory of the Omnipotent Creator.

Psychology or Elements of Mental Science. In the preceding book, in the discussions connected with the first characteristic of the child's nature, we had occasion to present an outline of the whole subject of Psychology, and to this we would simply refer our readers. But however lawful and warrantable it was to expatiate on such a subject in that connection, we can easily conceive some of those who have gone along with us, and, in the main, given their approval to the branches to be taught, filled now with very amazement and consternation at the idea of introducing this, the most latent, and complicated, and incomprehensible of all subjects, as one of the branches of education in our schools. Here, again, we must beg our readers to remember that it never was intended to attempt to make scholars, even in the most advanced scholastic establishments, climb the heights of Metaphysics, or plunge into all the depths of the condition of being, or even to survey the field of the intuitive; but simply to make them acquainted with the elements of Mental Science with an outline of its first principles. *Gnōthi seauton*, 'know thyself,' is a phrase which has been rung and rerung in our ear from our very childhood. And how can any human being, whose mind has been at all cultivated, be said to know himself, if he is ignorant of that which constitutes the very glory of man? It is now universally admitted that every scholar should be instructed in the elements of animal physiology, as not only

of vast importance, theoretically regarded, but as pregnant with great practical significance. And surely, it is not of less importance that the young should be made acquainted with the leading features in the mental constitution, that that part of our being through which we obtain all other knowledge, which constitutes the axe or the instrument by which we fell every other tree, however formidable, by which we scale every mountain, however apparently insurmountable. We are thus decidedly of opinion, that it is not only allowable and practicable, but the bounden duty of all the more advanced schools to see, that the pupils are made acquainted with the elements of mental science, and, especially, with these elements in their practical bearing. The grand leading distinctions that obtain between the intellectual, the emotional and moral should be clearly drawn and impressed, or as they are subdivided in Scripture,—the understanding, heart and conscience. A knowledge of the senses, too, both in their anatomy and in their mental aspects, will form a very interesting theme—as well as their relation to the perceptive faculties. The representative powers, too—the memory and imagination with all their practical effects, the laws that govern, and means of improvement should also be presented, &c. The difference, too, that obtains amongst the sensibilities of our mental framework, should also be pointed out and dwelt upon—the emotions instinctive and rational, the affections benevolent and malevolent, the desires physical and mental. The nature, authority and influence of conscience should also be clearly pointed out. The whole subject of Ethics, as grounded upon the word of God, can be made very plain and simple to the most ordinary understanding.

The following, among other benefits, flow from this branch of knowledge, presented either in a more or less systematic form :

1. It will accustom the young to look at spirit apart from matter, to study the immaterial as a distinct essence or substance.
2. It will impart not only a knowledge of the particular power or faculty in all its properties, laws, and means of improvement ;—but enable the young to ascertain the faculty or class of faculties, &c., with which they are more largely endowed, and stimulate to a more diligent and hearty improvement of the same.
3. It will whet and render all the more efficient those powers by which they obtain all other knowledge, and prosecute all other investigations.
4. It will bring within their reach far more extensive fields of thought for their gratification.
5. It will exert a powerful influence in bringing the finite mind in

contact with the infinite, of the visible with the invisible, of the natural with the supernatural.

Elements of Social Science. By this science we understand the great leading principles involved in civil government, systematically arranged, or the rights and duties of the governing and the governed in the social compact. This science involves Political Economy, or that science which investigates the circumstances most favorable to the production of national wealth, and the laws which determine its distribution among the different ranks and orders of society; but it goes a great deal farther, and embraces the nature and the properties of civil government as an ordinance instituted by heaven, designed and in every way fitted to promote the happiness of the body politic,—the different forms of civil government,—the rights and duties of citizens in the varied relations in which they stand to one another, &c. This is a branch of knowledge deeply involving the welfare of the human species, as social beings, and which is every day assuming a greater importance and demanding the closest attention of the most enlightened statesmen and devoted philanthropists. For ages, such a science was scouted and contemned. During that period the whole matter of Government was limited to but a few, and the happiness or prosperity of communities, or nations, principally consisted in the implicit obedience yielded by the masses to the legally constituted authorities. As population increased, and civilization and refinement advanced, and the rights and immunities of citizens became better understood, both by themselves and by those placed over them, matters assumed a very different aspect. The political franchise took a far broader area, and hundreds and thousands were invested with this privilege who had before been mere passive spectators of great political movements. In consequence of this change, which has been growing throughout all the constitutional nations upon earth, ever since the close of last century, and especially since the declaration of American independence, it has become indispensably necessary to diffuse amongst the masses of the population sound and enlightened views of civil government. And in no better way can these be disseminated, or the minds of the people more thoroughly leavened with sound views of the subject, than through the medium of the schools of the country. Not that such instruction should ever condescend to the low arena of partizan politics, or to those fightings and contendings upon which changes in rulers depend, and which are so essential for the preservation of the purity of the political atmosphere. This were to frustrate the grand object intended by the exercise. What we mean is that the forms of

Government, the institutions of kingdoms, and the immunities of all the inhabitants should be clearly pointed out. And surely boys or girls of 14 or 15 years of age, when their education is at all equivalent to their years, can be easily taught to understand and appreciate the difference between constitutional government and despotism, between anarchy and the preservation of order. They can also be taught that to secure civil liberty, each citizen must be curtailed somewhat in the exercise of his natural liberty; and that whilst, in all our measures, we ought to aim at perfection, we must be content in practice to stop short of the wished for goal. Such knowledge delivered in oral lessons to the rising generation would, we are persuaded, prove of immense benefit to the body politic, and to the advancement of the comfort of all ranks and degrees.

1. It would enable them to draw the distinction between the official position and the private condition of the rulers of the land, and would inspire with that respect and obedience which they owe to the law fully constituted authorities.

2. It would be the best preparative to fit and qualify the free citizens of any country to exercise their elective franchise for the highest and most important aims and objects, and not for their own selfishness or personal aggrandizement.

3. It would tend vastly to prevent strikes, chartism and many other isms which cannot be effected by Acts of Parliament.

4. It would diffuse a spirit of contentment through all ranks and degrees, and dispose them to render the ties which unite them together subservient to each others real good.

RECAPITULATION OF CHAPTER.

In the discussion of the different branches of education, we have confined ourselves entirely to the two points proposed, namely, the nature and the use or benefits of these branches respectively. Under the former, we have briefly investigated the origin and elucidated a few of their more prominent features; under the latter, we have considered the benefits, direct and indirect, the kind and value of the knowledge they impart, and the more important powers they call forth and cultivate, that is, when they are properly and judiciously taught. This latter might have been easily enlarged; but enough has surely been said to demonstrate the intimacy of the connection between this and the foregoing Book, and that there is not one faculty or emotion without a branch of education fitted to give it expansion and discipline,

thereby, in one respect at least, tracing the connection between the theory and the practice, the science and the art. As several of these branches operate upon the same faculty or class of faculties, they might easily be reduced in number, but this would be to the serious damage of the other class of benefits in the knowledge they impart, all which will be found necessary in the various scenes or spheres in which the recipients may be placed in their future career of life. Even in this view some may regard the list as too numerous, too extensive in its range, and as usurping the collegiate course. And they judge rightly, if it were intended to treat these synthetically, or even to attempt anything exhaustive in their application, or to follow them out in the minutiae of their detail. But this is not the object contemplated. All that is intended is to present these topics in their broadest skeleton outline, is to put the scholars in such a position respecting them as that they shall be able to prosecute them for themselves, as that they shall be competent not only to fill in the details, but to have the taste and relish to do so. Besides, it ought to be remembered, that the branches of learning herein briefly sketched, are not intended for any one class of school or seminary, but for a full, a complete curriculum of a liberal education, for a regular gradation from the most initiatory to the most advanced, every school being allowed to select the branches most congenial to its nature or design.

It will be observed that in the order in which we have presented these branches of learning, we have followed the distinction usually drawn between those that are mainly instrumental and those that are mainly communicative. We have classified or arranged the former into the literary, the scientific and the economical. The latter rises from the more easy to the more difficult and complicated. This is not a matter of much importance, and yet we consider some order advantageous. Text-books, to be of essential service on all these branches, would require to be thoroughly graded, and with the exception of those on language, more in the shape of Institutes than of elaborate expositions.

CHAPTER II.

METHOD OF IMPARTING KNOWLEDGE.

OUTLINE.—MEANING OF CHAPTER.—SECT. 1st. PHILOSOPHY OF METHOD, VIEWED BOTH SUBJECTIVELY AND OBJECTIVELY.—SECT. 2nd. HISTORY OF METHOD. PROMINENT CHARACTERS WHO, AT DIFFERENT EPOCHS, FLOURISHED BOTH IN OLD AND NEW WORLD.—SECT. 3rd. FIVE DISTINCT SYSTEMS: ROTE, MECHANICAL, MONITORIAL, EXPLANATORY, OBJECTIVE, TRAINING.—SECT. 4th. SELECTION OF A SYSTEM. GROUND ON WHICH A SELECTION SHOULD BE MADE.—SECT. 5th. MORE PARTICULAR EXPOSITION OF THE TRAINING SYSTEM ADOPTED.—SECT. 6. EXEMPLIFICATION OF TRAINING SYSTEM IN TEACHING THE DIFFERENT BRANCHES OF EDUCATION.—BRANCHES ENUMERATED IN PRECEDING CHAPTER GONE OVER IN ORDER; HOW TAUGHT IN ACCORDANCE WITH OUR SYSTEM.

Attention has already been called to the distinction that obtains between knowledge and the method of imparting it,—a distinction that must appear plain and palpable to all, whatever the kind of knowledge, or the party to whom, communicated. In the case of public speakers, for example, is not the difference between the one and the other in the discussion of the same point, owing as much, if not more, to the way in which the subject is presented than to the subject itself, or the conclusions arrived at? One uses powerful argumentation; another, beautiful illustrations; another, interesting and beguiling anecdotes; and another, plain, didactic statements, but the truth or the event presented is substantially the same in all; and yet one is vastly more successful than another in the art of persuasion; and all because of the method employed.

And so is it pre-eminently with the education of the young. It is not the truths or the lessons they impart, that produce the most beneficial results, but the way in which they do it. For a long period the branches of learning constituted the sum total of education, and the school which travelled the round of the largest list of *ologies* was *par-excellence*, the best and most efficient. As, however, more enlightened and elevated views of the end of education gained ground, the distinction referred to has been more calmly and soberly looked at, and the method has in consequence bulked into a magnitude which it never had before. And this respect to method will grow apace. As more lofty conceptions of the end of education prevail, so will method be proportionally appreciated and enhanced.

There is indeed an inseparable connection between the knowledge and the method of imparting it. The better the method, the clearer

and more lucid will be the apprehension of the truth or the subject. And the more firm the grasp of the knowledge by the mind, the more perfect will be the satisfaction it yields, and the more valuable will the method be accounted. Need we premise that if this is a subject of transcendent importance, it is one of no ordinary complexity. It involves the practical application of all that has been advanced regarding the nature and the science of education, and of course must embrace the essence of the varied principles therein set forth. This, however, constitutes the real work of Normal Schools; implying not only a large amount of study clearly to comprehend the adaptation process to the varied phases of the human mind, but also of experience in acquiring facility in the practical department. But we proceed to the disquisition of the whole subject.

SECTION 1ST.—PHILOSOPHY OF METHOD.

By the philosophy of method we are plainly to understand the principle on which it rests, the rationale of the thing. And this is neither more nor less than the presentation of the subject, of whatever nature it be, in such a way as shall enlist the sympathy and interest of every child in the class. This plainly involves two things—the subject itself and the scholars—how the one and the other are to be treated so that this end shall be served. Now there are just two ways in which any subject can be presented and unfolded to the human mind. It may be viewed in itself, either as a whole made up of parts, or relatively, that is, in its relations as part of a system, its various properties, or attributes, or qualities being all classified—and both the one and the other brought before the class; and that through the medium of questions and ellipses, either simultaneously or individually. These are the only two ways in which any subject can be developed and exhibited to the mind, either by analysis or synthesis. In treating a subject or object analytically, we just treat it as it is, we look at it concretely, and then in its parts or properties; in other words, we proceed from the general to the particular. The all-wise Creator has presented everything to us in a concrete form, complete in itself. This principle reigns alike in the world of nature and grace. By this arrangement the Almighty evidently intended that man should study or look at things as they are, and reduce them to their constituent parts. And in accordance, therewith, he hath implanted in the human breast an innate desire to regard and to take an interest in objects or things, as thus presented. We not only delight to look at, to touch, to taste, &c., whatever may come under our consideration, but we possess

an instinctive desire to divide it into its constituent parts, as is well illustrated by the celebrated Dugald Stewart in the untieing of the artificially constructed knot, with which illustration many of our readers are doubtless familiar. And it is only by presenting it in this form to the young that we arrest their attention and excite their interest. And feeling the firmness of their foundation after they obtain all this knowledge, they are inspired with an ardent desire to know more, to prosecute their investigations to higher and yet higher degrees, to soar from the known into the loftiest regions of the unknown. To the young and untutored mind, therefore, every branch of knowledge ought to be presented first in this light as the natural mode, as the one best fitted to awaken an interest, and, by consequence, an inextinguishable thirst for higher attainment. Nay more, by the pursuance of this plan, such an amount of self-reliance and confidence will be generated, that they will be emboldened to undertake yet more valorous mental achievements, and be qualified in short for the higher exercises of generalization and classification. By a knowledge of figures viewed concretely or associated with objects, the young will be prepared to go on to the consideration of abstract numbers. By lessons in oral geography, they will be qualified for the systematic, and so with grammar and other branches.

The only other way of presenting any subject to the mind, is relatively as a part of a systematic whole, as holding a certain place in a science, that is abstractly or synthetically. This is exactly the converse of the preceding method, proceeding from particulars to generals. It supposes that the analytical process has taken place, that the parts have been separated, that, by a process of generalization and classification, these parts have been reduced to a system and placed in their proper place as parts of one grand whole, of one beautiful system, according to their various properties or attributes. This is the peculiar province and work of the human mind. By the legitimate exercise of our rational faculties, we collect the *disjecta membra* of every department in the kingdom of nature, and turn the whole of the parts into a systematic arrangement or science. This is man's sphere, this is the food provided by the all-bountiful Creator for the employment of his intellectual and moral powers. The text-books in all our common schools on Arithmetic, Grammar, and Geography, &c., are presented to us in this form; and the pupils being plunged all at once, and without the least preparation, into the abstractions, and intricacies, and technicalities of science, their education becomes neither more nor less than a species of systematized word-mongery, a series of

verbal signs. They have nothing to hold by, no known region on which to plant their feet. They are transported all at once into the airy region of signs and shadows. They are altogether uninterested, and consequently put forth no mental effort, save that of the memory of words; and even that is nothing but the effect of a miserable dragooning, of threats and of punishments.

To awaken an interest in the minds of the young and induce them to put forth any mental effort, it is thus indispensably necessary that the analytical precede the synthetical, that the natural go before the logical and consecutive. And, even when the latter mode is employed, it must be preceded by the former; that is, to interest even the advanced youth and call forth their energies, there must always be taken the solid ground of the known. Hence the necessity of illustration and analogy at every stage. The subject may be new, and the first thing the skilful teacher has to do is to discover the relation between it and some known territory with which his pupils are perfectly familiar, that their transition into the unknown may be easy and natural.

Such we hold to be the philosophy of method in so far as the subject-matter is concerned. But, as we have already hinted, there is another element to be taken into consideration, and that is, the way of handling or manipulating the children when thus unfolding the subject, so that all shall be worked by the exercise in hand and each benefit all. This demands both the individual and the simultaneous process; in other words, the teacher must come into direct contact with every child in the class, and still take all the advantage that can be derived from the sympathy of numbers. If the object of the teacher is to ascertain whether the class has got the lesson, this must be done by individual questioning and answering. If, on the contrary, his object is to exercise the thinking powers of the children through the medium of an object lesson, or the exposition of any principle that may lie at the bottom, he must carry on the work by means of the simultaneous process, that is, he must propose the question to the whole class, allow as many as choose to give the answer, or to carry on the elliptical process. And if only a few are able to do the one or the other of these, to convert the answer into a question and throw it back upon the class, that, if possible, none shall be allowed to remain without carrying every idea along with them. Addressing the question to all will make them all think, and here the sympathy of numbers will come in mightily to aid the teacher. The one will stimulate the other, and thus each will

benefit all the others. But in order to see that the exercise has been understood and received by all, it were in every way advantageous, at the conclusion, to call upon one or more, as opportunity admitted, to give a recital of the whole in its various relations and connections, or to cause the class to write an abstract. This would stimulate to diligence, and furnish something like evidence to the teacher, whether the exercise gone through by all has been actually received by all.

SECTION 2ND.—HISTORY OF METHOD.

Though the true method of educating the young is embodied in the sacred volume, distinctly inculcated in the Old, and amply illustrated in the New Testament, yet how slow have those, in possession of this record, been simply to obey its dictates or follow out its instructions. The quantity and not the quality, the what and not the how, has been the all but universal demand. True, there have been a few in every age who have apprehended the real glory of education, who have looked beyond the mere exterior of school houses, of school furniture and school text-books, who have penetrated and surveyed with profound study, with keen eye, with practical enthusiasm, the recesses of the inner life of our theme. These luminaries, these morning stars of education, have multiplied at a very rapid ratio, ever since the establishment and propagation, in all civilized countries, of Normal Schools with their Colleges and Model or practising schools. These institutions are presided over by the most enlightened and devoted enthusiasts in education, who have associated with them Professors of Didactics, or Paideutics, or Methodology—men who spend their time and energies in prying into and unfolding the whole subject of the science of education, testing the various improvements proposed, and experimentalizing in their own special field. It may not be unprofitable, in connection with our present discussion, that we briefly contemplate the life and history of a few of the more prominent of these characters—their innovations and improvements—their gains and their losses—their triumphs and their struggles.

Europe. Those who, in the sixteenth century, held the most prominent place on the continent of Europe, were the following:—Luther, Melancthon, Irotzendorf, Sturm, Neander, Wolfgang, Matich, Christopher Helwig, Amos Comenius. Though the first two of these distinguished worthies were principally engaged with the organization and consolidation of popular systems of education, the clearness and soundness of the views of both on the subject of method are truly marvellous. They sat at the feet of the great Teacher, and were

evidently imbued with His sentiments and spirit. We refer our readers to the writings of both these distinguished teachers.

In the seventeenth century, two equally illustrious individuals appeared, viz., Philip J. Spener, born in the Alsace in 1635, and Augustus Herman Frankè, born at Lubeck in 1663, who, the first, by the invention of the Catechetic method,—and the last, a pupil of the former,—by the foundation of the Orphan House at Halle, in 1696, and of the *Seminarium Præceptorum*, in 1704,—the first regular Normal School,—were destined to introduce a new era in the history of education in Germany. At this institution, the pupil-teachers received separate instruction for two years, and obtained a practical knowledge of method in the classes of the several schools. Among the most distinguished of Frankè's pupils and disciples were Count Zinzendorf, the founder of the Moravians, Steinmetz, Hecker, Rambalt, Filbiger, all successful teachers, and known as the school of Pietists. In this same century arose another school called the Philanthropic, still prevailing in some sections of Germany, mainly founded by Bâsedow, Campe and Sabyman. The principles of this school were, 1st. The formation of character by following the indications of nature. 2nd. The body as well as the mind was to be hardened and invigorated, and prepared to execute with energy its designs. 3rd. Discipline softened by appeals to the best principles in the child's nature. 4th. The branches receiving main attention were languages, music, objects and laws of nature. In 1746, Henry Pestalozzi was born at Zurich in Switzerland, the brightest educational constellation that had appeared, and who, both by his example and writings, diffused a new spirit among the schools of primary instruction over all Europe, and indeed over all the civilized world. Having laboured to discover the true and simple means of education, he established a regular school at Burgdorf, in the canton of Berne, to which his benevolence and talents attracted a large number of fellow labourers. As the result of his investigation, Pestalozzi assumed, as a fundamental principle, that education, in order to fit man for his destination, must proceed according to the laws of nature; that the teacher should assist the course of natural development, instead of doing it violence; that he should watch and follow its progress, instead of attempting to mark out a path agreeably to a preconceived system. In view of this principle he sought

1st. To develop, and exercise, and strengthen the faculties of the child by a steady course of excitement to self-activity, with a limited degree of assistance to his efforts.

2nd. To find the proper point for commencing, and to proceed in a slow, and gradual, and uninterrupted course from one point to another.

3rd. To place the essence of education in the harmonious development of every organ of the body and faculty of the mind.

4th. To give close attention and constant reference to the peculiarities of each child and of each day, as well as to the characteristics of the people among whom he lived.

5th. To limit the elementary subjects of instruction to Form, Number and Language, as the essential condition of definite and distinct knowledge, and to teach them with the utmost simplicity, comprehensiveness and mutual connection.

6th. That instruction should commence with the intuitions, or simple perception of external objects and their relations.

7th. To treat every subject of instruction properly, and thus become an exercise of thought.

8th. To attach great importance to arithmetic, and specially to mental arithmetic—to value it not merely in the limited view of its practical usefulness, but as an excellent means of strengthening the mind.

9th. Not to rest satisfied with a lifeless repetition of the rules of grammar, nor yet with mere exercise for common life, but to aim at a development of the laws of language—an introduction into its external nature, and construction, and peculiar spirit, thereby not only cultivating the intellect but improving the affections.

10th. To introduce vocal music into the circle of school studies, to render them as familiar with the notes as they are with the sounds of the letters.

11th. To oppose the abuse made of the Socratic method, by attempting to draw something out of the children before they had received any knowledge regarding it.

12th. To oppose strenuously the opinion that religious instruction should be addressed exclusively to the understanding; that it lies deep in the hearts of men, and is not to be enstamped from without but to be developed from within.

13th. To render education effectual and useful, that mutual affection should reign between the educator and pupil, both in the house and school, not to rely on artificial excitements, such as those addressed to emulation; that the children should find their best reward in the consciousness of increased intellectual vigour; that the delightful

feeling of progress should be the strongest excitement to industry and morality.

14th. To attach as much importance to the cultivation of the bodily powers and the exercise of the senses as the Philanthropinists, and to have a graduated course for this purpose.

Such are the leading principles avowed and practised by Pestalozzi, on account of which he is amply entitled to the high encomiums that have been pronounced upon him, as having placed the sacred cause of education, in its methods, a decided step in advance of all that preceded, and as having given it a deeper, a more natural and comprehensive foundation. But the excellencies and defects of this system we shall notice in its proper place. Suffice it to state that, when at the commencement of this century the Prussian Government undertook, systematically, the work of improving the elementary schools as a means of creating and diffusing a patriotic spirit among the people, the fame of Pestalozzi was at its height. To him, accordingly, and to his school, to his method and to his disciples, the attention was turned for guidance and aid. His views were speedily adopted and propagated; and the present system of elementary instruction in Prussia was moulded and fashioned thereon. His name is held in high repute up to this day throughout Prussia. On the 12th of January, 1846, his centennial birthday was celebrated throughout Germany and part of Prussia with an enthusiasm usually awarded to the successful soldier. In more than a hundred cities and villages was the anniversary marked by some public demonstration. Within the last 25 or 30 years, when popular education has bulked so largely and engaged so much of the attention of the most enlightened patriots and statesmen in the Old and New World, the eyes of all have been directed towards Germany, and specially Prussia. Several distinguished and experienced educationists have visited and examined the practical working of the whole system within this period, and their testimony to its excellencies and imperfections has been published and canvassed. We are inclined to the belief that there exists considerable exaggeration on both sides. There cannot, however, we think, remain a doubt in the minds of those who have examined the subject, that Pestalozzi is entitled to be considered one of the benefactors of the species, that his views on elementary education produced, wherever they received justice, a decided revolution, that notwithstanding their stereotyped and mechanical character and tendency, there is much that will prove of lasting benefit to mankind. Pestalozzi has many devoted disciples both in Germany and Switzerland, some of whom, such as Ramsauer,

Raumer, Zella of Wirtemberg, made great improvements in matters of detail. But more of this afterwards.

Britain. It is time that we direct attention to the history of method in Britain. We say nothing here about Ireland. It is well known that two bodies or parties, antagonistic in their practical operations, are pushing forward the education of the people in that Island—the National Board, and the Church Education Society, both with vigorous Normal Schools, the former conducted mainly according to the Lancasterian or Monitorial system, and the latter mainly according to the Pestalozzian. Yet Ireland presents no feature worthy of notice on the subject of method. It is otherwise, however, both in the case of England and Scotland. Though these countries are united under one government, there are not perhaps any two christian nations so diverse in their modes of thinking, in their habits, in their grand national characteristics, traceable, in a great measure, to the educational operations of both these countries. In both instances an immense impulse was given to education towards the middle of the sixteenth century. In England, however, education reached only to the middle classes in the community, while in Scotland, it came down to the lowest, even to the children of the artizan and peasant. In the former case, there was no national system, and the common school was, in consequence, never known, or supposed to be necessary till the days of Joseph Lancaster. Milton and Locke, both democratic in their leanings, wrote very profoundly on the subject of education, and clearly demonstrated their thorough apprehension of its end, with fine broad practical views as to the way in which this end was to be reached; but they did not seem to have any idea of the education of the masses. In the latter, that is, in Scotland, matters were quite the reverse. Knox, the champion of the Reformation there, not only insisted that a school should be erected side by side of the parish Kirk, but that a school-master should be appointed in every way competent to teach the higher branches of a sound and enlightened education; and such was the response on the part of the people to this proposition, that, in 1632, a civil enactment was obtained, by which provision was made for the education of all the children in every parish at a cost which none was unable to pay. No one can fail to perceive how these two conditions of things have affected the subject under consideration, how different the estimate in these two countries of the value of popular education, as well as of the mode of carrying it out, till within the last thirty or forty years. Since that time an immense revolution has taken place. Every one has been outvieing his neighbour in the race

of popular education, in the qualification of the teacher, its heart and life, and in the devising of plans for securing the greatest efficiency at the least expenditure of means and time. Nothing can more satisfactorily demonstrate the progress of the public mind on this subject, than the large number of Normal Schools for the training of duly qualified teachers. Thirty-five years ago, and there was not the vestige of a Normal School either in Great Britain or Ireland, and now there are not fewer than forty, all well officered, and all competing with one another on the all-important matter of methodology. Here we must notice a few individuals both in England and Scotland, who seem to have made the deepest impression, and worked the most complete revolution in connection with our subject. In England, we have, in first class public schools, Dr. Arnold of Rugby; and in popular education we have Messrs. Bell and Lancaster, Wilderspin, and Sir James Kaye Shuttleworth.

Dr. Arnold was born at West Cowes, Isle of Wight, in 1795, educated at Winchester, graduated at Oxford, and in 1819 removed to Laleham as a private teacher, and there commenced his great career. The ninth year at Laleham was passing, when Arnold became a candidate for the head-mastership of Rugby, and was successful. It was during the fourteen years that he laboured at Rugby that he obtained his celebrity, as one of the greatest educationists that England has produced. Did space admit, it would be exceedingly interesting to go into detail, to trace his operations in the management of the whole general exterior of the establishment placed under his charge. But it is more to our purpose and in keeping with the design of this section, that we advert as briefly as possible to the relation between Arnold and his pupils, and how he discharged his duties here. He possessed the most clear and exalted views of the aim and end of education in all its departments, and the means by which this is to be achieved—work—exercise. He was as anxious about the physical as the intellectual condition of his boys, and whenever he saw them reading too much, he always remonstrated with them, caused them to relax their work, and invited them to his house in the holidays. As for the minds of his pupils, he seemed to have but one wish, that they should be at work. Their cleverness was altogether an inferior consideration, even the amount of the attainments was comparatively unimportant, provided they were doing what they could. "If there be one thing on earth which is truly admirable," he said, "it is to see God's wisdom blessing an inferiority of natural powers where they have been honestly, truly and zealously

cultivated. The great business of education, as far as regards the intellect, is to inspire it with a desire of knowledge, and to furnish it with power to obtain, and to profit by what it seeks for." But far above all intellectual, as above all physical development, was the moral excellence after which he would have teachers and pupils alike exerting themselves. Indeed the religious element in Arnold's system constituted the mainspring. His views upon this subject are very felicitously expressed in one of his sermons from which we quote, bringing out as it does his distinction between religious instruction and religious education. He is answering the question what can public schools do?

"They can give elementary religious instruction. As every child can be taught to read and write, so every child can be taught to say his catechism, can be taught to know the main truths of the gospel, can be taught to say hymns. There is no doubt, I suppose, that schools can certainly compass as much as this, and this is, I think, by no means to be despised. For though we know but too well that the learning this, and much more than this, is very far from saving our souls certainly or generally, yet it is no less true that without this we are much worse off, and with this much better off. It is at least giving a man a map of the road which he is going, which will keep him in the right way if he uses it. A map will not make his limbs stronger, nor his spirits firmer; he may be tired or he may be indolent, and it is of no use to him then. But suppose a man furnished with a very perfect map of a strange country, and on his day's journey he has wasted many hours by going off his road, or by stopping to eat and to revel, and by and by the evening is coming on, and he knows not where he is, and he would fain make up for his former carelessness, and get to his journey's end before night comes on. The map, which hitherto has been carried uselessly, becomes then his guide and his best friend. So it has been known to be often with religious instruction. Neglected, like the map, while the morning was fair, and we cared not about our onward journey; when life is darkened, and troubles have come, and a man has indeed wanted life and comfort, then the instruction of the school has been known to flash upon his mind, and more especially what he has learned in psalms and hymns, which naturally cleave the easiest to the memory. When he would turn he has nowhere to turn. This has very often happened as the fruit of early religious instruction, when that instruction has been in no way accompanied with education. And therefore, as all our church schools can undoubtedly give to all the elements of religious instruc-

tion, as well as teach all to write and read, they deserve, I think, our most earnest support; and it is our part to hold, according to our best ability, in providing every portion of the kingdom, with the means of certainly obtaining so much of good.

I have said that schools can certainly give religious instruction, but that it is not certain that they will give religious education. I dwell on this distinction for two several reasons:—first, because it concerns us all in our own private relations, to be aware of the enormous difference between the two; secondly, because confounding them together, we either expect schools to educate, which very likely they will not be able to do, and then are unreasonably disappointed; or else feeling sure that the greater good of education is not certainly to be looked for, we do not enough value the lesser good of instruction which can be given certainly, and thus do not encourage schools so much as we ought. Elementary instruction in religion, as in other things, may be certainly given to all who have the common natural faculties, that is, as I said, the catechism and hymns may be made to be learned by heart, and the great truths of Christ's gospel may be taught so as to be remembered. But even instruction, when we go beyond the elements, cannot be given to all certainly, we cannot undertake to make every boy, even if we have the whole term of his boyhood and youth given us for the experiment, either a good divine or a good scholar, or to be master of any other kind of knowledge. This cannot be done, although as far as instruction is concerned schools have great means at their command, nor do other things out of school very much interfere with their efficacy. But to give a man a christian education, is to make him love God as well as know him; to make him have faith in Christ, as well as to have been taught the facts that he died for our sins and rose again; to make him open his heart eagerly to every impulse of the Holy Spirit, as well as to have been taught the fact as it is in the Nicene Creed, that he is the Lord and Giver of spiritual life. And will mere lessons do all this, when the course of life and all examples around, both at home and at school, with a far more mighty teaching, and one to which our natural dispositions far more readily answer, enforce the contrary; and therefore the great work of christian education is not the direct and certain fruit of building schools and engaging schoolmasters, but something far beyond, to be compassed only by the joint efforts of all the whole church and nation,—by the school-master and the parent, by the school-fellow at school, and by the brothers and sisters at home, by the clergyman in his calling, by the landlord in his calling, by the farmer and the trades-

man, by the labourer and the professional man, and the man of independent income, whether large or small in theirs, by the Queen and her ministers, by the council of the nation in Parliament; by each and all of these, labouring to remove temptations to evil, to make good easier and more honoured, to confirm faith and holiness in others by their own example; in a word, to make men love and glorify their God and Saviour when they see the blessed fruits of His kingdom even here on earth. And to bring this to ourselves more closely, as private persons, let us remember that we send our children to school, although we give up their instruction to the school-master, yet we cannot give up their education. Their education goes on out of school as well as in school, and very often far more vigorously. We shall see this again, if we remember again that the great work of education is to make us love what is good, and therefore not only know it, but do it."

Such were the views of Arnold as expressed in his own words. And how enlightened, and noble, and christian—and all because he sat at the feet of his divine master, because he had learned at the fountain-head the Bible method of education.

Those teachers again who have gained notoriety in elementary instruction in England, are Dr. Bell, Joseph Lancaster and Wilderspin, along with Sir James Kaye Shuttleworth, the first and second of whom are considered the founders of the Madras or Lancastrian system, the third of infant schools, and the fourth inaugurated the present denominational and governmental system. The origin of the Lancastrian or monitorial system is thus given by Samson Low in his 'Charities of London.' Whilst superintendent of the Military Orphan Asylum at Madras in 1791, Dr. Bell one day observed a boy belonging to a Malabar school writing in the sand; thinking that method of writing very convenient, both as regards cheapness and facility, he introduced it in the school of the Asylum, and as the teacher refused to teach by that method he employed one of the cleverest boys to teach the rest. The experiment of teaching by a boy was so remarkably successful that he extended it to the other branches of instruction, and soon organized the whole school under boy-teachers, who were themselves instructed by the doctor. On his return to England, he published a report of the Madras Orphan Asylum, in which he particularly pointed out the new mode of school organization as far more efficient than the old.

The publication took place in 1797, and in the following year Dr. Bell introduced the system into the school of St. Berolph's, Algate,

London. He afterwards introduced it at Kendal, and made attempts, with small success, to obtain its adoption in Edinburgh. Settling down soon after as rector of Swanage in Dorchester, he was secluded from the world for seven years; yet he retained his strong opinion of the value of the new system of education, and had the school at Swanage conducted on that system.

In the meanwhile, Joseph Lancaster, son of a Chelsea pensioner, in the Borough-road, London, opened a school in his father's house in the year 1798, at the early age of eighteen. He had been usher in schools, and being of an original, enterprising and ardent character, he had himself made improvements in tuition. Dr. Bell's pamphlet having fallen in his way, he adopted the Madras system with eagerness, making various alterations in its details. In the year 1802, he had brought it into a very perfect state of organization, and found himself as well able to teach 250 boys, with the aid of the senior boys as teachers, as before to teach 80. His enthusiasm and benevolence led him to conceive the practicability of bringing all the children of the poor under education by the new system, which was not only so attractive as to make learning a pleasure to the children, but was so cheap as exceedingly to facilitate the establishment and support of schools for great numbers of the poor. He published pamphlets recommending the plan, and in one of them ascribes the chief merit of the system to Dr. Bell, whom he afterwards visited at Swanage. His own school he made free, and obtained subscriptions from friends for its support. The Duke of Bedford, having been invited to visit it, became a warm and liberal patron of the system. Lancaster pushed his plan with the ceaseless energy of an enthusiast; nothing daunted or discouraged him; he asked subscriptions for new schools from every quarter; and at length he was admitted to an interview with the king, at Weymouth, in 1806. Being charmed with what he heard of his large designs, the admirable order and efficiency of his schools, and also with the simplicity and overflowing benevolence of the man, his Majesty subscribed £100, the Queen £50, and the Princesses £25 each, to the extension of the Lancasterian system. The King also declared himself to be the Patron of the Society, which was soon afterwards formed to promote education on this system. Such was the origin of the "British and Foreign School Society," originally designated "The Royal Lancasterian Institution for promoting the education of the children of the Poor." In 1808, Lancaster resigning his affairs into the hands of Trustees, it assumed more of the character of a public institution. Mr. Lancaster died in 1838, supported in his

latter days solely by an annuity purchased for him by a few old and attached friends. Dr. Bell died in 1832, leaving the princely sum of £120,000 for the encouragement of literature and the advancement of education.

Dr. Bell's method, thus publicly brought forward and advocated, in process of time was adopted in the Lambeth schools, by the Archbishop of Canterbury, and in the Royal Military school by the Duke of York's authority; numerous schools springing forthwith into existence upon what is known to this day as the Madras system; the distinctive features between these and such as were founded by Lancaster's party, consisting in the extent to which the religious instruction should be mixed with the secular; the former, as a clergyman of the Established church, advocating the inculcation of the truths of christianity as held in the church articles and formularies; the latter, representing the dissenting interests, admitted the reception of the Bible as the foundation of all instruction, but without note or comment. This still remains the essential difference between the two societies and the schools conducted on their principles. In 1808, Dr. Bell endeavoured to induce the government to take up his plans and to establish a National Board of Education, with schools placed under the management of the parochial clergy. In this he failed, but friends of the Established church rallied round him, and through their efforts and under the patronage of the bishops and clergy, the National Society was eventually formed in 1811.

Such was the foundation of that which is sometimes designated the Lancasterian, the Bell and the Madras system, and sometimes the monitorial. This system in its exterior was a beautiful piece of organization, produced an immense sensation in the educational world, and gave a mighty impulse to the cause of elementary or common school instruction, aided and abetted as was this movement by the labours of Raikes in the Sabbath School. These two individuals, Arnold and Lancaster, may be, with safety, pronounced the grand pioneers of modern improvement in England, the one in the advanced and the other in the common public school. Undoubtedly there were many enthusiasts and many successful teachers both before and since their time, but these stand out in bold relief, and their views and contributions to the cause have mingled, and will still continue to mingle, with the advancing tide of modern improvement.

Wilderspin, the next celebrated teacher we have noticed, may be considered, if not the originator, the principal propagator, and the most successful conductor of the Infant school system in England. These

institutions were amazingly popular about forty or fifty years ago. They were set agoing mainly to meet the condition of manufacturing and mining districts, where both parents were employed at the public works, and the younger children between four and six consigned to the charge of those who were only two or three years older. These institutions for the time did good service, though they never realized the expectations of their friends and advocates. Generally speaking, they were conducted on the objective system, without much real intellectual or moral training. Wilderspin was a most devoted and enthusiastic supporter of these institutions.

We cannot leave the history of popular education in England without ascribing our meed of praise to Sir J. Kaye Shuttleworth, by whose unwearied industry and enlightened zeal the present system of popular education was inaugurated. It may be fancied by some that Sir James acquired his well-merited fame in connection with the purely exterior departments. This is not the case. Both he and his friend, Mr. Tuffnell, set agoing the Normal School of Battersea, near London, and for years supported that institution out of their own private funds, where they experimentalized on the various systems, and where, if they originated nothing new on the matter of method, nevertheless they imparted a mighty stimulus to this class of schools, and inscribed an indelible imprimatur on the superiority of well trained teachers to all others, however profound their genius or scholarly their attainments.

But we must now turn to Scotland. The grand imperfection of the parochial or national system of this country was its want of provision for an increase of the population, and its consequent inability to meet the wants of densely peopled localities, or mining and manufacturing towns as they sprang up, oftentimes in regions where all was sterility or empty desolation. This was the case with the church as by law established, and which led to the most disastrous results in reference to religion and morality. And it was equally so in educational matters until the riot which took place in Edinburgh on 1st January, 1812, which aroused the attention both of the ecclesiastical and civil authorities, and led to the devising of various means with the view of diminishing the mass of crime and misery then brought to light. The founding of the Sessional schools was one of these means. In the year 1819, circumstances led Mr. John Wood, Sheriff-deputy of the county of Peebles, to take an interest in the institution; and that benevolent individual began by degrees to give so much of his time and attention to it, that it soon became almost identified with his name. Under his superintendence a large and commodious school-house was

erected, and the system of teaching entirely remodeled. In the latter department of his meritorious labours, Mr. Wood can scarcely be said to have adopted or reduced to practise any particular views, or taught any branch that had not been taught before, but he managed to impart a new impulse to elementary education, and that by the pursuance of a simplifying process in all the branches, and especially in the derivation of the vocables of the English language and mental arithmetic. Whatever was the branch of knowledge taught, he laboured, and that successfully, to make it plain to the understanding of the children. If there were any words they did not understand, or had not seen before, he pointed out, in a vivid way, the root, the power of the prefix and affix, and from their primary import deduced the various shades of their secondary signification—or if the sentences were complicated, he cut them up into small portions, explained them piecemeal, and so arrived at a full understanding of the meaning of the passage. Nothing was committed to memory without an attempt to reach, at least, their intelligence first. Wonderful feats were also performed in mental arithmetic. When this art is taught concretely before it is abstractly, and when begun so early that it grows with their growth; and still more, when taught in a way that the principle of the different rules is thoroughly comprehended, it is truly marvellous to what a degree of proficiency the young may attain. By these and similar means, Wood succeeded in imparting new life and energy into the common school, dissipating the old fashioned stereotyped mode, and doing for the intellect what Lancaster in England had done for the body. He is amply entitled to the honour of being the founder of what is styled in the following chapter, the Verbal and Explanatory system. Wood was greatly aided and cheered on in his labour of love by a host of devoted philanthropists and educationists. Amongst these were Dr. Andrew Thomson, minister of St. George's, author of several books, and Mr. Gall, printer and publisher, author of 'Nature's Normal School,' and several other educational publications. The system was also introduced among the higher classes in the city of Edinburgh through the medium of the Circus Place schools, which were taught by gentlemen of highest professional eminence, and whose labors and books gave celebrity and éclat to the system. We need but mention the names of Drs. Macculloch, and Reid, and Oliphant, in corroboration of this remark. Mr. Gall was the pioneer of this system in Sabbath School instruction.

Whilst all these operations were going on in the metropolis of Scotland, a far higher, and nobler, and more enduring experiment was

being worked out by a Mr. David Stow, a manufacturer in Glasgow, and a native of Paisley. The following beautifully written historic statement of the labours of this devoted philanthropist, is from the pen of the Rev. W. Frazer, minister of the Free Middle Church, Paisley, for years a teacher in the Normal School, Glasgow, and author of several valuable contributions to the cause of education :—
“It is now fifty years since in the Salt-market—the St. Giles of Glasgow, a young merchant, having to pass almost daily through a morally sunken part of the city, prompted by a desire to save some from a life of degradation, gathered in, on the Sabbath evenings, to a dingy apartment in a back lane, about thirty young Arabs of the moral wilderness. Alone and unheeded, like hundreds of Sabbath School teachers, he toiled to benefit his rude and ignorant scholars. With these naturally in confusion before him, he commenced his work ; and the light in which, from the outset, he regarded his class, gave promise to a higher and gentler culture than was then common in ordinary schools. Amid all these circumstances of poverty, rags and filth, he viewed them as on an equality with himself, rational, responsible and immortal, having minds as delicate, curious and complicated in structure as his own, with emotions to be cherished, intellectual faculties and moral powers to be sedulously trained. He determined to use no corporal punishment, to expel none, to rule, if possible, by kindness alone, to appeal to the higher principles of their nature, and to draw their sympathies to the side of order and truth. It is not surprising that under such treatment, a mode of treatment new to the young hearts there, all the scholars became respectful to their teacher and ardent in study, that a less saddened expression appeared in the countenance, and a brighter intelligence soon beamed in the eye. He laboured perseveringly ; and was convinced that corporal punishment, though the quickest and simplest discipline, was decidedly unnecessary, and that the stimulants of prizes and place-taking, like all stimulants, are unhealthy.

He found that the best way of conveying truth to young and untutored minds, was to present a distinct picture through the imagination to the intellect ; and thus originated what he calls “picturing out in words.” It is most natural. Is it not because of this life-like picturing, Jack and the Bean Stalk, Cinderella, Robinson Crusoe, and the Pilgrim's Progress are such universal favourites ? This picturing out is felt by him to be a new power, and he sometimes requires to work it constantly. He accepts whatever facts and opinions the children can give bearing on the subject of the lesson, adds whatever may

be essential as the basis of the conclusion sought, exercises them in drawing inferences or forming opinions, and by his various processes of *picturing out in words*, and by patient applications of the children's powers to cultivate their sympathies, reason and taste.

For the sake of order, attention, and the simultaneous, as well as individual exercises of the pupils before him, he arranged them in parallel forms, and thus saw the advantage of Gallery Training, which he afterwards introduced into the common school.

Observing the delight the scholars took in drawing their own inferences from clearly enunciated premises, and convinced that increase of power would be the effect of exercise, he resolved to associate each pupil with himself in the work of education, and laid down for his own guidance, a rule not to tell anything which the pupil could himself infer. And on this rests the important distinction between teaching or telling, and training.

As he continued to toil on their behalf, he marked strong mental sympathies subsisting among his pupils, which, although he laboured to catch all their peculiarities of thought and feeling, he could not share, and resolved to turn this also to account as a power in moral training. The name he appropriately gives this power is *Sympathy of Numbers*.

Longing to follow his scholars to their haunts, to see there the effect of his Sabbath teaching, to get a glimpse of their habits and a clear insight into the character of each, and finding that his labours were comparatively fruitless, and even must be so while the six days' week-day training in the streets was placed against his two hours teaching on the Sabbath evening—he determined to establish a counteractive to street-training through schools with play-ground, that he might not only give a deeper flush of health to the pale cheek, but impart a finer and more vigorous moral tone to the character. For this purpose he set up a two-fold agency, which he called the "Covered and Uncovered School."

A system thus springing not from amid fancies, but facts, not from incidents but coincidences, but from observation and deep thoughtfulness, must have, we should infer, greater strength of principle and appropriateness of practice, than those methods, which have been hastily evolved, or than those which have been slowly evolved from amid abstractions too transcendental for the verities of this practical human life.

Mr. Stow, looking to the secular and spiritual interests of the young of that sunken district, commenced in 1826 week-day schools

on a small scale at first; and dealing chiefly with the young as the most hopeful, brought out striking results. Pale faces crowded into the schools; and amid the cheerfulness of the work and the excitement of the play-ground, they lost much of their early haggardness, and the peering sharpness of premature intellectuality gave place to the franker and more ingenuous expressions of intelligent boyhood. But there was a still more striking result. In the play-ground, flowers shed abroad their beauty and fragrance, and many a young face, too early haggard, bent in admiration over them, but no hand plucked them; and, better still, tempting fruits, as currants and strawberries, ripened and remained untouched. All this was the result, not of corporal punishment, for there was none—nor of terror, for it was unknown there—but of distinct and solemn references to the unknown Father, of the declarations of Holy Writ, and of their own sense of right. Instances of this power of self-restraint, were it necessary, might be multiplied. Are not facts like these of immense importance, as testimonies to the power of Bible truth when presented to the young heart, not austere, nor through dreary tasks or repetitions, but thoughtfully, lovingly, and with cheerfulness, and to the value of *habit* as an educational power.

The very circumstances in which the system was originated and applied give it naturalness, adaptation and power. Its progress has been almost continuous, though, as might be expected, through manifold misinterpretations and obstructions. When teachers found that corporal punishment, prizes and place-taking were set aside, that play-ground superintendence was indispensable, and Bible training a part of every day's duties; and when school committees and patrons discovered that the play-grounds were expensive and the trained master's salary high, it was laughed at as visionary and impracticable. The system, however, soon commended itself to the most thoughtful educationists of that day, as sound in its philosophy and beautiful in its results. After a tour of inspection through Germany and France, and a careful scrutiny of the Prussian and other systems of primary education, Mr. McCrie, son of the well-known Dr. McCrie, and himself a distinguished student, gave it as his opinion that there was nothing of real value in the inner or life-work of these schools which was not embodied in the Training system, and that, in aiming at the formation of moral character, it had elements of strength and interest which they did not possess.

Not long since, Dr. Duff, and there are few, if indeed any, higher-

educational authorities, publicly affirmed that it was the best system he knew.

The most noble the Lord President of the Council on Education, stated in the year 1841 to a deputation from Glasgow, who prayed for a grant to assist them, that all the improvements in education, worthy of the name, that of late years had appeared in England, could easily be traced to the Normal Seminary in Glasgow.

But testimonies are valueless. The system must stand the test of incessant scrutiny, and it is doing it. It has now found its way into many of the most distinguished and influential institutions of Britain and other countries. Its leading principles and their application are meeting with general approbation, and have done more, it is generally admitted, to revolutionize and raise the educational opinion of Britain than any other system. Some of its features are almost everywhere traceable in our public schools; and I have no hesitation in affirming, that apart from mechanical methods and details, there is no educational principle of any value at present enunciated and practised in England which has not been long represented by this system."

Such is a brief account of the history of a few of the more prominent features of that system as to the mode, which is alone entitled, in all its length and breadth, to the designation of *The Training System*. Its grand aim and object is the formation of character through the cultivation of the physical, intellectual, moral and social powers of the young. And it effects all this by exercise or training. It is the first systematic attempt in the public school to carry out, in its most extensive sense, the scriptural rule, "Train up a child in the way he should go."

Method in America. The history of the American continent on the subject of method is soon told. In so far as quantity and all exterior arrangements, especially in the New England States, are concerned, America has obtained a world-wide celebrity, and rightfully stands pre-eminent above all the other civilized nations upon earth. On the matter of quality, however, or that which appertains to the inner life of education, we are not aware that there are any, who, by their own observation and experiment, have worked out any great or important principle, or originated any new views on the development of mind through the instruction imparted. That great and distinguished educationists have arisen since the American nation took existence as an independent and distinct Republic, does not admit of a doubt; but their efforts and enthusiasm have been directed more to the external management than to the interior; more to the zealous reducing to

practice than giving even greater breadth to any new views that may have sprung into notoriety in older countries. Mighty as have been the exertions put forth in Britain within the last thirty years to obtain a class of duly qualified teachers and to make the most ample provision for this purpose, she has not surpassed the American nation. The first regular Normal School established on this continent was in 1831, in the State of Massachusetts, when not less than three sprang into existence, one at West Newton, another at Bridgewater, and another at Westfield; then in 1845 another, on a very extensive scale, was established at Albany for the State of New York, and now there is scarcely a State of any standing without its Normal School in one shape or another. The agitation in their favour commenced as early as 1825 by the Rev. Thomas Gallaudet, Principal of the American Asylum for the education of the Deaf and Dumb, by a series of essays in the 'Connecticut Observer.' These soon awakened attention, and the subject was freely discussed at Teacher's Associations, and through other media by the then leading minds in the cause of education. Those connected with the working of Normal Schools, and especially their Principals, have been men of the most enlightened views and of the most enthusiastic zeal, and have proved eminently successful in diffusing more exalted conceptions respecting the profession of teaching as well as inspiring teachers with a higher sense of the dignity and utility of their office. Among the foremost of these was Mr. Page, the first Principal of the Normal School at Albany, and author of the 'Theory and Practice of Teaching,' one of the most fascinating books that has appeared in any country on the business of teaching; which, though it may make no pretensions to any originality of views in the inner life of education, seizes with a firm grasp the grand end of the education of the young, and delineates with graphic power and beauty the responsibility of the office of the teacher. This book should be in the hands of every young teacher. Much has been done in America in heightening the attainments of teachers through the medium of local associations, and, especially, of the American Institute of Instruction. These general associations have been in existence since the commencement of this century. The American Institute of Instruction was the result of a movement which commenced by a meeting of teachers and friends of education at Boston in 1830. It was incorporated in 1831 by the Legislature of Massachusetts, and has received an annual grant from that State. Its series of annual meetings is still continued, and its accompanying series of annual volumes of lectures has now

reached the thirty-first, and includes a valuable mass of useful, theoretical and practical discussions.

These associations, or, at least, a large number of them, have, however, now merged into those of a more permanent form, viz., the State Teacher's Associations, of which there are upwards of thirty, some of them acting with remarkable efficiency for the professional improvement of teachers. These associations, with their affiliated county societies, receive State aid, and are legalized as part of the national system. These are but temporary Normal Schools, and must prove of immense service in helping trained teachers to keep up to the mark. The press, too, has been rendered highly serviceable in qualifying teachers, and diffusing sound intelligence and useful views. This has taken the shape of journals and magazines, and reports of Superintendents of education.

Two of the most distinguished and enthusiastic educationists that America, or in fact any country hath produced, are Horace Mann and Henry Barnard, of both of whom we must make a short notice. The former was for twelve years Secretary of the Massachusetts Board of Education, and never did man make a more unreserved surrender of himself, and of his time and energies to any cause than did Horace Mann to that of education. His seven lectures and his twelve reports, as well as the account of the visit he paid to Germany for the purpose of inspecting the Prussian system, are all published, and form an enduring monument of well-directed zeal in the public service, as well as of large, comprehensive and practical views of educational improvements, and of his power, as a master of the English language. Mr. Mann's labours were principally directed to the exterior of education, but he also discusses, and that with no ordinary power, the *modus operandi*, and generally takes the most enlightened views of this department.

Henry Barnard is one of the greatest veterans in the cause of national education, and indeed of all kinds of education,—one of the purest philanthropists the world ever saw. His writings on the subject are more voluminous than those of any other living author, and perhaps of any other author dead or alive. His work on National Education in Europe, betokens an amount of industry, research and perseverance but rarely paralleled. His treatise on school architecture is expansive, and the authority both on the continent of Europe and America. His American journal of education is perhaps the most elaborate and expansive work on education, in all its aspects and phases, that this or any civilized Christian nation has yet produced. Barnard has

been twice Superintendent of Education for Connecticut, and once for Rhode Island; his writings and reports, when he held these situations, contain a vast amount of valuable instruction. Though he cannot lay claim to any new method of teaching in any one department, he possesses accurate and comprehensive views on almost every topic and branch of education, and generally argues for the most approved and advanced. Time and space will only admit of our further referring to the names of Abbott, Alcott, Beecher, Burton, Davis, Emerson, Griscom, Hall, Palmer, Potter, Russell, all of whom have contributed largely to the improvement of education, and whose writings on the profession are invaluable, and should be in the library of every faithful and pains-taking teacher.

SECTION III.—THE LEADING SYSTEMS.

The term method, has great latitude of meaning in education, as in other matters. It is sometimes applied to the external arrangements and sometimes to the inner work of education, sometimes used generically in reference to the one and other, and sometimes specifically, sometimes synonymously with system and at other times distinct from it. We confess our liking for the distinction that has been drawn between the terms method and system, using the former generically and the latter specifically, the one pointing to the principle or manner of arrangement and the other to the arrangement or classification itself. This distinction is, in a measure, drawn by men of science in characterizing the arrangement of stones, plants or animals, or what ever sciences they happen to deal with. Every one that possesses any knowledge of the kingdom of nature, is aware of the twofold classification that obtains,—the natural and the artificial, the former being founded on the similiarity or dissimilarity of the various parts, the latter upon a few of the more important organs, or properties. The natural classification has received the honoured appellation of method and the artificial that of system. And hence the former has been designated the natural method, the latter the Linnæan system. The same kind of distinction ought, we think, to be observed in education—method, having respect to the manner or principle of arrangement, in the application of the philosophy and art—system, to the specific form or forms, which that arrangement teaches.

Now whether we look at method in its past history, or in its present aspects, as practically delineated, it is no small task to gather up, and classify the various distinctive systems. There has been so much dove-tailing of the one into the other, so much mingling and inter-

mingling, that it is no easy task to draw the line of demarcation between them, or give to each system its due, or its author, his fair meed of praise. There are three ways in which this subject may be looked at;—either as it regards the organs or faculties, that may be more directly cultivated, whether the physical, the intellectual, the emotional or moral;—or at the way in which the organs or faculties are operated upon, whether by a mechanical, verbal, explanatory or experimental process;—or by affixing the name of the author, or inventor to any particular view, or plan, or operation. It matters little as to the origin of the nomenclature, provided there is a clear line of division, one sufficient to distinguish the one scheme or system from another. We give the preference to the middle course, as being on the whole the best by which to characterize the systems, that have obtained any general currency in any country or community, and we arrange them, not according to the time they came into vogue, or were launched upon the world, but to their real intrinsic worth and merit. The following list, will, we think, well nigh exhaust the subject;—

1. The rote or the mechanical system.
2. The Monitorial.
3. The Explanatory.
4. The Objective,
- and 5. The Training.

1. *The Rote System.* This, properly speaking, is not worthy the name of a system. A system implies an arrangement or an orderly exhibition of some facts or truths, founded on some important principle. But here there is neither order nor principle. The only thing entitling it to the designation of system is the invariableness of the way in which it is prosecuted. The term is evidently derived from the word *rota*, a wheel, and, considering the thing itself, it is by no means inappropriate. The rote system then consists of a round of words, a frequent repetition of words or sounds without the least attention to their meaning, or the thoughts and principles they represent; the impressing of words on the memory without any effort of the understanding to comprehend them. This is not only the most ancient mode, but, in all probability, the one still most generally practised. At the outset, public education seems to have consisted almost entirely of a repetition of words, or sentences, or rules, without the slightest attempt at explanation; and, still less, at depositing in the mind the ideas embodied in these words or rules. And is not this practise pursued to a large extent still, even in countries accounted enlightened and advanced in the cause of education? Whatever the system of education pursued, there have always existed, and still exist, a goodly number who are inefficient because indolent workmen, and these invariably sink into this position, whatever they may have done

at the commencement of their career. They are in every sense of the term hirelings, and to save themselves trouble and toil, they are content to go their gin-course round or to ring the changes on words and sentences.

Whoever knows anything,—even the very alphabet of the subject—will readily admit that this is not education. By dint of exercise it may strengthen the memory, though even to this faculty it scarcely does justice, resolving as it does all into the mere memory of words. In its day, it has undoubtedly made some excellent linguists; but in so far as the educational process is concerned this seems the amount of what it hath accomplished. In the case of those, who, by the expansion of their reflective powers, have burst asunder the bonds by which it enslaved them, it has proved of service only in so far as the repetition of words or sentences is entitled to be so considered. From beginning to end it treats the young as machines. And hence the general mental dwarfishness of those who have been taught under its auspices and directions, and whose mental energies have never enabled them to shake themselves free from its trammels, or to rise superior to its mechanical bondage.

2. *The Monitorial System.* This system has its name from the more advanced scholars acting as the teachers of the younger. One master, in the capacity of a general or dictator, presides over the whole establishment, consisting of two, three, four or even five hundred children, gives instruction both general and particular to his lieutenants—the teachers, who are called monitors, from their acting as advisers or counsellors, and through whom he regulates and controls and adjusts the whole.

The monitorial system as already noticed, owes its origin to Dr. Bell of Madras, and Joseph Lancaster of England, both deriving their ideas of arrangement from the evolutions of the army and navy. It undoubtedly possesses much that is attractive and useful. It gives education at a comparatively small expenditure of means and agency. If 500 children are taught by one teacher, that is, only one person requiring to be remunerated, then verily it must be at the smallest cost imaginable. It awakes, too, from the apathy and indifference of the old stereotyped rote system, and imparts a mighty impulse to the outward forms and mechanical arrangements of the school establishment. It gives a sort of instruction to a large mass of the lower orders, or classes in communities, who might otherwise remain altogether destitute of it. It is well fitted to discover those who possess an aptness to teach, whose gifts might be more beneficially employed in teaching

them in any other pursuit or calling. Modifications of this system in every shape and form, have produced the most satisfactory results. Monitors have been employed in some departments under every system with marked efficiency and success.

But whilst it possesses these and similar benefits, the monitorial, as such, when weighed in the balance of its intrinsic merit, has been found wanting,—the semblance, and not the reality of education. How is it possible that a green and raw apprentice in any branch of business can execute and finish a piece of work, like a thoroughly trained tradesman? Monitors may and do impart a certain amount of secular knowledge, in accordance with the rote system, but this is the utmost of their capabilities. They cannot touch the latent springs of human action, either intellectually or morally. This demands the skill and experience of the best master-teachers, of men who have fathomed the human mind in all its depths, and who have studied and studied profoundly the effects of the various appliances brought to bear upon it.

But this system is injurious to the monitors themselves. Its direct tendency is to pamper their pride, their arrogance and self-sufficiency, and thereby to unfit them for personal improvement, for progressive advancement. No one, who has witnessed the self-important gait, and manners and strut, of many of these quasi-educators while engaged in their temporary official elevation, but must be convinced that whatever intellectual vigour, or excitement, or fury they may have acquired by exercise, their own moral training is seriously damaged. But worse than all, this system presents innumerable snares, and temptations, to both monitors and pupils. How often, for example, have the former been detected favouring some and threatening others, and that simply because in the one case they obtained by stealth all they desired from them, and by the other were sternly and obstinately refused! How often again have pupils been tempted to come to school with their lessons never even looked at, knowing and believing that with a little bribery, they could manage to obtain a release from all their obligations! And how often have these temptations and snares opened, to monitors and scholars of frivolity and deceitfulness, the highway to vice and crime. All these evils have been seen, and felt, and owned, and, accordingly, as a system it may be said to be at present without any embodiment or fully displayed existence. The Madras school at St. Andrew's, Scotland, so munificently endowed by Dr. Bell himself, and intended to furnish an exemplification of the system, scarcely retains a vestige of it. The Borough Road school, London, planted by Joseph Lancaster himself, and, for a long period, preserving

the more prominent features of the system, now presents but the merest skeleton, and even that bids fair, ere long, to be utterly exploded, as behind the age, and unsuited to the demands of a progressive education.

3. *Explanatory System.* We call that system the explanatory which aims at making the subject plain and palpable to the comprehension of the youngest and most stupid. This is done by a process of simplification, analyzing words or clauses, and supplementing facts and illustrations. It is sometimes called the intellectual system, and in so far as that system consists in making things plain to the understanding, and in storing up important and useful knowledge, there can be no great objection to this use of the term; though, at the same time, it must be borne in mind that this is only a part, and a subordinate part too, of intellectual education in the sense in which it has been already defined.

This system, in all its essential features, owes its origin to Dr. John Wood, was practised first in the Sessional, afterwards in the Circus Place Schools, Edinburgh, and soon extended to all improved elementary schools in Britain, leading to a complete revolution in their inner life, giving to the mind the same activity and energy that the mechanical or outward forms of Lancaster and Bell had given to the body. This system, so far as reading was concerned, was carried on mainly through the analysis or derivation of words. First by directing attention to the composition of Saxon words, such as king, kingdom—tea and pot, teapot—bookseller, &c.; then, more systematically, a number of the more common roots of words in English, derived from Latin and Greek, were selected, their meaning given, and then committed to memory. A list of Saxon, Latin and Greek prefixes and affixes was also prescribed, and got accurately by heart. When words of such composition occurred in the English lesson, the scholars were commanded to analyze into their parts, and then to construct sentences where these words occurred with their exact meanings according to their original derivation. If these words were used in a figurative or secondary acceptation, the pupils were required to trace these throughout their various shades of meaning and history. In complicated sentences the same plan was pursued; that is, these sentences were divided into their separate clauses; these clauses were analyzed, and the whole drift or scope then given. On the introduction of this, much use was made of mental arithmetic. Beginning with counting objects, adding and subtracting, then passing on to the arithmeticon, and then to abstract numbers, it is marvellous the feats

that were achieved with numbers by very young children, when thus taught, step by step.

But whatever are the benefits flowing from this system, it labours under many defects. Though an immense improvement on the old mechanical rote system, imparting a far deeper and more systematic form to popular education, it but communicates instruction after all. Though it unquestionably exercises memory, and exercises it in a proper way, making that a memory of ideas as well as of words, yet it neither cultivates nor strengthens any of the other powers of the intellect, and far less those of the will and conscience. Though it may keep the children alive by a series of questions and answers, it does not conduct into the region of the unknown, or attempts even to develop thought—it merely takes stock of the knowledge already possessed; good, in many respects, as far as it goes, it leaves much yet to be done in the important field of the education of the young.

4. *Objective System.* This system is thus designated, because object-lessons constitute one of its most prominent features. This consists in calling in the aid of the object described, and presenting it to the sense or senses, either alive or dead, by picture or diagram. This system was mainly concocted and consolidated and published by Pestalozzi and by some of his coadjutors and immediate successors. The grand aim of this distinguished philanthropist was to adapt education more thoroughly to the nature and sympathies of the young. Instead of confining it to books or second hand information, he insisted on his pupils sitting at the feet of nature, investigating her phenomena and observing her laws. Pestalozzi evidently understood the intimacy of the connection between the education of the perceptive and the other faculties of the mind, and having assiduously laid a proper foundation in the knowledge thus derived, he laboured to train his pupils to erect thereon the superstructure of reasoning and generalization. He also judiciously adapted himself to the emotional and social parts of their constitution, taking whatever advantage he could therefrom. Imbued with the notion that all our knowledge arose from number, form, and language, he laid down this triple basis as that from which all education should proceed, thereby effectually teaching his scholars to look at every object as one, or as unity and in its relation to others, to look at every object not only numerically but in its size or proportion, as well as to append the appropriate name to every such object.

This system is defective, shutting out, as it does, valuable doors of knowledge, and attaching by far too much importance to others.

Another grand defect of this system is its stereotyped character. Pestalozzi laid down certain principles and regulations for carrying it out, and insisted upon these being slavishly attended to, without the slightest license being given to the teacher in adaptation to the pupils, and thereby destroying the sympathy that ought to exist between them. With decision and judiciousness does Karl Von Raumer thus delineate this peculiarity. "But can any one imagine a more miserable piece of slave work than that of a teacher who is strictly tied to a Pestalozzian compendium? Is not all peculiar teaching thereby fettered, all disposition to sprightliness and decision in teaching and acting kept down. All affectionate relation between teacher and scholar rendered impossible.

But the crowning defect of the whole is the absence of the sound religious element. In his anxiety to sit at the feet of nature, he expected too much from her both in reference to himself and his pupils. He forgot that conscience was depraved and that our whole nature was corrupt, and that some foreign help even the Bible was requisite to give it light and life and stimulus. How forcibly and pathetically does Kamsauer one of his associates in labour for 16 years describe this defect:—"Had the otherwise so noble Pestalozzi made the Bible the foundation of all moral and religious education, I verily believe the institution would still have been in existence, even as those institutions are still in existence and working with success which were founded by Frankè and others, 100 years ago, with small means but in full reliance upon God. But, instead of making the pupils familiar with the Bible, Pestalozzi and those of his assistants who conducted the so-called morning and evening prayers, fell more and more each successive year until they held a mere empty moralizing; and hence it may be understood, how it could happen that I grew up in this institution, was confirmed there, and for 16 years lived a very active and morally good life, without acquiring the slightest acquaintance with the word of God." "Therein," says Frazer, "lay its utter feebleness; the whole system wanted purpose and power. While Pestalozzi gave many a noble creation of intellect and imagination, he yet raised no central column of enduring principle around which he might entwine and preserve his special methods."

But let it not be supposed by these statements that we wish to convey the impression that there is nought of real merit in this system. With all its imperfections, it is a step decidedly in advance of all that had gone before, in the matter of the inner life of education. It is the first system that advances the pretension of bringing the educa-

tional process into meet conformity with the findings of human nature. True in this respect it is lamentably defective, for it scarcely touches that part of our nature which presides over and controls all the rest; nevertheless it is fraught with immense benefit as a pioneer, as putting the educational world on the right track to work out a full and complete system. A large amount of good has flowed from it. The infant schools throughout various countries, have derived no small benefit from this system, and especially from that part of it which elaborates the whole of the objective system. The principles and methods of Pestalozzi, in so far as they deal with the social sympathies of the young, with the facts and forms of the external world, have not only been largely adopted on the Continent of Europe but on this, and no one can estimate the indirect influence they have exerted upon the whole subject of popular education. Well then has it been said concerning Pestalozzi—"Let the brilliancy of his genius cover one class of his weaknesses, and the deep gloom of his sorrowful life another, and let us take gratefully the fresh thoughts, generous aspirations and enduring example, he set in working out conceptions, albeit unreasonable or worthless."

5. *Training System.* The grand end of this system is the formation of character through the cultivation of the physical, intellectual and moral powers of our nature, according to their intrinsic and relative importance. This it does by a series of adaptations to the more prominent characteristics of the recipients of education, and, by the sympathy of numbers, it renders the peculiarities of each mind subservient to the general good. The grand instrumentality it wields in all its adaptation processes, is exercise, the calling into activity all the organs, faculties and sensibilities of the scholars both individually and relatively—and hence the designation *Training*, which just means doing. And how does it carry this out? In the education of the intellect, for example, it not only imparts knowledge, but whets and stimulates its varied faculties so that they are expanded and developed. This it effects theoretically by the teacher coming down to a level with the scholars, by verbal pictorial representations of objects or things, with which they are perfectly familiar; and, practically, by questioning and ellipses, leading them on from the easy to the more difficult, from the known to the unknown, and thus to draw their own conclusions or form their own opinions. In reference to the education of the conscience, there is something more in this system than the mere communicating of religious and moral instruction derived, though that instruction be from the pure undiluted fountain of eternal truth,—

the Bible; there is the acting in conformity therewith, that is, the Bible is not only explained without the least tinge of sectarianism, but it is reduced to practice in all the intercourse between teacher and taught, between scholar and scholar. And the physical part of our nature is called in, whenever it can be employed as an auxiliary to both these departments, either in the expanding of the intellect or in the imparting of sensitiveness to the conscience. And this is a most powerful instrument for both these purposes, because of the very relationship subsisting between matter and mind. In order to the effecting of all this, with the view of deriving the greatest possible benefit from the nature of the scholars as social beings, two things are requisite, a gallery with school and an enclosed play-ground. By the help of a gallery, with the children all arranged in parallel rows and their eyes directed toward their teacher, the sympathy of numbers operates far more powerfully, and so blends all their thoughts and sentiments into one, rendering, thereby, the intellectual and moral development of one, or more, beneficial to the whole. With an enclosed play-ground, the teacher, who, according to this system, is supposed to be as steadily and vigilantly engaged with his pupils there as in the covered school-room, obtains a far better knowledge of the disposition and character of his scholars, than he can possibly obtain in the shut up school room. Within, if all do not feel themselves in a place of confinement, they are, to say the least, under restraint. In the open air, on the other hand, every child is allowed to follow the bent of his own inclination. The steam will naturally be let off, and thus the real character of the youth will be discovered. The teacher making himself one with the pupils, entering into all their sports and amusements, is there more in the capacity of an observer than of a magisterial head, or else the scholars would still be under restraint, and thus the end fail of being accomplished.

By these and similar more minute details, the whole processes of the training system are carried on, and only await a more practical, a universal diffusion to revolutionize the whole subject of common school education. The different steps in the development of this system are detailed in preceding chapter, in connection with the history of its distinguished originator.

SECTION IV.—SELECTION OF A SYSTEM.

This is a matter of primary importance. The selection of a good national system of education, and the insertion of the same, by Legislative enactment, in the Statute books of the realm, are matters

which, in the estimation of all enlightened and patriotic statesmen, yield to none in magnitude, yea, demand the highest efforts of their genius, the most profound sagacity of the cabinet, the noblest achievements of diplomacy. These individuals, penetrating the vista of coming ages, and perceiving the priceless blessings which such a measure is destined to confer on generations unborn, begrudge no toil, or sacrifice for the accomplishment of such an object. The whole nation is stirred to its lowest depths by the oppositions, the contentings, and the strugglings incident to the carrying of such a measure in the highest Legislative Assembly of the land. And all this because it is pregnant with results the most momentous alike to the noble and the ignoble, the rich and the poor.

And yet after all, what is this external system or legislative enactment but the mere framework, the scaffolding of the inner life of education contemplated by the subject under review. This is the high, the special function of the educational authorities, the Superintendent of Education and the Council of Public Instruction, if there exist such a body. It is the selection made by these authorities that shapes and moulds and regulates and controls every other department of the national procedure, connected with the cause of education. It even precedes the selection of the teaching agency. How deep then the responsibility involved! How transcendently important in itself and in all its relations!

And, here the question naturally arises, what is to guide and direct in making a suitable selection out of the systems enumerated; whether one is taken as a whole, or blended in part with others? The answer to this question is to us plain and palpable. There is no alternative but to adopt the system that seems to provide the best means for the accomplishment of the object of education. That end or object has been already settled by us in the second chapter of the first book, viz., the growth and direction of all the parts of the compound nature of the rising generation. And if the party selecting are at one with us upon this point, the system is determined for them and ready to their hand. It is alike the testimony of sound philosophy, and of revelation, that nothing but the exercise of all the parts of our complex being, will effectuate such a growth or secure the legitimate direction. This has been proved, illustrated and ratified over and over again. Whether we regard these parts in their lowest or highest qualities, individually or collectively, in relation to time or eternity; if we desire them to accomplish the high end of their existence, they must

be used or exercised in accordance with their intrinsic worth, and their influential capabilities.

And what is the system, which, in its adaptation process, meets all this? What the system in all its plans, arrangements and operations best fitted to impart it? Unquestionably, that which requires the scholars to use their varied powers and energies—**THE TRAINING.**

Need we show how well calculated, every department of this system is, to make the pupils depend upon their own exertions, to promote self-education. Whether we regard it in its external organizations, or in its internal operations and proceedings, it presents at every step but a living commentary on the truthfulness of this position. Everything else, in fact, is periled and sacrificed for its maintenance, its predominant influence, its due weight. Looking again at the varied parts in themselves and in their relations, what have we developed in this system but a series of dove-tailed adaptations, all designed as they are fitted to give use to the organs of the body, to the energies and sensibilities of the mind, to their reciprocating and reacting influences. We pretend not to say that these adaptations are exhausted, or that others more suitable, in similar circumstances, cannot be called into requisition;—neither do we say that this system, in its appliances, has received anything like justice at the hand of its advocates or propagators—but we do say,—and that without fear of contradiction,—that never did a system manifest a more intense yearning to discover and put into practice the apparatus and the methods that seem best fitted for the cultivation of all the complicated and delicate machinery upon which it is called to operate, or put forth higher efforts in the accomplishment of the object contemplated. These grounds, we hold, to be amply sufficient to direct the enquiring and unprejudiced mind in the selection of a system, and not only in imparting stability and glory to the system we have nominated as the system, but the only system for guaranteeing at once the growth and right direction of all the parts of the compound nature of the young. We say nothing about the eulogiums that have been pronounced on this system, by the greatest and most distinguished educationists of the age. We say nothing in reference to the fact that, notwithstanding the unwillingness of some to acknowledge it, there is scarcely an improvement in educational matters in modern times that is not traceable, in some shape or another, to the labours of Stow. Enough for us to know that there is no system so admirably adapted as a means for the accomplishment of the high end of education,—that there is no system even capable of standing a comparison with it.

SECTION V.—THE DISTINCTIVE FEATURES OF THE TRAINING SYSTEM, OR A FULL EXPOSITION OF THE SYSTEM ADOPTED.

These features, as they developed themselves to the mind of the devoted and enthusiastic founder of the system, have been already noticed with more or less particularity. Nevertheless, we think it in every way advantageous to gather them all together and present them in a condensed, consecutive form, that they may be looked at in their relation to other systems, embracing, as we conceive, all that is excellent in these systems, and yet shooting far in advance of them all. At all events, a succinct enumeration of these features will be of great service when we come to exemplify them in the teaching of the different branches of learning. Then, we shall only require to show their application to these branches respectively.

1. This system professes to educate all the parts of the child's nature, both separately and unitedly.

This is its aim—its high errand. We say aim; for it has never yet, we believe, been carried out to its fullest extent, never yet been exhibited in all its diversified and glorious results in consequence of the external impediments it has encountered, even in the most advanced and favoured circumstances. Nevertheless, this is its declared object, even the cultivation of all the component parts of the child's nature, and the more closely we approximate that object, the higher must be our educational condition. That nature is two-fold,—body and mind; the former being subdivided into systems of organs; and the latter, into powers, generally regarded as Intellect, Sensibilities and Will. The Training system nobly aspires after the development of all these organs and powers, and that under the heads of physical, intellectual, æsthetical, emotional, and moral education. It not only regards these in their separate, but in their relative existence, as acting and reacting the one upon the other. It, accordingly, calls in the one as the handmaid and auxiliary of the other. In one word, it professes to educate all the parts of the child's nature, and these parts in all their relations sympathies and tendencies.

2. This system throughout all its processes draws a marked distinction between teaching and educating, between telling and training.

It starts with the principle that education is a life-work, yea that it is a work bounded only by eternity, and that the education of the young consists mainly in putting them on the way of educating themselves. Taking up and holding the position that the child is the father of the man, it endeavours so to connect his education as that when he becomes a man, he shall be able to think and feel and speak and act

aright. It is therefore far more concerned about the mode of imparting the instruction, than the instruction or the knowledge itself. Not that it undervalues instruction. Quite the reverse. Just as the means in every case rises in value in very proportion to the magnitude of the end to be served, so is it here. Wherever then it is proper, it imparts instruction, but in doing so, it strives to provide both the means and the methods of getting more, and that by dint of the application and investigation of the scholars themselves, preparing them for the varied duties and trials before them. Thus whilst it regards instruction and education as inseparable, it does so simply because they stand to one another in the relation of means and end.

3. This system strives to give a practical bearing, an out and out application to all the knowledge communicated.

This is the very import of its designation. It attaches vast importance to knowledge, but it does far more to wisdom—which is neither more nor less than the reducing of the knowledge acquired to practice. Accordingly, it not only shows speculatively the uses of any subject, but it labours, as far as practicable to body forth and exemplify the same. And this it does not merely for the purpose of demonstrating the utility of the subject itself, but of obtaining more enlightened and enlarged views regarding it. Much of this it accomplishes through the medium of oral lessons, and these principally on objects and pursuits, with which the young are perfectly familiar, but whose nature and application they neither comprehend nor appreciate.

4. In the consideration of any subject it makes the analytical the basis of the synthetical, the concrete of the abstract.

At the earliest period, almost from the moment that their observational powers come into play, the young manifest an instinctive desire to subject every object to their senses, not merely to their sight or hearing, but, if possible, to their touch, taste, smell. When they have examined the object, it matters not what it be, and obtained a thorough knowledge of it as a whole, as a reality, as a living being, a thing, a substance, they then evince an equally instinctive propensity to dissect it, to look at it in its parts, and again to reconstruct it. Look at the little prattling girl of scarcely two years of age, how fondly she hugs and caresses her doll, surveys it as a whole until she has obtained a thorough knowledge of it, and can readily distinguish its general appearance from every other doll. No sooner, however, has she become familiar with it, than she proceeds to separate its parts. She carefully undresses it, closely watches as she does so, how the one part is appended to the other, and lays each part aside by itself. This

done, she tries her skill and ingenuity in readjusting the whole, puts on one article of dress after the other until she has completed her task. She then leaps and skips in perfect ecstasy at the feat she has achieved, regards the doll with higher complacency and satisfaction than ever, and now, as specially her own. This is the course of nature and universally true. Our system, accordingly, meets this feature and, at every stage of the educational life, from the alphabet up to the highest department, gives the concrete before the abstract, the analytical before the synthetical. It strives to conduct the scholars from the region of the known to that of the unknown, never introducing a subject without some stand-point, for both teacher and taught, some common ground or principle on which to plant their feet, and to pass therefrom by easy transition into the subject itself. This removes education from the region of nominalism and empiricism, to that of substantialities and of healthful invigorating influences.

5. This system, on presenting any subject to the minds of the young, insists first in our doing so by broad outline features,—and, after the pupils are thoroughly familiar therewith, to fill in gradually the details.

The naturalness and utility of this course have already been adverted to in a preceding part of our work. Suffice it here simply to say, that by the adoption of this mode the subject, whatever its nature, is far more clearly apprehended, both in its parts and relations, by the law of associations rendered vastly more serviceable in future applications, more thoroughly incorporated into the human mind; and, by reason of all these considerations, far more easily remembered. In view of all this, our system recognizes and acts out this feature, in every one of its departments.

6. The Training system deals largely in oral lessons, but is especially characterized by that form known by the designation of word-painting, or 'picturing out in words.' Object lessons, the principal feature in the objective system, owe their origin to Pestalozzi and his coadjutors. These are admirably adapted to the youthful mind in its more initiatory stages—appealing as they do directly to the senses, and thereby serving great and glorious purposes in the development of mind; and yet after all these lessons are defective, they can only give us the knowledge of whatever is subjected to the senses. There are many things, many facts or ideas regarding the dispositions, the uses and habits of objects, whether animate or inanimate, that cannot be communicated in this way, and recourse must therefore be had to verbal description, which, to render interesting to the young, is

presented in the shape of word-painting. This feature, in an oral lesson, owes its origin entirely to Stow, and constitutes one of the most prominent features of his system. It is founded on the principle, that all mental processes can only be rendered intelligible to others by external or visible objects or things,—every word being the sign, or image, or representation, either of some object, or the combination or relation thereof. Hence, to obtain a vivid idea of the secondary or conventional import of any word, we have only to picture out its primary or external signification, and give the application. (See chapter on oral lessons).

7. This system carries on the instruction department, whether through text-book or oral lessons, by questions and answers, and ellipses.

The questioning and answering process, sometimes called the *Socratic mode* of imparting knowledge, is the old practice, and still obtains, to a large extent, both in elementary and advanced schools. The Training system does not exclude this, but it limits it to the two points of ascertaining the amount of knowledge possessed by the pupils on any given subject, as well as the imparting of the knowledge of any fact or truth that may be essential to their reasoning out that subject; and it adds the all-important element of ellipsis, or that of allowing the pupils to go on as long as they keep the right path, drawing their own inferences and conclusions, or giving expansion and enlargement to the views they already entertain. This is the grand practical expedient devised by the founder of this system, for the purpose of enabling the pupils to exercise their own thinking powers—and an admirable expedient it is. It is the one resorted to by the great teacher of Nazareth, and therefore must not only be surpassingly excellent, but infinitely the best. It is pre-eminently intellectual training. (See the whole subject discussed under intellectual education).

8. This system carries on its questions and answers both simultaneously and individually.

In the adoption of one or other of these two modes, respect is had to two things—the character of the pupils, and the nature of the subject, but chiefly the latter. If it is an exercise recited after being prepared, the skilful teacher will diligently and carefully ascertain whether it is thoroughly mastered by each child in the class. If, on the contrary, it is an exercise in which thought is to be evolved, and mind developed, he will work the whole class simultaneously, allowing them all to answer at once, though oftentimes the answer will only be given

by one or two, or such as feel the question to be a congenial one. By this latter expedient, each child is allowed the free and unrestrained use of his thinking powers. And by the former, all are stimulated to exert themselves to the uttermost, feeling satisfied that there is no possibility of their escape in the crowd.

9. This system renders the sympathy of numbers subservient to the cause and interests of education.

The power and the extent of this principle—a principle common to all—has been already explained. The training system is the first that has attempted to apply this universal principle as an educational force. That it may have full justice done to it, it first endeavours to have all the externals in meetest adaptation;—such, for example, as a well-assorted enclosed play ground, the arrangement of the benches and seats in parallel rows, with a gradual elevation backwards, if not provided with a regular gallery, &c. Before proceeding to work, it reduces the whole of a miscellaneous school to a thorough system of classification, testing, by every possible appliance, the whole of every child's capabilities and attainments, so as to put him, not only in one, but in all the branches, in his rightful position; and, having got all the exterior arrangements adjusted, it proceeds to all the steps in the educational process, with this principle full in view, and physically, intellectually and morally, avails itself of its assistance. But it is in the regularly graded school, it produces the most benign and powerful results. There, seated in a properly constructed gallery, from fifty to eighty children are called upon to vie with and outstrip one another, intellectually, and to do the same physically, and morally, in the playground. The power which this principle places in the hand of the teacher is inconceivable, and, without which, the most skilful teacher and the most approved mode are comparatively fruitless. But the teacher, who knows anything of its power, is equally solicitous that this principle be called into requisition, and habitually eyed in the relation subsisting between him and his pupils; and, accordingly, he makes it a point in all his operations, in door and out, in recitations and in discipline, to secure the good will and sympathy of all the more intelligent and better conditioned of his scholars. These influence and direct, or, at least, hush into silence, the indolent, the deceitful, and the immoral; thereby reducing, by one-half, the toil, the anxiety, and the watching of the pains-taking teacher.

10. This system repudiates the separation of the sexes in the educational process.

It maintains the position that the best school-room is the family

fireside, that the natural and most efficient educators are the parents, and, consequently, whatever obtains in the domestic arrangements ought to bear sway in the scholastic establishment. It professes to sit at the feet of nature, to elicit its laws and to act out its principles; and it does so simply because all these are in meet adaptation to our constitution. As, then, the sexes are educated together around the domestic hearth, so ought they to be in the school-room, at least until they are twelve or thirteen years of age. And all this because it is in every way the most successful. Not only do the boys thus stimulate the girls intellectually, but the girls the boys morally. And as already noticed, this influence is not only reciprocal but reflex,—the males becoming vastly more intellectual, and the females more moral. Thus do the blending and commingling of the two sexes, instead of being prejudicial to the one or the other, produce the most exhilarating, ennobling and salutary effects upon both, and this not merely throughout the school-life of the parties themselves, but throughout the whole of their future career, adding very naturally both to their usefulness and happiness. Much, it is right to notice, of the success of this practice, depends on the moral tone that is preserved in the school establishment, as well as on the exterior fitting and conveniences, and on the teacher exercising the most complete surveillance in the playground as well as in the school-room.

11. This system acts on the principle that no lesson is given till it is recited and received by all.

Much of the labour of the teacher is expended to no purpose, in consequence of his not being thoroughly apprehended by a half, at least, of his scholars. The other half may have obtained a vivid conception of the subject under consideration; they give full and satisfactory answers to the questions proposed, and the teacher quits the subject or question, under the impression that all is well and finished. Not only is the one-half of the class or section in a great measure, if not entirely ignorant, but many even of those who would be pronounced as possessed of a fair understanding of the subject, have no clear apprehension of the general scope, and still less of the relations that subsist amongst its various parts. After the labour expended in preparing or propounding the subject under review, this system acts on the principle that no lesson is given until it is received; and how is this to be got at? In no other way, we believe, than by requiring the class, or every member of it, to present, after the recitation work or exercise, whatever it be, is gone through, a *viva voce* statement, continuously, without the prop of questioning or answering, or what is

still better, a written synopsis or abridgement of the subject. This our system insists upon as one of the infallible tests of quality, and this is surely vastly superior to large quantities acquired in the most misty and vague and inaccurate style. It commences the exercise when the child has mastered the mechanical work in reading; it encourages the most stupid and doltish to try the exercise, to tell, at least, what it is about, and what is said or affirmed regarding it. As the child advances, to give further outlines, and by the time he has arrived at his ninth or tenth year, he is able to recite not only the grand features, but its most minute details—the time when, and the place where, the event happened, the principal persons concerned, the circumstances accompanying and the results following. Thus is the youthful mind trained, habitually trained to associate the reality with the thing signified, to think as he reads.

12. This system makes it a paramount concern to find out the specific character of every child and governs itself accordingly.

It takes the position that every individual has some peculiarity in endowment, in temper or disposition and in character, and that it is alike the duty and interest of every teacher to discover this peculiarity, and turn it to profitable account. The intellectual endowments and attainments, are easily discovered by the simultaneous questioning process of the system. The physical, æsthetical, emotional, and moral features are gradually found out by close inspection and minute surveillance in the covered and uncovered school room. This the training system endeavours to arrive at by natural and rational means.

It labours to secure the confidence and attachment of the pupils by gentle yet decided measures; and withholds all those of forcible or compulsory character, till every expedient and device have been resorted to and tried. If it be necessitated to betake itself to threatening or the use of the rod, it is not till every other measure has failed, and that merely by way of experiment. But how-ever much, it may insist on the right, it rarely betakes itself to this expedient. It prefers to lay hold upon some peculiarity in the constitution, and through that to get at the higher principles of their nature, the intellect, the emotions, especially, the conscience.

13. This system, whilst it extends, in many respects, far beyond the others, gladly avails itself of whatever in them suits its purpose, or is in accordance with the great principles of our constitution, ratified by the teachings of revelation.

Though we have already stated that Pestalozzi was the first, or, at least, amongst the foremost who adapted his educational appliances to

the human constitution, we are far from maintaining that there were not many excellent educationists before his day, many of whose plans and operations were endorsed and practically given effect to by him. And so was it with Stow. He saw and mourned over the defects in the modes of teaching then generally practised, and made noble efforts to supply what was defective as well as to improve what was in itself rational and sound; yet he gladly availed himself of all that was excellent both amongst his predecessors and contemporaries. This, accordingly, is the character of the system which bears the impress of his chisel. In all its essential lineaments, it is in advance of the other systems, yet there are excellent points in them which it most cordially appropriates. For example, in the accuracy of the memoriter process of the rote system, it aims at the same proficiency, though it bases it on the memory of ideas and not of words merely—it uses monitors in purely mechanical employments—it brings to a most profitable use the analysis of words, the simplification of sentences and mental arithmetic, the leading feature of the explanatory system. It deals very liberally, too, in object lessons, and in the other really natural principles of Pestalozzi and his fellow-labourers. Whatever, in fact, promises to add to the efficiency of the Training system, it embraces, provided it is in accordance with the fundamental principles of the human constitution, and with the high discoveries and hopes of revelation.

SECTION VI.—EXEMPLIFICATION OF THE TRAINING SYSTEM IN THE MODE OF TEACHING THE DIFFERENT BRANCHES.

We have already considered these branches as vehicles of imparting knowledge, either directly or indirectly, and we have also pointed out their intrinsic and relative importance. We are now to regard them, in the teaching process, with a special reference to the cultivating and strengthening of the various powers which they call into play. We pursue the order already indicated, commencing with

1. *Vocal Music.* We take for granted that every child may be taught to sing, just as he may be taught to read. All do not learn to read with the same expression and taste, but all may learn to read intelligently, that is, with a distinctness and impressiveness sufficient to convey the meaning of the author. To the same extent, we believe, may all be taught to sing, provided their sense of hearing is organically sound, and brought in contact with melody or time in our infantine days, and continued throughout our juvenile years. At first, we believe, this exercise should be carried on mechanically or by imita-

tion, and this till the child is nine or ten years of age. Not that during this period there is to be no order or consecutiveness in the instruction imparted. The skilful and faithful teacher will proceed here, as in every department, by gradation, from the more rudimental to the more advanced. After a few simple tunes are acquired, and so acquired that every child can recite them individually, as well as simultaneously, the Diatonic scale should be taught—taught not by notation but by the ear, forward and backward, up and down, until the pupil can distinguish every note and give it forth at once when required.

After they have gone through these processes, and are well acquainted with musical sounds, both separately and in combination, the pupils may then be considered as in a state of readiness to obtain instruction in notation, *i. e.*, be taught to read music for themselves. They are now in the same position in reference to musical sounds as the child is in reference to the articulate elementary sounds of the English language. When these sounds are carefully and correctly learned, the child's next business is to acquire a knowledge of the marks or characters that represent, or symbolize, the same, that is, of the alphabet. And so it is in reference to the musical sounds. Having acquired a correct knowledge of these sounds, and being able to use them on every befitting occasion, the pupil is now prepared to go on and acquire a knowledge of those marks which indicate these sounds, and by which the musician becomes altogether independent of an instructor; at least can prosecute, after a fashion, his study both of the science and the art.

And here a question arises whether the *tonic, sol, fa*, method should be adopted, that is, the employment of figures as the representatives of the sounds, or, as it is usually styled, sight-singing, or whether the old system of notation should be pursued. The former is evidently the more easily acquired, and is preferred by many musicians who have had considerable experience in the teaching of the young. The latter is retained by all old experienced musicians as the method to which they have been accustomed, and as the one generally prevalent. From any examination we have given the subject, we are strongly inclined to recommend the sight-singing, first; and, when the pupils are more advanced, a knowledge of the common notation. The figures are equally efficient, and bring out as distinctly the different musical sounds, and all that is required is the associating of the particular sound with the figure. The old notation system can easily be taught at any subsequent period, when the pupils are more advanced

in their musical lore. It may be well, however, to introduce this at such an early period into the more advanced classes, that the pupils may be able to read any time, with facility and intelligence, on leaving school, and so be able to derive gratification from the employment the whole remainder of their days.*

School Songs. To make a good and proper selection of school songs is no easy task. There must be first an adaptation to the object contemplated, whether that be secular or sacred. Whether the one or the other, it must never be forgotten that the natural temperament of the young is that of joyousness, and consequently that a great deal of the sentiments contained in school songs, should be in accordance therewith, full of excitement and of mirth. The sentiment must be true and manly, and correctly moral, and lastly the poetry must be of the pure genuine metal, such as will stand the fair test of criticism. And if such is the general character of the songs befitting the school room, how arduous the task of selecting from amid such a host of poetasters, rhymsters and sentimentalists, those that are possessed of the necessary qualifications. On no subject perhaps have we such a multiplicity of claimants and pretenders to popular favour. It would seem that almost every body, who had any rhyming faculty, has attempted to swell out our school songs, and with the view of imparting to them greater longevity has associated them with favourite national airs. We know not a greater service that could be conferred upon the whole of our school psalmody, than to subject it to the winnowing fan, and to extract from it the best and the purest grain, real genuine poetry, enhanced and ennobled by refined and correct moral sentiment.

2. *English Reading.* This department when followed throughout all its stages, will necessarily occupy a goodly number of pages. As has been already stated, it is one of transcendent magnitude. It is the gate of gates, the path of paths for the acquisition of all knowledge, the key for the unlocking of all the other store houses, the foundation and the corner stone of the whole scholastic structure; and demands on the part of the teaching official, the most profound study, the highest professional skill, and the most laborious, painstaking assiduity. It embraces: (1.) Mechanical reading or the teaching of the alpha-

*Notwithstanding our exalted estimate of the value of music in the school room, whether primary or advanced, we confess our inability to give any specific directions on the subject. To all teachers, who have any taste for such a study, we would recommend the perusal of the able Treatises of the Rev. J. Currie, Principal of the Church of Scotland Training College, Edinbro', on the Profession of Teaching, as well as his separate publications on the Theory and Practice of music.

bet up to the easy and fluent pronunciation of the more common words of the English language. (2.) Intellectual reading—from orthoepy to the highest elocutionary exercises—with its properties, principles and rules.

Alphabet. No branch of a common school education has recently claimed a greater share of attention, or given rise to a wider diversity of opinion than the one on which we now enter. Nothing can exceed the absurdity of the old fashioned style of teaching the alphabet, a style, in many localities, still prevalent. The following somewhat ludicrous picture is drawn by the pen of Horace Mann. "The teacher calls up a class of abecedarians, or, what is more common, a single child, and while he holds a book or card before him, with a pointer in hand, says *a*, the child echoes *a*; then *b*, and he echoes *b*; and so on, till the vertical row of lifeless and ill-favoured characters is completed, and then remands him to his seat, to sit still and look at vacancy. If the child is bright, the time which passes during this lesson is the only part of the day when he does not think. Not a single faculty of the mind is occupied, except that of imitating sounds; and even the number of these imitations amounts only to twenty-six. A parrot, or an idiot, could do the same thing. And so with the organs and members of the body. They are condemned to inactivity; for the child who stands most like a post, is most approved; nay, he is rebuked if he does not stand upright. A head that does not turn to the right hand or left, an eye that lies in its socket, hands hanging motionless at the side, and feet immovable as those of a statue, are the points of excellence, while the child is echoing the senseless table of *a, b, c*, is a general rule. Six months are spent before the twenty-six letters are mastered, though the same child would learn the names of twenty-six playmates in one or two days." This is no overdrawn account; it is exemplified in five cases out of the six, wherever the alphabet is taught. Need it then be matter of wonderment, that so many of the reforming, progressive teachers of the present day, in view of these absurdities, should have bounded, *per saltum*, to the opposite extreme, and boldly taken up the position of discarding the alphabet altogether, at least, till some progress is made in reading. This attempt, however, of escaping the tedium of teaching the alphabet has proved a task hardly less formidable than that of mastering the hieroglyphics of the Chinese language. A similar defect must attend every attempt to over-leap the elementary parts of learning, with the view of coming directly on the pleasures of the more advanced. It is like seeking fruit where no blossoms have been permitted to grow. Such a method can never

attain the end at which it aims. The pleasure contemplated is never found. It remains locked up, and the key has been thrown away. The error proceeds on a mistaken notion of what is interesting. No matter how great or valuable the subject may be, it is not a blind groping after it, that will give intellectual pleasure; but the exercise of the understanding, performed clearly and distinctly, is, in itself, naturally connected with a pure and elevated delight.

On the supposition, then, that it is necessary that the alphabet be taught before any real progress can be made in reading, it becomes a question of paramount importance, how this is to be done. To those who look upon education in no higher light than that of imparting or receiving knowledge, however useful, such a question will appear of little moment, and awaken but small interest. "What does it matter," say they, "how the child learns his lesson, provided he *does* learn it, how the fact or truth is deposited in the understanding and memory, if it *is* really there; how the alphabet is acquired provided it is thoroughly and carefully got?" Very different are the views of those who look upon knowledge as mainly the means, and the growth or development of mind in all its capabilities of expansion as the end,—the grand consummation of the education of the young. It is a good thing when sound knowledge is imparted, but it is vastly better when that knowledge is communicated in such a way as will awaken a thirst for more, as well as provide the means alone capable of gratifying that thirst. And if this is the case at all stages of the child's educational career, it is specially so at the commencement. It is a trite, yet true saying, that a work well begun is half done; and surely this is just as applicable to education as to any thing else. The commencement of our school-going days is a period to which we have been looking forward either with fear and trembling, or with high hope and joyous anticipation, and, according to the treatment we receive at the starting, will be the impressions produced, and, in all probability, our future progress, if not our whole life's course. When does the gardener bestow the greatest care and pains upon the tender exotic, when, but at the stage of earliest sprouting? When in full and vigorous vegetation, it occasions him little or no trouble or uneasiness. So it is with the mother charged with the nursing care of the tender and delicate child. And so ought it to be with the teacher. How deadly and pernicious the error; that any person can teach the child, whereas it requires the trained master to teach the advanced boy. If the statement were reversed, it would be nearer the truth. The highest perfection in teaching is the capability of teaching the child.

And now is it asked, How should the alphabet be taught so as at once to interest the child and develop his thinking powers; in other words, How should the alphabet be taught so as not only to be in accordance with, but in illustration of, the Training system? In reply to this question, we shall first lay down some general principles indispensably necessary for our guidance in this matter, and then give some specimens of their application to the case in hand.

1. And surely no one will venture to call in question the position that the alphabet ought to be taught in a rational or intelligent way, in a way that will most effectually accomplish the end in view. That end is to enable the child to read with distinctness and ease his own language, and this can only be arrived at by one way, viz., by a knowledge of the appropriate sound or power of each letter. The child, by a process of imitation, has already acquired the knowledge of all the elementary sounds of his vernacular spoken language, so much so that he can converse orally upon common matters with the greatest fluency. His object now is to obtain a thorough practical knowledge of the signs, or symbols, or representatives of spoken language in the shape of words; and as these words are made up of certain marks, called letters, which have a certain meaning or power attached to each, his first business plainly is, not only to become acquainted with these characters so as to distinguish the one from the other, but with the power or sound which they respectively represent. Written language is nothing but a substitute for spoken, and must, from the nature of things, be posterior thereto. The child has already obtained a knowledge of the latter, and it is now his aim to obtain that of the former. Written language consists of words with their appropriate pronunciation, but these words are made up of letters or marks representing certain sounds, and as is the sound of each letter, so, generally and substantially, is the pronunciation of the word. And how is this sound or meaning to be acquired? In no other way than by a knowledge of the force, or power, or sound of each letter. Unfortunately there is a great defect in these letters or characters, there being about forty elementary sounds in the English language, and not more than twenty six letters, even on the supposition that these have all different sounds. Were there an exact correspondence between the marks and the sounds of the letters of the English language, it would obviate many of the difficulties connected with the teaching of the alphabet, but this is not the case; and, therefore, we have no alternative but to make the best of our circumstances, and devise those means for teaching the alphabet by which the end in view shall be best accomplished.

Now, whatever be the diversity of ways in which the forms of the alphabet may be taught so as to distinguish one letter from another, there are only two ways we know of, by which the meaning or the power of the letters may be taught, by their names or their sounds. The former is the common way resorted to, both by parents and teachers, the way all but universally pursued. But, notwithstanding the time-honored prestige of this mode and its almost universal prevalence, we have not the slightest hesitation in pronouncing it utterly incompetent for the end in view, nay, as the first step in that course of mechanical routine and mental bondage to which too many of the youth of our population are subjected on their entering school. We, therefore raise our most decided protest against this mode of teaching the alphabet; and we do so simply because it is irrational, or in other words preserves no thorough connection between the means and end. We have said that the end in view in teaching the alphabet is to put the children in a position to pronounce certain words by knowing the sound of the letters of which these words are composed. Well, let us take a few samples and see whether, by the mere names of the letters, we can give the proper sound of the words. Take the word *me*, one of the first words that occurs in the primer lesson-book. The child is told to call the first letter *em* and the second *ē*, but instead of pronouncing it *eme*, he is bade to call it simply *me*. Take another word, *hat*. You teach the child to enunciate the letters, and they at once say *aitch-aye-tee*, which, being put together, would make the word *aitchatee*, and yet they are commanded to call it *hat*. So with the word *leg*. They name the letters *ell-e-dje*, and still they are instructed to pronounce the word *leg*, without tracing any connection between the names they give the letters, and their power in the word itself; nay, where there is in reality no connection whatever. And what is all this but a solemn mockery of these children! They are required to get a knowledge of these letters for the purpose of enabling them to pronounce the word, and yet that knowledge, instead of aiding, actually impedes them. But the inutility of the name, sounds, or the letters for the pronunciation of words, is not less apparent with vowels than with consonants. The name sounds of any one of the vowels is not the sound which will meet the child in one case out of ten, five vowels having not less than fifteen sounds, or modifications thereof. But, over and above all this, the name sounds of the letters can only be the same in number as the letters themselves. Now there are, properly speaking, only twenty-two letters in the alphabet, *i* and *y* representing the same sounds, *q* being equivalent to *k*, *x* to *gs* or *ks*,

and *c* having no sound that may not be represented by *s* or *k*; and this being the case, there can only, by this mode of teaching, be twenty-two sounds, not much more than the half of the elementary sounds actually necessary for the articulation of the words of the English language. This proves to a demonstration the utter incompetency of this mode, there being only twenty-two sounds by the names of the letters, and the pronunciation of the words of the language, requiring nearly forty, leaving thereby a defect of nearly twenty letters, even supposing there were a complete correspondence between the name and the real sound. But, surely, enough has been said to show that teaching the alphabet by the names, or name sounds of the letters, does not serve the end; and that, if it is to be taught in a rational way, it must be by giving the real sounds,—in other words, it must be taught phonically. Then, whatever be the difficulties to be encountered,—and, to say the least, they are not greater in the one case than in the other,—there is real satisfaction in knowing that progress has been made, that the mastering of a difficulty has resulted in the acquisition of substantial benefit, and that even the youngest child can trace the connection between the means and end.

But other important advantages will follow the adoption of this method. By the habitual practice of the lingual organs in the acquisition of the sounds, the foundation is laid for good reading, even for the highest style of elocution. By this exercise the muscles employed in particular sounds become supplified and pliant, and fit for the work of articulating, with ease and distinctness, any sound that may be required. It is exactly the same here, as it is with the muscles of the hand and fingers in instrumental music. If these muscles are fully grown and consolidated, before they are used for such a purpose, they will never become so serviceable to the possessor as they would have been, had they been exercised when flexible and easily bent. Though he may by unwearied, and persevering effort do much to remedy such a defect, he will always be lacking in delicacy of execution. If the muscles used in speech are not properly strengthened when young,—and this can only be by exercise,—all after effort will never completely remedy the defect. The true and only way then is to commence when young. By teaching the real sounds of letters, we are not only taking the direct road to enable the young to read, but, in course of time, to read well. But over and above all this, giving the real sounds of the letters is as interesting and amusing as it is advantageous to the young. This is performed by the lingual organs, sometimes by the throat, sometimes by the teeth, and, at other times,

by the lips ; and as this is done by the teacher showing the example, and the children imitating, it never fails to excite their interest and amusement ; and this is all the more increased when they are set a-searching for particular letters, or words, in their primer, or box, or tabular blocks. This trains them to diligent and cheerful employment from the very commencement of their school-going days. The conclusion deducible from all these observations is, that the alphabet can be alone efficiently taught by giving the real, and not the name sounds of the letters.

2. But we would notice, in the second place, that if the alphabet is taught in accordance with our system, it must be in a natural way, proceeding from the simple to the complex. The child, before he enters school, has acquired the knowledge of the sounds of words, and how has he done this ? By going on from the easy to the difficult. He catches the simple monosyllabic sounds first, such as *ma*, *pa*, and the like ; and gradually extends his vocabulary to little words less easily enunciated, and then to dissyllabic words, and so onwards. And all this the child does instinctively, it is part of its very nature. Gradation is the law of humanity, from infancy upwards. What is the whole history of man,—of man individually and collectively, of man intellectually and morally,—but the history of gradation. And if the reality is thus acquired, we have set before us a directory for our guidance in teaching the signs. The simplest or easiest letters should be first taught, and, after these are well learned, we should go on progressively to the more difficult. And this principle should be carried out, not only in the letters but words. Now it is well known that there is neither order nor classification in the way in which the letters are presented to us in the English alphabet. Indeed, it is scarcely possible to conceive of anything more confused or unphilosophical, than the order of the letters in the alphabet. The vowels and the consonants, simple and compound, are all huddled together in one heterogeneous mass. The first thing, then, that ought to be done by the skilful teacher is, to arrange the letters in something like systematic order, separating the vowels and the consonants, and placing the consonants together, according to the organs with which they are articulated. There are, indeed, several ways of arranging the consonants, either according to the power of the letters themselves, or according to the organs with which they are enunciated. The last mentioned is, perhaps, the most natural and useful of the whole. The vowels (from *vocalis*, sounding,) are seven in number, a, e, i, o, u, w, y ; of these only three are simple, a, e, o ; i and u when pronounced with their

name sounds are compounds; and *w* and *y* at the beginning of a word or syllable are consonants. The vowel sounds of *a* are four, as in *can, cane, car, call*; of *e* two, as in *met, me*; of *i* two, as in *pin, pine*; of *o* four, as in *no, more, nor, not*; of *u* three, as in *tub, tube, and bull*.

The consonants (from *con*, with; and *sono*, I sound, *i. e.* sounding with something else), are thus arranged according to the organs of speech with which they are pronounced.

1. Labials (from *labium*, the lip—a sound formed by the lip) *b, f, p, v, w*.
2. Dentals (from *dens*, a tooth—letter pronounced by striking the root of the teeth with the tongue) *d, j* and *g* (soft), *s, t, z, th* in *thin, th* in *thine, ch* in *chain, sh* in *shine*.
3. Palatals (from *palatium*, the palate—letters chiefly sounded by palate) *l, r*.
4. Gutturals (from *guttur*, the throat—letters pronounced by the throat) *k* and *g* (hard), *h* and *y*.
5. Nasals (from *nasus*, the nose—letters whose sound is affected by the nose) *m, n, ng*.

These letters or characters ought to be taught gradually, both in their sound and form, going on from the simple to the more complex, finishing the labials before proceeding to the dentals, and using various means by which the scholars shall be thoroughly familiar with one letter before they go on to another. The same course must be pursued with words. In the earliest monosyllabic exercises, the simplest words, that is, those in which each letter has its appropriate sound should be selected. Then should follow the words with two consonants, either at the beginning or end of the word; after this, the diphthongs; and then the irregular and anomalous words. Here, the utmost pains must be taken to see that the lessons are consecutively arranged in gradually ascending order, beginning with the more simple and rising to the more difficult in letters, words and sentences.

3. Again, the alphabet should be taught in such a way as that the scholars shall go on from the known to the unknown, from the reality to the sign or symbol.

The children, before they enter school, are familiar with the names of a great many objects or things. These names, it is true, are made up of short words, and they may be able to do little more than pronounce them, and tell their corresponding predicate or what they do; still, when they hear them named, they recognize them as friends. No sooner are they asked if they ever saw a cat, or a pan, or a fan,

than their little eyes flash with intelligence, and, being properly encouraged, they are prepared to tell all they know about these and similar objects, and if pictures of these objects can be hung up before them, or representations of the same be drawn on the blackboard, the exercise will be rendered all the more impressive and interesting. But whether the teacher presents the picture or no, he should write the words on the blackboard, informing his pupils that these are the signs or representations of the reality. Having thus secured the interest and attention of his scholars, he will then proceed to analyze the word. He bids them tell the number of letters of which it is composed from sound and sight, and, then pointing to the first, dissects it, shows its form mathematically, its parts, its power, or sound by itself and in the word. The children are again remanded to their seat, set a-searching for this letter or character in the primer, or in the box of letters, or on the boards; and, after they have found all they can and counted them, told to make the same on their slates.

But there must be not only significant words but significant sentences, such sentences as the children can easily understand, being about things with which they are well acquainted, and in which they are interested. And here there is another difficulty arising from the anomalies of the English orthography. It is exceedingly hard to find monosyllabic words that will bring out the different sounds of letters in regular form, and yet capable of being constructed into short, easily understood sentences. There cannot, indeed, exist greater anomalies than are to be found in those monosyllables which are of the most frequent occurrence. The old-fashioned practice was, to combine two letters,—a vowel and a consonant, or, a consonant and vowel,—such as a-b ab, or, b-a ba, and to ring the changes upon these sounds without any sense or meaning. This practice is now well-nigh exploded as a relic of the mechanical age of education, and something more congenial to the thinking nature of the young has succeeded; and that is, the introducing of the children all at once into the acquisition by sight of thirty little words or so, which can not only be converted into, but prove of vast service in the manufacture of, short significant sentences, in all the future stages of their learning to read. The words which have thus to be learned by sight, without spelling, are the following: so, go, lo, no; he, be, me, we; at, am, an, as; in, is, it, if; on, or, of, ox; by, my, thy, this; up, us; do, to, yes, no. The children will very soon acquire a knowledge of these words from sight; and immediately thereafter, or even when this exercise is going on, make little sentences from them. These sentences may be such as the following: I

am up. Is it I? Is he up? Go as I go. After the children are able to read these sentences with tolerable fluency, words with the short vowels ought to be introduced first; such as the sound of *a* in fat, *e* in met, *i* in pin, *o* in not, *u* in bull. At the same time the consonants are taken up, according to the organs of speech with which they are enunciated: an, at—ban, bat—fan, fat—pan, pat—wan, wat, &c.

These words are then arranged into short significant sentences, which interest the child, and, at the same time, give the teacher an opportunity of questioning him upon his knowledge of the objects specified in the lesson; and thus each lesson becomes the means, not merely of teaching him to read well, but of adding to his stock of ideas.

Hitherto, each character has symbolized one sound only, and how shall the teacher proceed to deal with the different vocal sounds so as to enable the child to distinguish between the short, the long, or the open sound of *a* in cane, call, car, &c.? For this purpose, some conventional arrangement is generally resorted to, some change in the form of the word to indicate the change in the sound. Thus, to point out that *a* is long, we find a mute vowel at the end of the word, and so with the other vowels. The child is already acquainted with the short vowel sounds, and he only requires his attention to be called to the convention to enable him to decypher the long sound. Take the following as an illustration:—at, ate—ad, ade—ot, ote—in, ine—fat, fate—mad, made—not, note—pin, pine. Let these and similar words be combined promiscuously into sentences, and the child would easily learn to distinguish them and to give the correct sound. And so must the teacher proceed with all the other vowel conventions as well as with the diphthongs.

The next difficulty to be encountered is with the double consonants, whether at the beginning, middle or end of words. These must be proceeded with after the same fashion, gradually introduced, and in definite order, according to their complexity, taking first those double consonants, that have an elementary sound, and afterwards those that have two or three sounds.

4. But we would notice, as the last general principle, that the children throughout the whole of this process should be encouraged to make out, as much as possible, the words and sentences themselves.

This can be done from the very commencement of the exercise by accustoming them to place a letter before or after another, with which they are well acquainted. Take *o* for example and place *l*, or *s* or *g* before it,—*s-o*, *l-o*, *g-o*, and gradually contract until it becomes the monosyllable *so*, *lo*, *go*. By proceeding in this way, the children will

every day be becoming more and more competent, until they are able to read fluently themselves. Suppose the lesson to be on the sound of ou pronounced like ow.

.oun.	.out.
n . . .	r . . .
s . . . d	tr . . .
b	ab . . .

The teacher should never rest satisfied with merely telling the children the sound ; he should endeavor to make them learn it for themselves. This, when properly managed, is a source of highest gratification to them, and is afterwards of invaluable service in providing them with the key for the pronunciation of similar words. Thus, if the children stumble at such a word as *rout*, instead of giving them the sound and allowing them to pass on, the teacher should at once analyze it ; thus ou sounds ow, ou-t sounds out, and r-out, rout. Words of more than one syllable should be gradually introduced, and for some time the syllables should be separated by a hyphen ; thus, re-mem-ber. The sounds of such words can be acquired as easily as those of monosyllables, requiring simply an effort at combination, the pupils being already familiar with the separate syllables. All new and difficult words should be arranged in columns at the head of each lesson, and carefully examined before the lesson is read.

We have thus discussed the four important principles essential for the teaching of the alphabet, in accordance with the training system, —principles which we hold to be in meet adaptation to the nature of the child, and which, if fairly and legitimately reduced to practice, will render the acquisition of the letters, not an unmeaning and mechanical, but a rational and agreeable exercise.

On the supposition, then, that the teacher has acquiesced in, and thoroughly mastered these principles, that he is persuaded that the phonic method, whatever may be the difficulties, is the only rational one, and that he is perfectly familiar with the whole subject of orthography, we now proceed to give a few specimens, by way of illustration, of the order of procedure.

The teacher, then, is beginning a term, and there are a dozen of the scholars, between the ages of four and six, in the abecedarian class, who have never received a single lesson in the alphabet. On the principle of making the school to such little children as agreeable and cheerful as possible, no formal lessons on alphabet &c., ought, in our opinion, to be given for a month or so. Not that the children are to be idle, or their minds to be unoccupied, but that, as far as possible, the

commencement of their school life should be a kind of continuation of the domestic arrangements of what the children have been accustomed to—such as object oral lessons, the drawing of lines upon their slate, from objects palpable to the eye, and transferred to the blackboard; first, straight lines of every form and shape, and then curves. This, along with vocal music, physical exercises,—among which may be ranked those of the lingual organs, linguistic gymnastics, counting numbers, and committing to memory simple, easily-understood, pieces of poetry, and the like, will furnish abundant employment for the time specified; and even after the formal exercises have commenced, this preliminary work should be carried on to a very considerable extent.

The acquisition of mechanical reading, or the proper pronunciation of words, may be conveniently divided into two parts, and these into several stages.

PART I.—THE KNOWLEDGE OF THE LETTERS.

Stage 1. Simple consonants learned in conjunction with short vowels.

The twelve little children are now before you with their faces directed to the blackboard, and you are going to give them the first formal lesson in the alphabet. You ask them first of all if ever they saw a pan, or a fan, or van. They will all likely reply in the affirmative. You will then ask them to describe any of these objects. This being done, after patiently listening to every little story, and thus acquiring their confidence, show them, if you can, the picture, or, if you have not any picture, make one on blackboard. Having called their attention to the picture and looked at it in its various parts, you enquire, whether they would like to see the name written down so that they could read it and know that it refers to that object, whether they saw it or not. You get them to pronounce the word fan, and ask how many sounds there are f-a-n? three, they answer. You point to the word and ask how many letters they see, and they at once reply. three, a letter answering or corresponding to every sound. Separate the labial consonant *f* from the rest of the letters, pronounce it by itself and afterwards in combination; and when you show them that it is pronounced by partly closing the lips, you proceed to analyze its form, pointing out to them whether it is made up of a straight line or curve, and if a straight line what its nature, &c. Remand them to their seat, and set them to work to find out the same letter in so many pages of the primer, or in the box of letters, &c., and after they have found them, to print the letter under review on the slate until they can do so with facility and expedition. In the afternoon, another,

labial may be taken up, after the forenoon one is gone over and over again, and treated exactly in the same way. And so on continuously, until the whole of the simple consonants and short vowels are thoroughly understood in their power, form, &c. After this is done, which may be in a fortnight, the short words already referred to should be learned by sight, so that by their help, easy sentences may be constructed, and a series of reading lessons with an examination of their meaning accurately given.

Stage 2. Simple, compound and double consonants, with the long sounds of vowels formed by the convention of mute e, should form the great burden of the lessons of this stage.

Stage 3. This should embrace all the other conventional arrangements for the long and open sounds of vowels with the same consonants.

Stage 4. Double consonants with every variety of vowels already given.

Stage 5. Diphthongs of every form and consonants of every sort and anomaly.

PART II.—MECHANICAL READING.

Stage 1. Little stories of interest and of good moral tone about objects, or things, or events within the range of the observation, and experience, and mental development of children, averaging six or seven years of age, such as those in the third and fourth books of the Nelson series. The children at this stage should commence analytical grammar, and be taught, by a series of word-painting oral lessons, to distinguish one sort of word from another. (See chap. on grammar.)

Stage 2. Dissyllabic words. This is another stage in advance, but it is one in which those who have been well trained in the preliminary stages have little difficulty. There should be a hyphen in all words of two or more syllables, separating the syllables; the scholars being familiar with these syllables separately, can readily combine them with a view to the pronunciation of the word. Every new and peculiar word, and specially every dissyllabic word, should be written in columns at the top of each lesson.

Stage 3. Trisyllabic words, and others of more syllables treated in same way.

INTELLECTUAL READING.

The mechanical power of reading has now been attained, and the question arises, what is next to be done? Unquestionably, we reply, it is to acquire the art of reading well, that is, of reading with

understanding, ourselves, and impressively, in so far as our auditors are concerned. Reading is but a means with a two-fold end in view ; first, to gain knowledge ourselves, and, secondly, to impart it, with proper effect, to others ; and if this two-fold object is not served, it is of no use whatever, it is a work of supererogation. How egregiously absurd then, the mistake of those teachers who imagine that all that is necessary in this branch of education is simply to enunciate or articulate the words, however imperfectly or indistinctly. A great achievement in their estimate has been effected, when they have succeeded in teaching their scholars to read, merely to name the words after a fashion. As to the way in which this is done, the method pursued in its acquisition, or the understanding of the import of what is read, is to them a matter of no moment. This is the second stage in that mechanical process, or that rote system still too prevalent, whose direct tendency, instead of awaking mind, lulls it into deeper slumber. Hence it is that a large number of our youth leave school without the ability of taking the sense even out of the commonest paragraph of what they may chance to read. Hence, too, the fact but too notorious, that many,—very many—who have received what is supposed a fair common school education, cease from reading, in a great measure, altogether ; at all events, they evidently derive not the smallest gratification from the exercise. Mind has never yet been stirred out of nature's dormancy, and such are the difficulties in the way of decyphering the meaning of the plainest language and the clearest thought, that instead of coping with these difficulties they never face them, and cast the book aside as possessed of no interest to them. "I have devoted," says Horace Mann in his second annual report, "especial pains to learn, with some degree of numerical accuracy, how far the reading in our schools is an exercise of the mind in thinking and feeling, and how far it is a barren action of the organs of speech on the atmosphere. My information is derived chiefly from the written statements of the school committees of the different towns ; gentlemen, who are certainly exempt from all temptations to disparage the schools they superintend. The result is, that more than eleven-twelfths of all the children in the reading classes do not understand the meaning of the words they read ; that they do not master the sense of their reading lessons ; and that the ideas and feelings intended by the author to be conveyed to and excited in the reader's mind still rest in the author's intention, never having yet reached the place of their destination. It would hardly seem that the combined efforts of all persons engaged could have accomplished more, in defeating the

true objects of reading. How the cause of this deficiency is to be apportioned among the legal supervisors of the schools, parents, teachers and authors of text-books, it is impossible to say, but surely it is an evil gratuitous, widely prevalent and threatening the most alarming consequences."

Such is the testimony of Horace Mann, touching this branch of education, and others of equal authority might easily be adduced. And why this state of things? It clearly arises from low and inadequate views of the grand end of education; and if such ignorance prevails in reference to such an important elementary branch, what may not reasonably be expected in reference to others? This surely demonstrates the necessity of something more being required on the part of the teacher than the mere fact of his scholarship, or even the ability of imparting to his scholars the knowledge he possesses, viz., his possessing enlightened and enlarged views of the end of the education of the young—the growth and development of all the parts of their compound being—and his practical acquaintance with the means best adapted for the effecting of that end.

But it is time we put the question, What constitutes good reading, or wherein lies the charm of genuine elocution, and the means necessary for its attainment? In reference to the first question, it is perfectly clear that there must be a standard at which to aim, and that that standard must be founded upon the very nature of things, such as must command itself to the approbation of all. Were we to speak succinctly, perhaps the term or the word most appropriate would be expression, or such a modulation and tone of the voice as would bring out the real meaning of what is read. But this term involves several elements, and to read so as to give proper expression to the sentiments conveyed, requires, 1. Distinct articulation; 2. Fluency of utterance; 3. Correctness of pronunciation; 4. Attention to time; 5. Impression; 6. Taste. We shall say a few words respecting each of these. Then we shall be in a right position for considering the means best fitted for arriving at this standard.

1. *Distinctness.* By this property we are plainly to understand that every letter, and syllable, and word receive their appropriate sound. There is a strong disposition on the part of beginners to slur over letters and syllables, or to merge them into one another. This is specially the case in monosyllabic words, in words ending and beginning with the same or similar letters, and syllables with words of peculiar formation, with vowels or consonants succeeding one another, such as extraordinary, government, acts, &c. This is evidently the

origin of many, if not of all the contractions that occur in the dead languages, as well as of a goodly number of the irregularities and anomalies in some of the modern languages. Letters are slurred over till it becomes the usage of leaving them out altogether, and gradually this assumes the character of a fixed law. Every approximation to such a fault should be cautiously shunned at the very commencement of the reading career,—and this can only be secured by the rigid observance of the distinct articulation of every letter, and syllable, and word. This quality lies at the foundation of all good reading, without which all the other attainments and elegances are unavailing. It is no doubt principally mechanical, but this proves all the more the necessity of its acquisition at the very commencement of the reading process.

2. *Fluency.* Some lisp, and stammer, and hesitate in consequence of some malformation in their lingual organs, but the greater proportion do so by reason of bad habits contracted through the carelessness of parents or teachers. Whilst much may be done by care and attention to correct the former, there should not be the smallest toleration in reference to the latter, as it must appear palpable to all that so long as this defect continues, so long as there is any hesitancy or want of ease in the enunciation of the word or phrase, it mars the best and otherwise most accurate reading. There must, therefore, be nothing in the shape of stuttering, or hesitancy, or repetition of syllables or words; the voice must flow on smoothly, sweetly, easily and continuously. Accordingly, fluency constitutes one of the essential elements of good reading.

3. *Correct pronunciation* This consists in giving every letter, and syllable, and word their right sound and accent. The foundation of orthoepy lies in usage—the usage of the best readers and speakers, and to this umpire must all lexicographers bow. This rule, however, is not arbitrary or despotic, but, generally speaking, administers its laws in accordance with the etymology and analogy of the language. The great proportion of words are fixed and settled in their pronunciation, and can easily be found by reference to any authorized lexicon. In reference to those that are not, the usage of the best readers and speakers must prevail. All provincialisms and pedantic affectations in pronunciation are to be carefully avoided. All words and quotations not anglicized, should be pronounced in accordance with the analogy of the language to which they belong, and if the reader is unacquainted therewith, in accordance with that of the English or his native tongue. Orthoepy is another element that lies at the very foundation of good

reading, and, as it is chiefly acquired by imitation, the teacher ought to be a master and a model in this department.

4. *Proper time.* This is another, and a very important element. It may be regarded in two aspects, either as absolute and relative, or as significant and rhetorical. By the absolute time, we are plainly to understand the general time that befits the nature of the piece read or spoken. As that is widely different in subject, passion and occasion, so must the time be exceedingly variable. If the subject is of a serious and religious character, the time must be slow, and staid, and solemn. If it is terrific, and arousing, and impassioned, the time must be rapid, and majestic, and commanding. If it is descriptive, historical, the time must be intermediate, neither too slow nor too quick. But whatever may be the duration or time absolute, which the piece from its nature may demand, and however that may vary, the relative time, the time which all the parts take, ought to be most scrupulously preserved. This must be done in the reciting of poetry, and it should also, as far as practicable, be in prose. Nothing surely can be more discordant or more unharmonious than to read one part of the same religious piece in chastened slow time and the other half in quick rapid time. It is clear, then, that whatever is the absolute time selected, the relative time must be preserved, must be in exact proportion.

As to the other distinction we have drawn in reference to time, and which we have characterized as significant and rhetorical, we understand by the former the actual pauses or the usual marks of punctuation—comma, semi-colon and period—and depending upon the meaning of the various clauses in any proposition. These pauses should be scrupulously attended to, and that from the very commencement of this branch of education. They are not only invaluable to the reader, as giving an authoritative rest to his lingual organs, and thereby investing him with a more thorough command over them, but, to the hearer, they help to elucidate and give additional power to the passage. To pass these over, or not to give them their proportionate duration, is not only in itself a violation of all propriety, but is to mar the effect of every other excellence in reading. But there are other pauses, beside, which enhance very largely the significance and beauty of the other,—we refer to those that have been designated rhetorical. The elocutionary marks for this purpose are two; the one, a double horizontal line or hyphen - - marking a longer or more decisive pause, usually separating the subject from the verb, and the noun from its description, or its adjunct, connected by a relative pronoun; and the

other a horizontal line or single hyphen - uniting separate words and phrases into one whole, and usually requiring a shorter pause.

"'Tis the voice - of the sluggard - - I heard him - complain."

5. *Impressiveness.* This fifth element in our standard of good reading or speaking is in advance of all we have yet considered. These partook largely of the mechanical, but this of the intellectual. It just means that the individual reads in such a way as to convey to his auditors the true sense of his author. It implies not merely distinctness of articulation and fluency of enunciation, but a modulation of voice so accordant with the sentiments read, as shall demand an entrance into the understanding and heart of those that are listening. This is what all may arrive at by a course of training in a few of the more common rules of elocution, and by a thorough understanding of every word, clause and proposition in the sentence read. No teacher should be allowed to instruct others in the art of reading who has not himself reached this same measure of attainment.

6. *Taste.* This is the highest of all the elements that enter into the composition of our standard. It consists in a complete impersonation of the author, the emotions awakened by the sentiments conveyed so naturally expressed by the tones of the voice, all ratified and ennobled by the features of the face and the motions of the body. This is what no rules in elocution, no practical training in the art of reading, no masters of the subject, however perfect, can bestow. It depends on something above and beyond all these, even on an innate endowment, a delicate refinement of taste, an ear for harmony, and a power of intonation of voice, with a soul that can drink into the very essence of the subject read or spoken,—all which are possessed by the individual as a special gift of nature. It is no doubt true that these, or at least the greater proportion of them, can be greatly improved by practice, and be largely benefitted by the elaborate rules of elocution; but there is underlying a substratum which raises and elevates the possessors far above what art can give. There are always a few such in every school, and every teacher should be qualified and prepared not only to guide and direct, but to embellish and adorn.

We have now shown what good reading or elocution really is. We have presented something like a standard, both as a touchstone of appeal and as a point to be steadily aimed at by teachers in the acquisition of the art of reading by their pupils. And here the question naturally arises, What means are to be employed for the purpose of arriving at such excellence? What are the respective functions of teacher and taught in the matter? This we hold to be a subject of

transcendent importance to every human being, whatever his rank, or condition, or subsequent career. It not only lies at the foundation of all intellectual development, but imparts a tone and character to the whole future education of the recipient.

1. *And the first thing here to be attended to is the attitude of the body and the exercise of the lingual organs.* Whatever the intellectual or moral exercise to be gone through, it is at all times befitting and advantageous that the body, and especially those parts more immediately concerned, should be in their right position, and if this is necessary in every department, it is specially so in reading. The body should be erect, the shoulders bent back, and the chest expanded. The book should be held in the hand easily and gracefully, and right opposite the mouth and eye instead of the breast, as it so often is, so that the voice may go outwards, and thereby come in contact directly with the ear of the listeners, rather than fall downwards to the ground. The children, when engaged in this exercise, should be made to stand, as this posture seems to give a much greater command of the voice. Here those who have been taught according to the phonic system have a great advantage over others, as their lingual organs have been rendered by exercise more flexible, and consequently more serviceable. But whether the class have been taught according to this system, it were well that the whole class, before commencing a reading exercise, should occasionally, at least, go through some lingual gymnastics, for the purpose of opening the mouth, of unlocking the jaws, separating the teeth and suppling the lips. The various elementary sounds may also be given, now and again, on the same principle as the scale or gamut is gone over, to impart greater command to the muscles in the instrumental music about to be practised. This is of vastly greater value than all the rules or exemplifications of the best and most accomplished artistic elocutionist. Indeed it is just because the accomplished elocutionist does not submit to the toil and drudgery of these elementary exercises, in the case of those who have not been properly trained in their juvenile years, that he generally effects so little real substantial good.

2. *Another means at the very threshold of the acquisition of this art, is the thorough comprehension of the thoughts conveyed in the lesson, or the understanding of the piece, both in its general scope and in its more minute details.*

It is impossible that any one ignorant of the import of the passage to be read, or even possessed of but a vague idea of its general drift or scope, to do any thing like justice to the reading exercise. The

very attempt to do so in the circumstances were injurious in the extreme, as it would inevitably lead to the dissociating of the idea from the words, familiarizing them with the sounds, without the slightest reflection upon the things signified. And here the question naturally arises, What are the means best fitted to stimulate the young to obtain a thorough knowledge of the import of the passage to be read, such a knowledge as would qualify them to read it with intelligence at least; and thus to train to high mental development? In answering this question, we would notice in the first place, that every pains should be taken by the teacher to impress the young under his charge with the idea that the acquisition of the art of reading is but a mean leading to a certain end, viz., a thorough acquaintance with the sentiments or thoughts communicated. For this purpose, as soon as they are able to read monosyllabic words, the young should be required to express in their own language the contents of the passage, to tell the meaning of what they have read. This may be done in two ways, either by a catechetical process of examination on the part of the teacher, or by an abstract outline of the passage read by the pupils themselves, clothed in their own diction, expressed in their own simple style. The latter is the most satisfactory way of accomplishing the object in view, inasmuch as it not only elicits the general contents of the passage, but the various details and relations. No small delusion oftentimes obtains in connection with catechetical examinations. After a close and apparently triumphant examination on the part of the teacher, with the most exact and prompt replies of the scholars, it not unfrequently occurs, that after all this process of questioning and answering, the scholars are in a great measure ignorant of the relations or connections subsisting amongst the various parts, and destitute of all associative links, the whole subject is ere long obliterated from their understanding and memory. It is clear, then, that the more effective way, is the abstract or abridgement given by the pupils, either in spoken or written language. This will compel them to attend, not only to the general scope of the piece, but to all the minutiae of detail, and thereby to have the whole inwoven into their mental structure. But whatever is the mode adopted, the teacher will see that the exercise is thoroughly graded, in adaptation to the age and attainments of the scholar, that the different epochs of the development—the perceptive, the recollective, and the reflective—are nicely watched and united. Commencing with the most initiatory department, the scholars, when they reach the most advanced, will be perfectly competent not only to present a full account of the leading features, with all their relations and

dependencies, but to discuss and criticise its merits and demerits, its faults and excellences, whether those refer to the coherence of the thought, or the purity of the style, or the embellishment of the language.

3. *Accentuation.* The pupils are now physically and mentally in the right position, and ready to commence the reading exercise. The first and most rudimental point to be here attended to, is, accentuation or the stress or force of the voice on a certain syllable in a word, or on a word in a phrase, or sentence, or clause. There are two accents, the primary or acute, and secondary or grave; the sign of the former being a small line from right to left, and of the latter from left to right. In every word of more than one syllable there is always one sounded with greater force or strength than another, and in words of several syllables, both primary and secondary accents are employed. This serves important purposes. It facilitates the pronunciation of the word, by clustering all the other syllables round it. It renders the sound much more melodious or euphonious. There does not appear to be any principle for attaching the accent to one syllable in preference to any other, except usage and the etymology of the word. But not only are the syllables accented, words in phrases are so too. Phrases or clauses are constantly occurring, in which, though the words are separately written, yet they are so closely connected in sense that they require to be treated in precisely the same manner; namely, to be combined as it were into one word, by pronouncing them closely together, and giving to one of them an accent, and sometimes to others of them secondary and tertiary accents. The following line, for example, should be read as if it consisted of four words, thus:

“’Tis the voice - of the sluggard - I heard him - complain.”

Now much of the perspicuity of reading consists in thus grouping together those words which are closely connected, and which present one object to the mind. And nothing creates greater confusion and indistinctness, than when a reader or speaker separates those words, which ought to be united, and joins together those which ought to be separated. Let any one read the above line differently grouped, and he will discover the injury that is done to the perspicuity of the language:

“’Tis the - voice of the - sluggard I - heard - him - complain.” Or

“’Tis the - voice of the - sluggard - I heard - him complain.”

These words, then, are distributed into groups, each forming a compound word to be read closely together, and having an accent on the principal word; so that when read it may be heard, not as a succession

of syllables or words, but as a succession of phrases, each containing a distinct idea within itself, and kept separate from the others.

But these compound words or phrases are not connected together with equal closeness. Some of them require to be pronounced more closely together than others, because they are more nearly connected together in sense. Thus (to keep by the same example) there ought manifestly to be a longer pause after the word *sluggard*, than after the words *voice* and *him*. To express this difference of connexion between different phrases, the two marks of pauses, already noticed, have been adopted: the double hyphen intimating the longer pause, and the single hyphen, the shorter pause. When one of the ordinary points intervenes, no additional mark is deemed necessary; because any of them implies a division between one phrase and another. Thus, in our example, these different connexions might be marked in this manner:

“ ’Tis the voice - of the sluggard -- I heard him - complain.”

“ ’Tis the voice - of the sluggard, I heard him - complain.”

Sometimes words are so closely connected, while yet two, or even more of them, may be words which ought to be distinctly marked in reading, that it is difficult to say whether they should be united together in one compound phrase with primary and secondary accents, or whether they should be regarded as separate phrases. In these cases, the principal words are accented, but without any mark of separation being placed between them.

This suggests another very important topic, namely, primary and secondary accents. In meeting the phrases into which language is distributed, it will be found that there is a great diversity among the accents, some being more strong and marked than others. Thus, in our example, the accent on the word *sluggard* is stronger than that on the word *voice*; and the accent on the word *complain* is stronger than that on the word *heard*. To mark these distinctions the acute and grave accents are employed; the acute to express the stronger, and the grave the weaker accent. Thus:

“ ’Tis the voice of the slug'gard -- I heard him com'plain.”

The whole line is thus divided into two compound phrases, by the double hyphen after the word *sluggard*, and the two parts of these compound phrases are separated, yet combined, by the marks of division after the words *voice* and *him*, and by a principal accent being given to the words *sluggard* and *complain*, and secondary accents to the words *voice* and *heard*.

One general principle of ascertaining where the accent lies, and which determines a great variety of cases, is, that whatever word limits

the phrase or renders it more specific, requires the primary accent; because the limitation is usually that which the speaker wishes, or finds it necessary most determinately to impress upon his auditors. Thus when an adjective qualifies a noun, the adjective carries the accent, and so with the adverb qualifying a verb—in compound numbers, the smaller numbers—the verb following its nominative—the objective case, except in pronouns, &c.

Though only two marks have been employed, yet, when the sentence requires that the successive accents should increase in intensity, this is indicated by two or more primaries or secondaries, following one another in succession. Two marks, therefore, have, upon the whole, been deemed sufficient; and the reader is left to make the more delicate variations from his own judgment and taste, in which, however, he will be materially assisted by attention to the principles above explained.

4. *Emphasis.* This is another important mean to be attended to in arriving at the elevated standard of good reading or elocution. Though this is substantially the same thing as accent, depending on the strength or force of the voice, it must not, as is not unfrequently the case, be confounded with it. It is regulated upon a different principle altogether. Emphasis always suggests some contrast; and any word or words may, when a contrast is intended to be suggested, become emphatic. Thus the phrase *on the table*, would, if no contrast were intended to be suggested, be accented on the syllable *ta* of the word *table*. And if the word *on* be accented, it immediately suggests the idea *on* as distinguished from *under*, not *under*, but *on* the table. The naturally accented syllable, however, may also be the emphatic one. Thus, if the word *table* be pronounced emphatically, *on the table*, it suggests the idea, not *on some other place*, not *on the chair*, nor *on the side-board*; but *on the table*. Or to take a well known example, the following question, if no contrast were intended, would be accented thus:—‘Do you *ride* to town to-day?’ But each of these words in this question may, by being pronounced emphatically, be made to suggest a contrast, thus:—Do *you* ride to town to-day—or send your servant? Do you *ride* to town to-day—or walk? Do you ride to *town* to-day—or to the country? Do you ride to town *to-day*—or to-morrow? Even the word *to*, made emphatic, would intimate, though obscurely, the idea of riding not quite to the town. Do you ride *to* town to-day—or only part of the way?

Emphasis, then, is very different from accent, although it is sometimes confounded with it; because, very frequently, emphasis is ex-

pressed like accent by a louder tone of voice. Emphasis is, however, not confined to this mode of expression. It may be expressed by almost any means that will single out the emphatic word from the rest of the sentence, and render it prominent and remarkable. It may be expressed by the tone, by the pitch of the voice, by increasing or decreasing the quantity, by pronouncing the emphatic word in a whisper, or by simply making a distinct pause before or after it, or both before and after it. These different modes, however, of expressing emphasis, produce very different effects; and they must be adapted to the nature of the emphasis that is intended to be expressed, for which it would be difficult to give any other rule, than to watch the natural intonations and modulations of the voice.

5. *Common and Rhetorical Pauses or Stops.* The common marks of punctuation are familiar to all, but, alas! in how many instances are these marks overlooked, hurriedly galloped over, as if they had no existence, or as if they were written for the purpose of being treated with indifference; all arising from the circumstance, that the attention of the children has never been seriously directed to them, their utility dwelt upon, and, above all, their minds have never been trained to their observance. So soon as the scholars are able to pronounce, with ease, monosyllabic words, attention should be given to the common marks of punctuation, the time of rest, or the duration of the pause that each should receive; and we know of no simpler mode than the old-fashioned practice of calculating these pauses by counting one, two, three, four, &c., the first, to stand for the comma, the second, for the semicolon. The principal thing here, however, to be attended to, is not the simple knowledge of one or other of these marks, or the time that each requires, but it is the training process, by which, in all time coming, they will pay as much respect to these marks as they do to a word, and pause and rest the lingual organs, as an essential part of good reading. Passing over these points, or treating them with heedless indifference, should not be tolerated for a moment.

But there are other pauses that demand our attention. These are designated the rhetorical, and are characterized by a single and double hyphen. These arise from the connexion subsisting among the words in a phrase or clause. These are much more closely connected in their sense, in one case than in another, and consequently they require to be grouped together and to be pronounced in accordance with their affinity. Thus, in our example, these different phrases might be marked in this manner:

“’Tis the voice - of the sluggard - - I heard him - complain.”

The one hyphen indicates the pause to be shorter than a comma, and the two about the same duration as the comma. There can scarcely be a better exercise than to familiarize young readers with this grouping process, and requiring them to give every possible attention to these pauses.

6. *Inflection or intonation of voice.* Accentuation and emphasis have a bearing only on the syllables of words, or on words themselves, and merely give force or energy or strength to the voice; but inflection or intonation has a reference to the raising or suiting the pitch of it. There is a pitch of voice which every person is accustomed to use in ordinary conversation, which forms a kind of keynote, and from which words or clauses requiring to be distinguished, either rise or fall. This pitch of voice is different in different individuals, but always the same in the same individual; and is one of those characteristics by which the voice of one individual is known from another. On that natural pitch of voice, the tones in spontaneous language are natural; but if any other pitch of voice be adopted in reading or reciting, it is difficult to retain the natural inflections of the voice, and the enunciation becomes in that case constrained and unnatural. It is of much importance, therefore, in reading or public speaking, to retain this natural pitch of voice, and to add to it the necessary degree of force without altering it. Further, it will be found that it is easy to rise to this natural pitch of voice from a lower pitch, but exceedingly difficult to come down to it, if a higher pitch has been once adopted. An obvious rule is suggested by this observation, for persons who have occasion to read or speak to large auditories, and are thus under the necessity of reading or speaking in a loud tone, namely, to commence at as low a pitch as they can render themselves audible; for, as they proceed, they will gradually rise to their natural pitch, and thus retain possession of their inflections: whereas, if they commence too high, they will find it scarcely possible to come down to their natural pitch, and their manner will be stiff and forced.

There is always a tendency to raise the tone of the voice along with the accent, or what amounts to the same thing, to raise the pitch along with the increase of force. The reason of this is, that increasing the force with which any word is pronounced, and raising the pitch of voice in which it is pronounced, are both used to express earnestness in calling the attention of the auditors to that word; and the louder the tone in which any word is enunciated, and the higher the pitch of voice that is used, the more earnestness is the speaker or reader felt to express.

Children should be taught to increase the force or loudness with which they read, without raising the pitch or tone of their voice, and the distinction between these two variations of the voice, namely, strength and elevation of tone, with the practice of giving force without raising the tone, should be one of the first lessons inculcated.

The rules relative to the rising and falling inflection in every sort of phrase or clause, will be found in every well written treatise on elocution. The observations we have made are exceedingly general.

The student, however, is not to expect, that attention to these observations, will make him an accomplished, graceful, attractive reader or speaker. The directions which have been given refer merely to the conveying of the sense of what is read distinctly and forcibly. But to read with taste and effect, much more is necessary than this. The reader must enter into the spirit of the author, and, while he raises or lowers the pitch of his voice, or gives force and emphasis to particular words, he must, at the same time, use such tones as are appropriate to the sentiment expressed. Some pieces require to be read in a bold, abrupt tone of voice, the words broken off from one another, like what is called staccato in music. Other pieces require that the words be pronounced smoothly, gliding into one another with scarcely any break or interruption. Some pieces require an expression of pleasure, others of grief or sympathy; some of satisfaction and approbation, others of anger and censure.

But these elegancies and delicacies of elocution cannot be taught by written or even oral directions. Nothing but a correct taste, cultivated by attention to the manner in which people of education and refinement express their sentiments and feelings, will enable any person to attain to them. Let it, however, be remembered, that in this, as in every other art, accuracy must be at the foundation of excellency. Just as the management of light and shade, or colour in a picture, is totally lost if the drawing be incorrect—if the rules of perspective, or the principles of anatomy, or of architecture are not attended to; so the boldest and most commanding enunciation, or the most moving pathos, or sweetest tones of voice, are but deformities if they are misapplied, or if the sense is not clearly and distinctly conveyed.

7. *Gesticulation with Recitation Exercises.* Though the tones of the voice constitute the main element both in the substantial and elegancies of elocution, there are various subordinate appendages which greatly enhance and ennoble these. There is, for example, the position of the body. If that position be easy and graceful, if the attitude of the speaker be erect and commanding, if the motions of the

upper and lower extremities be natural ; if, instead of preceding, they follow and give effect to the emotions of the mind, as indicated by the tones of the voice, they will add tenfold force and power to his oratory, or elocution. Then there are the features of the human face divine, all which are powerfully expressive of the emotions of the mind. The eye, the lips, the nostrils, the forehead, every feature, in fact, can be brought in to minister to the help of the speaker, and to give effect to the tones of the voice.

In order to all this, however, the body must be free and unfettered, so that it may assume any attitude or motion, or any expression of feature, that the nature of the subject may demand. This cannot be done if the mind is unacquainted with the thoughts communicated, or if the eye is kept steadily gazing upon the book, and the whole body chained, as it were, to one staid posture. Hence the necessity, if we would do justice to our elocution, of being not only well acquainted with the thoughts embodied in the passages, with the passions and emotions they call forth, but of having the language carefully committed to memory—in other words, making recitative elocutionary exercises part of the regular business of the school. These exercises should be commenced at an early period in the educational history of every child. So soon as the scholar has reached the Intermediate department, and capable of reading any ordinary piece of composition with fluency, he should, every week, be required to commit to memory a certain quantity either of the best poetry or prose adapted to his age or stage of progress. Such pieces may be inserted in the reading text-book at certain intervals, or they may be collected in a separate recitative book, and arranged for different grades of advancement. The selection should be made on three grounds ; 1st, The truthfulness and manliness of the thoughts ; 2nd, Those passages which furnish the finest illustrations of the emotions or passions of our nature, and 3rd. Those which present the best models in correctness and perspicuity of style, in refinement and elegance of composition, and of literary taste. The committing to memory such pieces would provide the minds of the rising generation, and that at a time the most impressive, with some of the noblest thoughts of the English language ; would impart a power and a chasteness in composition far greater than the most renowned treatise on rhetoric or belles-lettres, or all the rules that have been printed on the subject of elocution ; but above all, this exercise, though it may be only gone through once a fortnight, will enhance the whole of their elocutionary powers, and impart such a taste for good reading, that they will thereafter spurn whatever is indifferent or second-rate.

Indeed, the benefits arising from this exercise are manifold, and, therefore, every effort should be made to do ample justice to it. A regular time ought to be set apart for it. The teacher himself should master the passage, and, if possible, endeavour to recite it. The pupils might occasionally be allowed to select their own piece, and every thing done by which the whole school will see that it is no subordinate branch, but one of the highest, of surpassing importance.

Spelling. Of all the branches of a common school education, there is none more difficult, or demanding a larger amount of time and attention, than spelling. This is mainly owing to the anomalies of the English language,—anomalies arising from the deficiencies of the alphabet, on the one hand, and the structure of the language, on the other. The former gives birth to all the conventional arrangements necessary to supply the deficiency of letters and to represent the elementary sounds of the language. The latter, again, depending upon not less than five sources, and these sources, preserved in the orthography, necessarily beget a large number of irregularities. When we take these two points into account, it is not at all to be wondered at, that the subject before us is encompassed with such perplexities and difficulties. Indeed the best and most accurate scholars are scarcely aware of the time and labour they expended in the acquisition of this branch. It was begun at the most initiatory stage of their educational career, and continued, it might almost be said, till the cope-stone was put on the fabric. But what is spelling? It is exactly the opposite of reading. In reading or articulating words, we give a certain understood sound, to certain marks or characters which we call letters. In spelling we give or write down certain letters or characters indicative of certain sounds enunciated in our hearing. Before, then, we are in a right position to learn to spell, we must be able to read, or to know the letters that represent certain sounds. But more than this, we must know the meaning of the passage, and of every word in the passage. There are many words pronounced alike, but which are spelt differently, owing to their etymological derivation. For the same reason there are many words spelt alike, but whose sound or pronunciation differs. All these irregularities render it indispensable that we are not only capable of reading the passage, but that we thoroughly understand the import before we are in a position to spell the words. Besides, in giving out a spelling exercise, this points out the necessity of reading first the whole sentence or passage, that the class may understand the meaning to affix to every word, and, thereby, to decypher its orthography. And when should we commence this exercise?

As soon as the children are able to read the simplest monosyllabic words with ease and fluency; and, thereafter, they should proceed contemporaneously,—the reading and the spelling. This should be rigidly adhered to, if good and correct spelling is to form the rule, and not as it is in too many cases, the exception. No lesson in reading should be considered as received, until it is carefully and accurately spelt, as well as read.

The first and second reading books should thus form the first and second spelling books; and if these are consecutively arranged for reading, and thereby well adapted for the acquirement of this art, they are equally so for spelling. For giving greater prominence to this branch, a list of the new words in the chapter should appear at the beginning, with all the syllables divided and properly adjusted. The words should be pronounced and the meaning attached before the reading exercise is commenced. These words again presenting themselves in the reading exercise will become familiar friends, both in their orthography and meaning, and little or no difficulty will be experienced in the spelling.

And this exercise should be carried on analytically, that is, every sentence should be spelt just as the words occur, and not as is frequently done by the selection of the hard or more difficult words. This practice may be resorted to in the intellectual, but it should never be in the purely mechanical department. There are two ways in which this process may be carried on. It may be done, first, by the ear alone. The teacher, after reading the sentence, so that the class may know the meaning to attach to every word, will break it down and give it out in short phrases or clauses, according to the age or stage of advancement of class. The spelling may be given in various ways or forms. It may either be letter about, or syllable, or word, or clause, or sentence, or whatever mode may be found most desirable for best securing the attention or keeping alive the interest of all. Whatever mode is adopted, let there be no stereotyping, so sliding into a perfunctory way of engaging in this or in any one exercise. The other way referred to is by the eye alone. The youngest classes cannot of course be expected to write these sentences, but they may print them on their slates, and this will furnish profitable employment to these classes, giving them ease in the formation of the letters as well as rendering them expert in the spelling process. From the time taken up by such an exercise, it can be resorted to only occasionally until the children are able to write with some facility. It might be well to occupy the attention of those that can only print the letters,

to require them to do a certain amount of this work every day. They could copy either from the primer or the blackboard. This familiarizes the eye with the letters that enter into the composition of certain sounds, and so prepares them for more advanced exercises.

Whilst these and similar exercises are going on in spelling, the teacher should be ever and anon directing the attention of these initiatory classes to great general principles connected with orthography. Without at all attempting a systematic discussion of the rules of orthography, there are words occurring in almost every lesson, types or representations of certain classes of words, such as the termination *y* being changed into *i* before adding another vowel, etc. Attention should be called to those words of similar structure, and thus incidentally an immense amount of information imparted upon the general subject, and an admirable basis laid, when the class is ready to proceed to the systematic discussion of spelling. But there is a large number of words, and especially of anomalous words, that in the most extensive round of reading exercises, and in the greatest variety of books, cannot be supposed to occur, and yet with whose orthography the young that are passing out of the mechanical into the intellectual region, should be rendered familiar. And here the whole subject must be taken up and dealt with systematically, and that chiefly through the medium of spelling-books.

In more recent times, prejudices strong and rampant have arisen in connection with the whole matter of spelling-books. Some have denounced them in no measured terms, as a species of word-mongery, a succession of nonsense-columns. These spelling-books are accordingly entirely discarded in some schools. In others they are used, but not with much confidence in their utility, or much system in their use. Now, there cannot be the shadow of a doubt that by far the greater proportion of these spelling-books are meagre enough, constructed, many of them at least, more with the view of giving a knowledge of the etymology than of the orthography of the language. They are generally arranged according to the derivations of the words, and a synonymous word or two given by way of explaining their meaning. But the grand defect in connection with the whole subject of spelling-books, and what has rendered them so inoperative in the accomplishment of the object for which they were intended, has been the use, or rather the abuse, that has been made of them in connection with their teaching. Half a dozen or a dozen words were prescribed in succession, just as the school was dismissed, and the pupils, according to their grade, required to spell these and give synonymous words, as the lesson

of the following day. In three cases out of five, this lesson was never looked at, and in many cases was regarded by the scholars themselves as meaningless and absurd. The more thoughtful and pains-taking, who commit the words prescribed to memory, do so under the thorough conviction that their labour is all but thrown away; for they are persuaded that the lesson of to-day jostles out and supersedes that of yesterday, and so, at the conclusion, the whole appears as but the idle phantom of a vision, leaving scarcely a trace behind. But the abuse of a thing can never be adduced with any rationality as an argument against its legitimate use. And if this proverbial statement was ever advanced with truthfulness, it is so in the present instance. Spelling-books, when properly constructed and rightly used, are of essential service in a common school education, in the teaching of a correct and accurate style of spelling, without which no one is entitled to be regarded as educated. And how ought they to be constructed? Clearly in the way best fitted to bring out the anomalies and peculiarities of the language. The words should be classified, or grouped, not etymologically, but orthographically, and they should rise gradually from the simple to the more complex. Dr. Sullivan, in his Spelling-book Superseded, thus arranges all the words in the language which are liable to be misspelled:—1. Words similarly pronounced, but differently spelled. 2. Words similarly spelled, but differently pronounced and applied. 3. Words spelled and pronounced alike, but differing in signification. 4. Words liable to be misspelled either from the silence or unusual sound of one or more letters. 5. All words of unsettled orthography.

There are other classifications, such as the Manual of Pronunciation in the Scottish School Book Association Series. (See Schoolmaster, Vol. 2, and Edgeworth's Practical Education.)

But, however important a well constructed spelling book may be, it is of still greater importance that it be properly used. This has been the principal cause of the failures or the comparative inefficiency of spelling books, and till something effective is done to correct the method of using them, they will, under all circumstances, continue to be so. The first thing necessary for this purpose is to give the class, whatever its stage of progress, a correct idea of the meaning of the words of the lesson. This is to be done, not by the use of synonymous words or by explanatory remarks, but by the manufacture of sentences in which these words occur, with their appropriate meanings and in their right connections. The class should then be required to affix the meaning to the particular word, as far as they can gather it from the

context, from the meaning of the whole sentence, or the surrounding vocables. Their very effort to do this, will be worth more to them than all the explanations that could have been given, though they may not happen to hit on the real definite import of the terms in question. It is the province of the teacher to aid and guide them to a clear and correct understanding of the signification of each word, and, as soon as they have done so, to require them to make themselves new sentences, with the words given out inserted, and the whole carefully written, that the most superficial reader can comprehend their meaning. This latter part of the exercise may be prescribed for preparation at their desks or for the lesson of the night. Half-a-dozen or so of these words in spelling-books may be thus given out, and the class required to write sentences on slates or on slips of paper in which the words of the lesson occur, with their appropriate meaning. This will not only furnish them with a correct idea of the meaning and orthography, but it will vastly improve their compository powers and prepare them for more lengthened and advanced exercises. They are now so thoroughly familiar with the words prescribed, that they can spell them by the ear or write them with accuracy. Both the ear and eye are so well acquainted with them, that there is little or no probability of their ever being extruded from their memory.

But the grand thing to be aimed at in this branch of education, and which can alone make good spelling, is steady, consecutive practice, and, especially, practice in dictation exercises. It has been sometimes remarked that the individual who reads much, is, generally speaking, a good speller. This remark is evidently founded on the power of our visual organ. By constant reading, the eye becomes so accustomed to the form of every word and letter, that it discerns, as by instinct, the least flaw, whether it be in the shape of deficiency or redundancy, and the observer is ill at ease until it be corrected. This shows the innumerable advantages of practice in dictation. It may be well to have a short exercise with the juvenile department every day in oral spelling; but the grand thing to be attended to, and which will be productive of far greater and more lasting benefit, is the written exercise, whether from the spelling book, or occasionally from the reading text-book. These written exercises are often objected to because of the time they consume, and though they may not be shoved out altogether,—this the conscience of the pains-taking teacher will not submit to,—they are often slurred over or performed in so speedy, hasty, unprofitable manner, as to be productive of little or no benefit. Let the teacher show indifference or carelessness in any one exercise or

branch, and it will erewhile infect the whole school, not only in that, but in all others. But, after all, the time required is not so long as many seem to imagine. If the exercise is proceeded with systematically and consecutively, fifteen or twenty minutes a-day will achieve marvellous results, and amply compensate for the time spent. Two things are chiefly to be attended to, first, the giving out of the exercise, and secondly, the correction of the exercise. Here, with an ordinary class, all must be done simultaneously. Attention being called, slates cleaned, pencils ready, right position taken, the sentence is then read in a slow, distinct tone, that the class may understand the thoughts it embodies. It is then broken up into phrases or clauses until the whole is written, one of ordinary speed in writing being selected to make a sign when he has finished as a guide to the teacher to proceed. When the whole is given out, the class should be allowed two minutes or so to look it over, put in the marks of punctuation, and make such corrections as may be needed. But the most important part of the exercise is yet to come. We refer, of course, to the best and most expeditious way of correcting it. Much of the benefit to be derived springs from the method pursued here. If this is carelessly and slovenly gone about, and mistakes in consequence remain, the lesson, instead of doing good, will inflict positive injury. There are various ways pursued by teachers in correcting the exercise. In some cases the teacher takes the slate or copy book of the scholar at the head and examines it, and the one next hands his slate to the one at the top, and so onwards till all the slates are subjected to the scrutinizing inspection of their fellow students. This course seems to bear on its very face a suspicion of the trustworthiness of the whole class, a lack of confidence in their honour. This is morally wrong, and ought to be avoided. Every child should be treated with honour till he has proved himself, by some overt act, to be undeserving such treatment. Another mode is, that one of the pupils read aloud his exercise, and, as he proceeds, receive the corrections of his fellow students, the whole class in the meantime being busily engaged in correcting their exercises. Neither of these nor similar plans seem at all satisfactory. We recommend a simpler and a better course. In the case of a junior class the teacher may have the exercise correctly written on a movable blackboard, and the moment the prescribed exercise is finished present the board and require that each scholar make it his model. With a more advanced class, and much fewer misspelt words, the teacher may spell the exercise *viva voce*, and the pupils correct their exercises by his standard. In neither case should the scholars be allowed to write

the corrections by interlining, or by cancelling while brought side by side with the standard. They should be strictly required to mark their mistakes in figures, and immediately thereafter write in full the correct version at the bottom of the slate. This will impress on their minds, as indelibly as possible, the mistakes they have committed, that having seen and become familiar with the wrong, they may also see and become familiar with the right. These exercises, combined with transcribing from reading text-books or any other good author by the older pupils, if systematically pursued during the whole of the school days, will not fail to make good spellers, will at least render bad spelling the exception, and not as it is now, in too many instances, the rule. There is a large number of proper names of common occurrence, names of persons and places with whose orthography every scholar should be acquainted. These fall under no general rules, their orthography being generally regulated by the analogy of the language from which they may be derived. Perhaps the best way of becoming acquainted with the spelling of these words would be, to make out a list of the more common of these names and give them out as occasional exercises. In addition to all these more formal and systematic exercises, every lesson in composition should be considered one in spelling, and, with that intent, carefully examined and corrected. This will show to the pupils, that spelling is a matter of transcendent importance, that whatever may be the excellences of their performance in other respects, whatever be the amount of their attainments, defects in this department will mar and tarnish the whole; and this impression being deeply engraven upon their mind, will furnish a constant monitor and stimulant to them to be on their guard, and thus arrive at a condition of highest proficiency.

Grammar. As has already been stated, Grammar is the science of language, the character in which it is presented to us in all text-books on the subject. Grammar is not then the basis of language, but language of it; and he who first constructs the grammar of any language, must sit a humble student at its feet, analyze its parts, arrange them according to their resemblances or differences, thereby reducing the whole to a system, appropriately designated a grammar. He pursues, in short, the very same course that the naturalist does, who, instead of forming an ideal classification in his own mind, and endeavouring to make the objects of his favourite study harmonize therewith, proceeds at once to the analysis of these objects, and on the characteristics and innate differences finds his classification. A grammar, then, is neither more nor less than the science of lan-

guage, or language reduced to a systematic form. All the grammars that are put into the hands of the young are thus presented to us, synthetically or abstractly; and that, too, in the most complicated and elaborate form. At the very commencement of their acquaintance with this branch of education, they are plunged all at once into the definitions, the technicalities, and classifications of a science, and that, too, not of realities, but of signs; not of things or objects that can be seen or tasted, but of words, of symbols. The child of nine or ten years of age, or as soon as he is able to read with any measure of distinctness or fluency, is required to commit to memory these definitions and technical terms. Without the least preliminary explanations or preparations, he is launched on this *magnum mare* of doubt and uncertainty, or allowed to soar at will in this airy region of nominalism and symbology. The teacher holds on his course, prescribing one lesson after another to the class, perfectly indifferent whether he comes within the ken or intelligence of his scholars. It is in the order of the text-book, and this is enough. Need we be surprised that in a short time this work becomes altogether unpalatable and abhorrent, even to the most talented of the young? They can repeat, it may be, with great glibness and dexterity, a round of vocables or of technical terms, and they long, it may be, for the arrival of the period, when they shall be let loose from this state of bondage and confinement, when they shall see the practical application of this unmeaning jargon and of these mysterious vocables. Need we then wonder that grammar, as thus taught, is not only an unprofitable but a tiresome employment, and that instead of disciplining the mind, it only crams it with words without meaning, sentences without ideas, and rules without any practical utility. What then is to be done, that grammar may be taught in a rational, pleasant and profitable manner? This is an important question, and, in reply, we would at once say, that it ought to be taught after the same fashion, and on the same principle that the grammarian pursues when he constructs the first grammar of any language. The simplest sentence must be looked at, as it is, as it presents itself. Its parts must be exhibited and examined in themselves, and in their varied relations. In one word, it must be taught analytically and orally, and that just as the juvenile mind is capable of receiving it. In the short sentence, for example, 'The dog barks,' how easy it is for the teacher to put the question, What thing or object is here spoken of? *A dog*, say the children. And what is said or affirmed of the dog? *It barks*. Equally easy is it for the teacher to show that the word *dog* is but the name-word of the animal;

and that, instead of calling it the name-word, it is called, from the Latin derivative, a noun; and that the word *bark* is the more important of the two words, without which no thought would be communicated; and that in consequence it is the word in the sentence called the *verb*, derived from the Latin *verbum*, signifying a word. Having gone over the different classes of words with their subdivisions and inflexions, having analyzed the essential elements of sentences both in their meaning and arrangement, and having done all this, incidentally and orally, and by examples, in somewhat the same way as they have been taught to speak, there is now a good foundation laid for proceeding to the synthetical. The children have got a *terra cognita*, a known ground, to stand upon, and being made thoroughly acquainted with the realities of things, they are quite prepared to attend to their signs and representations in all their generalizations, abstractions, and technicalities. A text-book may now be called in and used with the greatest possible benefit. Every step of progress is firm and stable. Grammar is no longer the vague capricious thing it once was; it is beheld in all its living embodiment, and in all its symmetrical forms, as the expression of the mind's laws and operations, and as certain and invariable as these laws and operations themselves. Whilst these grand departments are going on, every means and opportunity should be taken to reduce the whole to practice, both in the shape of spoken language and written composition. This is another of the grand defects connected with the teaching of grammar. There is abundance of the theory, but by far too little of the application. It is no uncommon thing to hear, both on the part of teachers and taught, the most outrageous violations of all order and rule, and these, it may be, at the very time when the theoretic bearing on the point is being discussed. Attention should be paid at the very starting of the educational career, with both these departments, that the spoken and written language be correct in grammar and elegant in style, whether that be carried on in a more colloquial or formal manner. Both of these should be wound up with logic on the one hand and rhetoric on the other, the former having to do with consecutiveness of thought, and the latter with the embellishment of language.

The whole subject may be thus regarded in a fourfold aspect;—
1. Analytical Grammar; 2. Synthetical Grammar; 3. Practical Grammar; 4. Logic and Rhetoric. And to each of these, we would now, as briefly as possible, direct attention.

Analytical Grammar. As has already been stated, this initiatory department is carried on orally, and by example, pretty much in the

same way as in the acquisition of spoken language. It may be divided into four distinct stages, the first embracing the classification of words or drawing the distinction between the eight sorts of words and the different parts of a simple sentence, viz., the subject and predicate; the second, pointing out the distinction that obtains among words of the same class, and between a simple and compound sentence; the third, the changes that words undergo from the place they hold in the sentence, usually designated the inflexion of words, embracing only the five declinable parts of speech, along with the subdivision of compound sentences into subordinate and co-ordinate clauses; and the fourth, presenting the five common rules of syntax, which originate in the fundamental relations of all language, as well as the general principles of punctuation.

Every word in italics is supposed to be filled in by the pupils. The three dots . . . denote an ellipsis.

Stage 1. Oral lessons, distinguishing the different parts of speech.

Noun fully pictured out with class.

The teacher, taking up a book or any other object that may be near him, asks the little children, What is this? *A book.* (T. writes on board.) Is that the thing or object itself? *No.* What then? *It is the name of it.* All objects or things have . . . *names?* Why? *To distinguish them from one another.* And the names differ from one another . . . *As the objects or things.* Give some examples. *Hat, Desk, Table, Dog, Sun, &c.* And you call all these . . . *Words.* And what end do they serve? *They give the names of these objects.* They are all therefore . . . *Name-words.* Did you ever hear of the Latins? *Yes.* Where did they live? . . . As you don't know this, however I will tell you. (The teacher here takes the map and shows where Italy and Rome are situated.) What was the word in their language corresponding with name in ours? . . . Well, I will tell you, it was *nomen.* And that word in English is called . . . Can none of you tell me? . . . Well, it is noun. And hence all these words are called . . . *nouns.* Give me then some more name-words, that is . . . *Nouns.* Look around and tell me all the nouns you can see or think of. (Children here give a long list.) Find out all the nouns in lesson and print them on . . . *slate,* and show them to me when I call you. An additional list of nouns is given every day for a fortnight or more, even until they become familiar at a glance with this part of speech.

Verb. Sketch of oral lesson. As no sentence can be formed without the verb, it should be pictured out immediately after the noun. The teacher should ask the class to write down a list of nouns and to read them—Dog, Sheep, Cat, Cow, &c. He then asks what each of these animals does, when their appropriate actions are mentioned by the children. He should then enquire whether these animals or their actions are of the greater importance. The children are uncertain on this point, when the teacher works it out and satisfies them that what they do is greater than what they are. Hence the superior value of the word that indicates the action. Teacher shows that the Latins were of the same opinion, and, therefore, they called the word that points out the action *verbum,* which means 'the word.'

After the scholars are well acquainted with the verb, the teacher will proceed to paint the difference between the subject and predicate of a sentence, e. g., The dog barks. The object presented to the mind is the subject of sentence,

and what is said, or affirmed, or predicated regarding it, is called the predicate of sentence.

Adjective. Sketch of oral lesson. The teacher here asks the class to read out the nouns in the second paragraph of the lesson, and the following list is given:—house, table, boy, girl, rose, hill, &c. The teacher now enquires how he is to find out what kind of a house, or table, or boy, or rose it is, and the children will at once reply that it is by putting new or old before house, large or small, round or square before table, bad or good before boy. All these words tell something about or belonging to the noun, or express some quality, and this is done by putting or throwing another word to the noun. Here show what the Latin word is that means to put to, to append, to throw to, viz., *adjuceo, adjectus*, and hence *adjective*, adjective. All words then that express some quality or property of the noun are called adjectives.

It may be well here also to picture out *a*, and *an*, and *the*—now generally ranking as adjectives and not as articles. Picture out the difference between house, *a* house, and *the* house—*a* and *the* limiting the meaning of the word house, the former indefinite and the latter definite.

Adverb. Sketch of oral lesson. Here the teacher may ask the class to read out the first three sentences of the lesson. 'The fire burns brightly.' 'The child is exceedingly dear to his mother.' 'The birds fly very swiftly.' Taking up the first sentence enquire how the fire is burning, and here bring out the idea that 'brightly' just does to the verb what the adjective to the noun, and hence the designation, Adverb. Show that it is also appended to the adjective. 'The child is exceedingly dear to his mother,' and also to other adverbs. 'The birds fly very swiftly.' But it is to the verbs that this class of words is principally joined, and hence the name. Here the teacher instructs his scholars to go to their seats and write on slate all the adverbs in a certain given space.

Pronoun. Sketch of oral lesson. The teacher selects the following passage and makes the scholars read it:—'John has got his lessons well; they are hard; but he is a boy, who is sure to improve, as he is very industrious.' Now the teacher enquires what the word *his* before lessons refers to—and he, who, he. Having obtained this, he then bids the class read the sentence with the words complete, as John reads John's lessons, &c. He now contrasts the two forms, the one and the other, showing how much neater and more convenient the one is than the other. Having pointed out that fact, that these little words stand in the room of the noun, the teacher will next train the class to make the word, by asking them what prefix signifies—in the room or place of—and then to add that prefix to noun, which gives the word in the room of or in the place of the noun, viz., pronoun.

Preposition. Sketch of oral lesson. The teacher pictures out the book *on* and *under* the table, and then asks the pupils to write the sentences, showing the relation of the book and table. The book is *on* the table. The book is *under* the table. Show the impropriety of saying the book is the table *on*, or the book is the table *under*, and that because the *on* and *under* would not be in their right position, that being before the noun to which they stand related. Hence it would not do to call it post-position, but preposition. Write out on slate all the prepositions in your lesson.

Conjunction. Sketch of oral lesson. Here the teacher pictures out the uniting of two roads, from opposite quarters, and shows that the place of meeting is called the 'junction.' Then show two clauses separate, e. g., Jane came first, John came a little after; enquire what the word of junction is, and fill it in. And to confirm this junction all the more put 'con' as a prefix, and this gives 'conjunction' or the act of conjoining words or clauses.

Interjection. Sketch of oral lesson. The teacher shows that all animals have some peculiar sound to express any sudden feeling. The dog barks

and frisks about when happy, and gives a loud moaning howl when unhappy. Men or boys have also a sound by which they express their sorrow or joy. So there are words in all languages that give expression to these emotions, and these are simply thrown between other words of the sentence. Oh! how glad we shall be! Alas! my son is dead. Here picture out the verb to throw,—*jacio*, the act of throwing—*jactus*, the act of throwing between—inter-ject-ion—interjection.

We have now distinguished the eight sorts of words, viz., the noun, or the name-word; the verb, or that which is said or affirmed respecting the noun; the adjective, or something belonging to the noun; the adverb, or something belonging to the verb; the pronoun, or the word that serves the same purpose as the noun, or which is used in its stead; the preposition, or the word that connects words and points out their relation; the conjunction, or the word used to connect words and sentences; the interjection, or the word that expresses some sudden emotion of joy or grief. We have also seen what constitute the two essential parts of a sentence, the subject and predicate.

We have just shown that there are eight distinct classes of words, all differing from one another, because performing different offices. But these classes of words differ among themselves as well as from one another, there being three kinds of nouns, two of verbs, two of adjectives, &c. This introduces us to another subdivision or stage in which we are to trace the distinction that obtains among words of the same class. Here we shall pursue the same course, picturing out in detail the different sorts of nouns, and then presenting a brief sketch of the others.

Stage 2. Oral lesson on the different sorts of nouns, or how to distinguish one class of nouns from another.

Will you be so kind as read the second sentence in your lesson to-day? *John is a good and diligent boy, but Jane is noted for idleness.* You can all tell me how many nouns there are in this sentence. . . . *Four, viz., John, boy, Jane, idleness.* Are these four nouns all alike or are they all different? *The two nouns, John and Jane, are pretty much alike; they are particular names given to particular persons.* Quite right; but do you know what they are called? . . . Well, I am not surprised that you are not sure about the answer to this question. You can tell me what a man, who owns many houses or fields, is said to be . . . *Of great possessions or of great wealth.* Yes, he is said to have . . . *a large property.* All these things are . . . *his property; they properly . . . belong to him.* And hence, John and Jane are called . . . *proper nouns.* Well, but are there not a great many Johns' and Janes' in the world? *I know several Johns,* says Peter Brown. You see then that John is never used for a class, but only to point out . . . *a single person at a time.* They are always employed therefore . . . *as proper nouns.* Do you see anything peculiar in the first letter of these words? *Both Jane and John begin with capitals.* Yes, all proper names begin with . . . *large letters.* See that you always remember this. All proper names, whenever they occur, begin with . . . *capitals.* Go now to your seats and find out all the proper nouns in the next two pages, count them

carefully, and write down six. And what are you to be sure to do . . . *Make the first letter a capital.*

Afternoon lesson. Noun continued. Show me your list of proper nouns? I see you have got the Milton's, and the Shakspeare's, and the George's, and the Raphael's all . . . *in capitals.* Some may consider these common nouns because they belong to a class. I consider them as border words (here draw a picture) in a kind of transition state. In that case they are quite correct—at least they are more proper than otherwise. Give me the next noun? *Boy.* Who is the boy here referred to? *It is John.* Give the names of some other boys? *Alexander, Thomas, James, Peter.* Yes, I dare say you could give me a great many more names. You would call every one of them . . . *a boy,* that is, the word *boy* would be . . . *common to them all.* And hence a name given in common to every thing of the same kind is called . . . *a common noun.* There are a great many nouns belonging to this class. . . . *Yes, a great many.* Suppose you saw two, or three, or four, or five things exactly alike, would not you give them separate names. *No: but a name common to them all.* Are there then a great many objects or things alike in the world? *Yes.* And hence there are a great number of . . . *common nouns.* Can you mention any of them . . . I see you don't know them, I will tell you a few. The words, *lion, house,* will apply to each individual lion or house, and there are many nouns which can be used to designate any one of which a class consists, and hence are called . . . *class nouns.* Sometimes a number of individuals are united together to represent one whole, such as . . . *school, company, flock.* These are called . . . *collective.* Others are called diminutive because they express some diminution of . . . *the original.* And others compound, because they are formed by the union . . . *of two or more words, &c.*

Now tell me the third noun of the sentence? *Idleness.* This is neither a proper nor . . . *a common noun,* can you tell me what kind it is . . . Well, I do not wonder that you are silent here. Now tell me, when you look at the snow, or the grass, or the girl at school, whether you see any thing besides these objects? *Yes, we see both the white colour of the snow, and the green colour of the grass and the idle conduct of the girls.* Now you could take these colours away from the objects to which . . . *they belong,* and reflect upon them . . . *as separate.* You would then give them distinct names, such as . . . *whiteness, greenness.* And could you take the quality away from the girls and look at it in itself? *Yes.* And you would call it . . . *Idleness.* What would you call all such nouns? *Giving a separate existence to qualities residing in objects or things.* But I want one word to express all this. Would you like to know what it is? *Yes.* Well, it is abstract. *Tract* is . . . *a Latin root,* and signifies . . . *taken away,* and the prefix *abs.* signifies . . . *from*—taken away from . . . *nouns* or . . . *abstract nouns.* Do you think there are any other varieties of abstract nouns besides the names of qualities . . . Well, I will tell you. There are names of actions, such as participial or verbal nouns, and names of states or conditions, such as *sickness, &c.* Now go to your seats and find out, in the three next pages of your text-book, all the examples you can of these three sorts of nouns . . . *Proper, Common and Abstract.*

Verbs. Sketch of oral lesson. The teacher here invites the class to read the following sentence. "*William moved the table and the horses ran,*" and to point out the difference between the two verbs contained, the one having an object after it and the other having none. Here picture out the difference in meaning by the difference in form; in the one case, the action passes over from William to the table; and in the other, it is confined to the horses. This makes a material difference in reference to the action performed, and there must be words manufactured to give expression thereto. Paint the

action by the transit of goods, a passing on from one place to another. Cause the pupils to form an adjective from transit by affixing the Postfix *ive*, and this will give the word required, viz., the act of passing over from one object to another. The opposite class of verbs do not do this, and all that is here required is to prefix the negative to the adjective—intransitive

But the transitive verb assumes two forms, the active and passive voice; the former, when we wish to give special prominence to the doer and the action, the latter when we wish to give prominence to the object and the manner in which it is affected, which is done by the substantive verb *to be*, and the complete or past participle. Here give a picture of these two voices by the following sentence: 'Cæsar conquered Britain.' 'Britain was conquered by Cæsar.' In each sentence the verb is alike active, but the nominative is active in the first and passive in the second.

The intransitive has also subdivisions, but these are too refined to be introduced here.

Verbs are also divided with respect to their form into three classes,—regular, irregular and defective.

The regular are those that form their past tense and past participle by adding *d* or *ed* to the present, and the irregular those that observe no such form. Here give sentences where the words *love* and *favour*, or *see* and *go* occur, and picture out this difference. The regular form is the modern mode, and is called 'the weak.' The irregular is the ancient mode, is evidently of Saxon origin, and is denominated 'the strong.' The tendency of the present day is to diminish the irregular. All new words take the regular form. The defective verbs, subdivided into principal and auxiliary, impersonal and reflective, may be all treated in the same way.

Adjective. Sketch of oral lesson. Here the teacher requires the class to read the following sentence: "*He bought a white, long and pleasant robe, for which he paid twenty dollars; some say it was cheap, and several think it was too much. John thinks that this one is more beautiful than that one.*" Show that there are three sorts of adjectives here; those that express quality, or the attributive, *white, long, pleasant, cheap*; those that express quantity or the numeral, *twenty, some, much, several*; those that express distinction, viz., *this and that*. These, at a more advanced period, may be again subdivided. Those that refer to quality may be either sensible, comparative, rational, (paint all these). Those that refer to quantity may be either definite, indefinite or distributive. Those that refer to distinction are *a, or the, this or that*.

Adverb. Sketch of oral lesson. Cause the children to read the third sentence of the recited lesson. "*He arrived yesterday long before the time fixed, as he is but seldom late,*" and show that all the adverbs in this sentence refer to time, in one sense or another; *yesterday*, to a point of time; *long*, to duration of time; and *seldom*, to repetition of time. Again, ask the children to read the next sentence:—"The messengers arrived there and had not proceeded far up at two o'clock." Here show that the adverbs in this sentence are all of place; *there*, rest in a place; *far upwards*, motion to or from a place. And so onward with the remainder of the adverbs, picturing them out as you proceed.

Pronoun. Sketch of oral lesson. Cause the class to read the first sentence of their lesson. "*I saw three of the men who came from town yesterday. What did they say concerning the fire?*" The class are all competent to pick out the pronouns in this sentence; *I, who* and *what*. Picture out what *I* refers to, viz., to the person who speaks; and hence it is called the personal pronoun; then what *who* relates to, viz., to the three men, and is called the relative, not merely because it is a substitute for the three men, but because it joins or relates one sentence to another. The other pronoun asks a ques-

tion, What did they say concerning the fire? Picture out the Latin word that implies to ask a question, and show that the word 'interrogative' is the appellation given to that sort of pronoun. Thus there are three simple pronouns, the personal, relative and interrogative. But there are also compound ones. Cause the scholars to read the following sentence:—"I, myself, sealed my own condemnation; whoever cancels it, I care not." Here we have the compound, personal, possessive and relative, all imparting emphasis and extent of meaning to the simple.

Prepositions. Sketch of oral lesson. Read the first sentence of the third paragraph of your lesson. "He laid the book on the table in the morning before 7 o'clock, and this he did with all his heart from gratitude, and against all the remonstrances of his friends." After a selection of all the prepositions in this sentence, show how they ought to be classified by the relations they indicate. 'On the table,' the relation of place; 'in the morning, before 7 o'clock,' the relation of time; 'with all his heart,' the agent, or means, or instrument of an action; 'from gratitude,' the cause or purpose of an action; 'against all the remonstrances of his friends,' a great variety of relations not easily classified. Hence, we have prepositions pointing out the relations of place, time, the agent or means, the cause or purpose of an action. Besides these, there is a large number of prepositions, implying relations not easily classified.

Conjunctions. Sketch of oral lesson. Read your next two sentences. "William was ambitious and England was enslaved. Alexander was brave or Greece was ruined." Here picture out what the conjunction *and* does in the first sentence; that it not only joins two sentences but unites their meaning. And because it thus ratifies the union or makes it doubly strong, it is called 'copulative,'—*copula* signifying a link or connection, and, hence, the adjective, copulative. Again, picture out what the conjunction does in the second sentence, joining the two sentences, but disuniting their meaning or putting them in contrast, and, hence, called 'disjunctive conjunction.' Both these are subdivided, the 'copulative,' into copulative connective and copulative continuative; the 'disjunctive,' into disjunctive distributive and disjunctive adversative. Take sentences where these conjunctions occur and picture out the actualities, and then show their application to the signs.

Interjection. Sketch of oral lesson. Here give sentences, embracing the different interjections, all expressive of the various emotions of the mind, of joy and sorrow, of approbation, of surprise, &c., and picture them out; first the reality, and then the signs or expressions.

We have now finished the second stage, pointing out the distinctions that obtain among words of the same class. These subdivisions may be more or less minute according to circumstances, according to the age and intelligence of the pupils, according to the attainments of the pupils in reference to the eight parts of speech.

During the whole time that the first and second stages are carried on, the analysis of simple sentences, with the enlargement of subject and predicate, should be constantly attended to. One example, at least, from the English exercise recited, should be carefully analysed. Here, too, the expansions will be more or less minute, according to the qualifications of the scholars. At the end of the second stage, the distinction may be drawn between simple and compound sentences, comprehending by the latter those sentences that have both subordi-

nate and co-ordinate clauses. A month may be very advantageously devoted to this work before the commencement of third stage.

Stage 3. This stage indicates the changes which words undergo from the relation in which they stand to one another in the same sentence. It only extends to the five declinable parts of speech, as they are called, the noun, the verb, the adjective, adverb, and pronoun. It is an admirable arrangement by which social intercourse or speech may be carried on, without the needless multiplication of vocables.

Noun. Oral lesson on the number, gender and case of nouns in detail. What do I hold in my hand? *A stone.* What now? *Stones.* What have I now? *A book.* And what now? *Books.* Please tell me the difference when you see me holding one stone or a number of stones . . . *You put an s to the one so as to express a number.* Now can you give a list in which you do the same thing. (Children cry out *hats, tables, chairs, desks, &c.*) I shall write a few of these upon the blackboard. (Here the teacher writes a long list and then asks again the difference.) The first list . . . means just one, and the second . . . more than one. Give me any other word that expresses one? *Single.* And from that comes another adjective—do you know what it is? . . . Well, I'll tell you. Singular. Stone then you call . . . *Singular number.* Could you give me an adjective to express the word that signifies more than one?—you know the sign of more . . . *Plus.* You can tell me a word that comes from that . . . *Plural.* When then you wish to express one, you call it . . . *Singular.* And more than one . . . *Plural.* Do you think the singular is formed from the plural or the plural from the singular? *The plural from the singular.* In what way . . . *By adding an s.* Now make me a common rule for the formation of the plural? *The plural is formed from the singular by adding an s.* Do you think you can form every plural number in this way? . . . You are not very sure. Well take your slates and write the following nouns:—Gas, fish, inch, box, hero,—and now give the plural of all these nouns, formed in accordance with your rule? *Gass, &c.* Show your slates. All right, and now pronounce these. (Children here try but cannot sound them so as to show that they are plural). Give me the plural. *Gases, fishes, &c.* You put in an e in addition to the s, for what reason? *Because though they may show the plural number in the written form, they cannot be pronounced without an e, and it is inserted.* Do you know any other exceptions? . . . Write loaf, knife, leaf, half, calf, wife—and form their plural. *Loafs, knives, leafs, halves, calfs, wifes.* What think you of these plurals? *They are very hard to pronounce.* Yes—they are very grating—wanting euphony. Let me hear how you would sound them to be more melodious? *Loaves, knives, &c.* This is by . . . *Changing the f into ve before adding the s.* Then there are reasons, important reasons, for all these exceptions . . . *Yes.* There is just another exceptional rule relative to the plural of nouns, can you tell me what that is? . . . Well, I'll give you a list of nouns and you will tell me the plural. Fly, story, duty, glory, bounty, lady . . . *Flies, stories, &c.* Spell these plurals and then make a rule. Besides these general exceptions, there are several irregular words of Saxon origin and other peculiarities which may be given on a future occasion.

Gender of nouns. Please read the first sentence in the lesson you have just recited. *The lion and the lioness were in the den; but she, heroine though she was, was afraid to go near.* Now there are two words in this sentence nearly alike, and yet different, tell me what these words are, in what they differ, and the cause thereof? *Lion, lioness, the second address*

to the first, and this is one of the ways by which the distinction of sex is expressed. Give me a list of all the nouns you remember that take the same form for the purpose of . . . Making the same distinction; those that have *ess* to distinguish the female from the male,—Duke—Duchess, Tiger—Tigress, Count—Countess, &c. Yes, that is enough at present of this sort. You can tell me any other word in the sentence . . . *Heroine*. That is the female, and the male is . . . *hero*. Any others? Sometimes by using different words, such as, boy—girl, husband—wife, ox or steer and heifer. Any others? Sometimes by prefixing another word—man-servant, maid-servant, he-goat, she-goat, cock-sparrow, hen-sparrow. Now you have told me that this difference points out whether the word is . . . male or female, you can give one word to express all this . . . Well, it is the word 'gender,' which is of Latin origin, derived from the word *genus*, signifying a race. Now tell me how many sexes or genders there are? Just two, male and female. What are the names usually given to these sexes or genders? . . . You don't know. The Latin word that signifies a male is, *mas*, and a female, *femina*, and from these we get 'masculine' and 'feminine,' and these are the words used to express the two . . . Sexes or genders. The names given to those words that are neither masculine nor feminine, such as . . . all things without life, or inanimate objects, you may call them neither masculine nor feminine. But this is a too . . .—round-a-bout expression. Yes, and there is a Latin word, *neuter*, that signifies 'neither,' which is the term here applied. Repeat now all the genders? Masculine, Feminine, and Neuter. Go and examine the last two pages you have read, and count the number of nouns of each gender.

Case. Please read the first sentence of the second paragraph of this day's lesson . . . *William has taken his father's book from the library*. Some of you can tell me the relation in which the proper noun *William* occupies in this sentence . . . *It stands in the relation of subject to the predicate 'has taken.'* This, then, is its . . . state or condition from the place it holds in the sentence. This is called in grammar . . . the case, from the Latin word *casus*—fallen, or the state into which a noun falls . . . with a reference to other words in the sentence. How many cases have English nouns? Just three; the one called,—the naming or nominative case—the possessive, which indicates the possessor of something; and the other is the objective, that is the case which is the object of the verb or preposition. You can tell me now the three cases in English language . . . *Nominative, Possessive, and Objective*. *William*, then, you say, is . . . the nominative case. What case is *book*? *It is the one which is the object of the verb 'has taken,' the objective case*. Does it differ in form from nominative? *No, it is exactly the same*. Then, how do you distinguish it? *From the relation it holds in sentence, as here, where it is so clearly part of predicate or the object of the verb*. What case is *father's*? *It points out the relation of book and father, that the book is the possession of the father, or . . . belonging to, and therefore it is called . . . the possessive case*. How is it distinguished from any other case, in what way? *By adding an s and putting an inverted comma before it, called . . . You don't know*. It is called an apostrophe. When the noun is in the plural and end's in s, how is it then distinguished? *Just by the insertion of an apostrophe after the s*.

Sketch of oral lesson on verb. The first thing that should here be done by the trainer, is to picture out the distinction that obtains between the declension of a noun and the conjugation of a verb. Here much assistance will be got from the derivation of the words, respectively—Declension from *de* and *clino*, pointing out the bendings or changes which the nouns or pronouns undergo.—Conjugation—from *conjugo*—to unite, to join. In grammar, meaning the connecting of all the parts or inflections of a verb into the seve-

ral voices, moods, tenses, persons, number. Here, too, it may be well to point out the reason why the verb undergoes more changes than another part of speech, even because of the great variety of conditions in which actions may be viewed. 1st. In relation to the doer, giving birth to the active and passive voice. 2nd. In relation to the manner or mode in which the action is performed, and which we may consider either as actual reality, or as a possibility, or as a command, or as a wish, or, generally, as an action, wholly undefined. 3rd. In relation to the time, which may be either past, present or future with their modifications, and hence the tenses. 4th. In relation to the person, and whether singular or plural. Short oral lessons may be given on each of these. On the Voice; the Moods—Indicative, Subjunctive, Potential, Imperative and Infinitive; the Tenses—Present, Past and Future, with the different modifications; the Persons and Numbers.

Sketch of oral lesson on simple and compound verbs. Here draw the distinction between a simple and compound verb. The former has two conjugations, the regular and irregular verb, consisting of Indicative mood, present and past tense—Imperative mood—Infinitive—Participles. The latter presents a complete form of the English verb, made up of the ordinary, progressive and emphatic. Here picture out the difference between a Principal and Auxiliary, and present an exemplification—the latter the auxiliaries of voice, viz., the verb *to be* joined to the complete participle of any transitive verb—the auxiliaries of mood, *may, can* and *must*, for the Potential or Optative mood, and *will* and *shall* for the Conditional or Subjunctive mood—the auxiliaries of tense are *have, shall* and *will*, the perfect and pluperfect, the future and future perfect. Auxiliary of Emphasis and Interrogation, *do*. Through the help of these auxiliaries make the class construct a complete form of verb for themselves.

Sketch of oral lesson on adjective. The teacher, with three rods, draws out from his pupils the fact that these rods are all long, places two together and elicits the idea that the one is shorter or the other is longer, and then puts them all together and shows the one to be longest of all, and one the shortest of all. Or he may take a number of rings, works from his pupils that they are all beautiful, that one is more beautiful or less beautiful, and that a third or fourth is the most beautiful, or the least beautiful. The teacher writes these two forms upon the blackboard, and from the difference in form, he trains out the difference in meaning. Having found out that the process is one of comparison, he then trains his pupils to the conclusion that adjectives not only express the quality of nouns, but a higher or lower degree thereof. Then he will picture out the nomenclature of the degrees, the comparative and the superlative, pointing out the irregular and defective degrees, and invariable adjectives as they occur.

Adverbs. Sketch of oral lesson. A sentence, such as the following, occurs in the lesson prepared: "*James reads distinctly; he is a very diligent boy, and prepares his lessons most carefully. I run fast; he runs faster; he runs fastest. Jane sings more beautifully than Elizabeth; and Sarah the most beautifully of all.*" Here picture out the force and beauty of the adverb, in expressing the action more clearly, and, especially, in imparting greater definiteness to the same. Show also that the adverb is, generally speaking, derived from the adjective, and that it is susceptible of degrees of comparison.

Pronoun. Sketch of oral lesson. Picture out the idea that as pronouns are purely the substitutes of nouns, they undergo inflexion in number, gender and case. Show the changes which pronouns undergo in all these respects, these being far greater than in nouns themselves. A superficial examination of the personal and relative pronouns will show what these changes are.

Here end our examples of oral lessons on analytical grammar. During the Inflection stage, or the period when this process is going

on, there are exercises every day, or, at least, every alternate day, on the analysis of sentences, discussing principally the difference between simple and compound sentences. When the inflection is well nigh finished, it may be advantageous to advance a step in this work, by picturing out the difference between the compound subordinate and the compound co-ordinate sentences, with the bond of relations and connectives of both. We vastly prefer this division of the analysis of sentences to that of Morrell. 1. Simple; 2. Compound; 3. Subordinate and co-ordinate. The terms complex and compound are too nearly allied, all but synonymous, to be employed as characteristic of different kinds of compound sentences, at least with young children. Picture out all this from the sentences as they occur.

Stage 4. But there is another relation of words to one another in a sentence, besides that on which their import or meaning depends, we refer of course to the collocation or disposition of words in a sentence, whether these agree with or govern one another. Here there should be a pictorial representation on the difference between concord and government, and exemplifications thereof given as they occur in the lessons that are read. Some of these relations are fundamental and belong to all languages, and others are peculiar or belong to special languages. Here pictorial lessons should be given on the predicate relation between the nominative and its verb—on the objective relation, or the relation between the verb and its object—on the attributive relation, or that which subsists between the adjective and noun—the adverbial relation, or the modification of the meaning of any words which convey the idea of an action or attribute either verb, adverb or adjective—and the conjunctive relation, or that which unites together notions or assertions which hold the same relation in any given sentence.

In the picturing out of these relations, the pupils should be required to make rules for themselves. The special rules of syntax should be reserved for synthetical grammar.

Punctuation. Here picture out punctuation under the similitude of a house. Let orthography represent the frame-work and foundation,—Etymology, the stones or brick, and mortar, and lumber,—Construction, or grammatical analysis, placing all the materials together into groups for building,—Arrangement, or collocation of words into concord and government, giving rules for putting them together to form the house, and Punctuation, dividing the house into separate apartments, thereby making it depend upon the connection of the thoughts in a passage. When that connection is unusually close, such as subsists between the subject, predicate, object, and simple adjuncts of a sentence,

there is no necessity for any partition walls or points. In compound sentences, composed of principal clause and a number of dependent clauses, as well as in all contracted sentences, the smallest division or comma should be placed. In compound sentences, when there is no dependence except a common appropriation, such as a suite of bedrooms, then a larger partition is erected—a semi-colon is placed. When there is a number of apartments, dependent upon one common source, whether consisting of one or more called apodosis, a larger division is made—a colon is here placed. When there is no connection between the apartments, or between the thoughts, the thickest wall is erected—the period is inserted.

We have now presented a complete outline of the different stages of analytical grammar, but before we leave the subject, we give the following tabular representation :—

Stage 1. Classification of words, or how to distinguish the different classes of words. The number is eight, and it is complete. Two—the noun and pronoun give the names of things; three—the verb, adjective and adverb, of attributes; and two—preposition and conjunction, of relations. The only one remaining is the interjection, which has no grammatical relation to the other parts of sentence.

Stage 2. Subdivisions or the distinctions that reign amongst the same class of words.

1. Noun.—Proper, common, abstract.
2. Verb.—Transitive and Intransitive—Regular and Irregular—Principal and Auxiliary—Impersonal, &c.
3. Adjective.—Quality or attributive—Quantity or numeral—Distinction or distinctive.
4. Adverb.—Place, Time, Quality, Quantity, Mood.
5. Pronoun.—Personal, Relative and Interrogative.
6. Preposition.—Relations of place, time, instrument, cause.
7. Conjunction.—Copulative, subdivided into connective and continuative. Disjunctive, subdivided into distributive and adversative.
8. Interjection.—The emotions, five or six.

Stage 3. Inflections or the changes which the declinable words undergo in the sentence.

1. Noun.—Number, gender, case.
2. Verb.—Voice, mood, tense, number, person.
3. Adjective.—Positive, comparative and superlative degrees.
4. Adverb. Do. Do. Do. Do.
5. Pronoun.—Number, person, gender, case.

Stage 4. Collocation of words in sentence with rules of syntax.

1. Predicate relation.
2. Objective Do.
3. Attributive Do.
4. Adverbial Do.
5. Conjunctive Do.

FORMULA FOR PARSING ANALYTICALLY.

Milton's poems are excellent and have a general air of truth.

Words.	Class.	Subdivision.	Inflection.	Syntax.
Milton's	Noun.	Proper.	Sing. Masc. Poss.	When two nouns, &c., the former is put in pos.
Poems	Noun.	Common.	Plu. Neu. Nom.	Subj. of verb is put in nom. case.
are	Verb.	Intransitive.	Ind. Pres. Plur. 3rd person.	Verb agrees with its subj. in numb. and person.
excellent	Adjective.	Attributive.	Positive.	Adjectives qualify nouns.
and	Conjunction.	Copulative.		Conjunctions connect words, clauses, &c.
have	Verb.	Trans. Irreg.	Act. Ind. Pres. Plur. 3rd person.	Verb agrees with subj. in numb. and person.
a	Adjective.	Dist. Indef.	Positive deg.	Adjectives qualify nouns.
general	Adjective.	Attrib.	Sing. Neu. Objec.	Adjectives qual. nouns.
air	Noun.	Common.		Trans. verbs in act. voice gov. the object.
of	Prep.	rel. of n. to n		Prep. show the rel. of n. to noun.
truth.	Noun.	Abstract.	Sing. Neut. Objec.	Prep. gov. the objective.

We refer our readers to the end of synthetical grammar for formula of grammatical analysis. There is no need of giving any samples here, inasmuch as there is really no difference between the analytical and constructive mode. There is, no doubt, a marked difference between them in the way in which they are presented to the mind of the young. At the beginning, and during the whole period of analytical grammar, all that the teacher can do is to take the sentences just as they occur in the reading text-book or elsewhere, analyze them backwards and forwards, and make the class in this department thoroughly familiar with the different parts, in so far as they are capable of comprehending them, observing always the three distinct stages,—1st. The subject and predicate sentences alone, or the simple sentence. 2nd. The sentence with principal clause and others dependent, or the compound primary. And 3rd. The sentences with any number of connected clauses, but altogether independent of one another, or compound secondary. Morrell's *Treatise on Analysis* presents the whole subject in a notional or synthetic form.

Synthetical Grammar. We have discussed at considerable length the subject of analytical grammar. We trust that a good foundation has thus been laid, and that the children who have gone through such a course—and all ought to do so, as a collateral branch of English reading—will be able at nine years of age, or thereabout, to proceed in right earnest, 'a connu a l'inconnu.' In a word, such should be their knowledge of language as it is, such their capability of analyzing the same as to be prepared, in every way to proceed to regard it as a science. They may now, with confidence, take the text-book into their hands and prosecute its study with intelligence, profit and interest.

All grammars are constructed pretty much on the same principle.

Some are, no doubt, superior to others, but this is more in the arrangement or illustration than in any real difference in the essence. Great improvements have taken place, in more recent times, in both these respects, and especially in the syntactical department. Amidst such an immense multiplicity of grammars, it is hard to make a selection, or to say which is the best. Some are more elaborate than others as a whole, and some excel in one department, and others in another. Perhaps the two, which, as a whole, we would prefer for their simplicity and utility, are Wilson's of Glasgow, and Morrell's, one of Her Majesty's inspectors of schools. There are others, however, that every teacher should have beside him for consultation. These are Wallis, Horne Tooke, Sir John Stoddart, Latham, Fowler and Cobbett. These grammars all begin with definitions.

The first definition is that of language;—what it is, and then the distinction into spoken and written, with their respective elements. Language, in its end, is to give expression to thought; and as every thought consists of an act of the mind regarding the object presented to it, it must consist of a noun and a verb, and this is called a sentence, or, logically regarded, a proposition. What is the composition of a sentence, or its elements, its ingredients, its parts? Clauses or sentences, words, letters. And hence the threefold division or classification into Orthography, Etymology and Syntax; the first treating of everything belonging to letters, the second, to words, and the third, to sentences. But language is also capable of being converted into metre or versification, and a separate class has accordingly been assigned to poetry, though, properly speaking, it is only a department of syntax. This division is called Prosody. The following are the subjects that fall under each of these heads or classes:

CLASS I.—ORTHOGRAPHY.

1. Letters—their origin and history; 2. Forms; 3. Sounds; 4. Names; 5. Combinations.

CLASS II.—ETYMOLOGY.

1. Words—their classification; 2. Inflection; 3. Structure, derivation and synonyms.

CLASS III.—SYNTAX.

1. Construction of sentences; 2. Arrangement of sentences with rules of syntax; 3. Punctuation.

CLASS IV.—PROSODY.

1. Principles and laws of harmony in metrical compositions; 2. Versification, kinds, &c.

Such is a brief outline of grammar synthetical or the science of language. There is no need of going farther into detail, as this can be seen in any of the excellent text-books referred to. In some of these text-books, as in Wilson, the derivation of the technicalities is given. This is of value, and must prove of practical utility to non-classical teachers, in explaining terms to scholars. The pupils should be required to get these derivations very thoroughly, as auxiliary to the thing signified. It is more to our purpose that we make a few observations on the method of teaching grammar, synthetically. And here, as in every other department, we would first urge the propriety of teaching by outlines. The general benefits of this system have already been noticed. Its special benefits in grammar are such as the following:—

1. Imparting a connective view of the whole subject, giving a clearer discernment and a more hearty appreciation of the parts in detail, rendering the different steps in the acquirement more interesting and lightsome, disciplining mind, and thereby fitting us for higher exercises in our future life-work.
2. Another observation that we would offer is, that in the study of grammar every stage should be accompanied with practical exercises, whatever is the department under review. In orthography, for example, the sounds of the letters should be repeatedly gone over, in order to train to the proper use of the lingual organs, which will be of great service in the whole matter of elocution. (If this has not been properly taught in connection with reading, it should receive special attention here.) In etymology, parsing should be practised every day. And there is, perhaps, no better way of doing this, than by taking a paragraph or so in every reading lesson, sometimes the sentence straight-forwards, and at other times selecting words. It would be well with advanced classes to select peculiarities or niceties. The master may, and ought to have, an eye to this in his preparation of the piece. With a year's experience in the practice of parsing there is little necessity for taking up every word in detail, at least every day. Selections should be made; but whatever passage is taken, or whatever words, a regular formula should be observed both in analysis and parsing. The former should be here taught constructively, in accordance with the plan pursued by Morrell and other synthetical writers, that is, proceeding from particulars to generals. The teacher should first show what an idea or thought is, what its most bald and naked form or expression, and how both the subject and predicate may be enlarged. Then he should show how the primary elements of the sentence may be expanded into phrases and subordinate sentences. A proper foundation being thus

laid, the subject of the sentence may be discussed. The simple sentence should be here opened up and considered both in its essence and modifications, especially in the latter. Here every pains should be taken to give the pupils a thorough understanding of a simple sentence, as the best cue for arriving at a knowledge of all the sorts of compound sentences. The compound primary should be then considered, and the distinction drawn between the principal and subordinate clauses, pointing out clearly the connective link, and the dependence either in meaning or in grammar. Then follow the compound secondary sentences with all their co-ordinate clauses and connecting particles. Here, too, the form of parsing may be changed. Instead of going from generals to particulars, as in the analytical mode, we may proceed from particulars to generals in accordance with the whole synthetical arrangement.

In the syntactical department the synthetical order should also be pursued. Here a great simplifying has been effected. In Murray and Lennie, and some of the old grammars, the rules of concord and government were nearly fifty in number, with no small addition of foot notes. Now they are reduced to twelve or thirteen, and made to depend on the relations in which the different words stand to one another. Three on noun and pronoun—one on adjective—one on pronoun—three on verb—one on adverb—one on preposition—one on conjunction—one on interjection—one general. In exemplifying and applying these rules, there is perhaps no better mode than the old system of interspersing false syntax. The correction of this whets our powers of criticism in literature, and should operate as a powerful check in the use of ungrammatical language.

Another branch of the practical may be here noticed, we refer to the marks of punctuation in written language. It is a great improvement on the old-fashioned style to observe the attention given to these marks in the common reading lesson; but more should be done. In every exercise, whatever may be the department, the punctuation ought to be carefully attended to. This will impart precision of thought and facility in composition. The following may serve as a formula for synthetical parsing, or proceeding from particulars to generals:—

Sentence. *A dutiful son obeys his father's instructions.*

Word.	Syntax.	Inflection.	Subdivision.	Class.
A	limits son. Adjectives limit nouns.		Indefinite, distinctive.	Adjective.
dutiful	qual. son. Adjectives qualify nouns, &c.	Positive degree.	Attributive.	Adjective.
son	subj. of sent. The subj. of sent. is put in nom.	Nom. case, sing. masculine	common.	Noun.
obeys	agrees with son. Verb agrees with noun, &c.	3rd. pers. sing. Pres. tense, Indic. mood, act. voice.	trans. reg.	Verb.
his	qual. father's. Pos. pro. qual. nouns.		personal.	Pronoun.
father's	gov. by instruction. One noun gov. another, signifying a dif. thing in the possess.	Pos. Masc. Sing.	common.	Noun.
instructions.	gov. by obeys. Trans. verbs in active voice gov. the objective.	Obj. neut. plur.	common.	Noun.

FORMULA OF ANALYSIS, CONSTRUCTIVE OR SYNTHETICAL SIMPLE SENTENCES.

Subject.	P. edicate.	Object.
India	produces	rice.
2nd. Further India	produces	rice.
3rd. Further India	produces	excellent rice.
4th. Further India	produces abundantly	excellent rice.

DETAILED ANALYSIS.

1 Further	attributive to 1.
1 India	subject of sentence.
3 produces	predicate of sentence.
4 abundantly	extension of predicate.
5 excellent	attributive to 6.
6 rice.	object to 3.

FORMULA OF ANALYSIS CONSTRUCTIVE OR SYNTHETICAL—COMPOUND SUBORDINATE, OR COMPOUND PRIMARY.

Sentence.	Kind of Sentence	Subject.	Predicate.	Object.	Ext'n.
<i>a.</i> An individual, ignorant of the nature of a classical education will, in all likelihood, undervalue it,	Prin. sentence.	An individual ignorant of the nature of a classical education	will undervalue	it	in all likelihood
<i>b.</i> when he perceives	Adv. sentence to <i>a.</i>	[when] he	perceives
<i>c.</i> that so much time is spent on the study of a few authors,	Noun sentence obj. to <i>b.</i>	[that] so much time	is spent	on the study of a few authors (indirect object.)
<i>d.</i> whose writings do not appear at all adapted to the employments or gratifications of the present age.	Adj. sentence to <i>c.</i>	[whose] writings	do not appear adapted	to the employments or gratifications of the present age.	at all

DETAILED ANALYSIS.

1 An individual	Subject of sent.
2 ignorant	Attrib. to 1.
3 of the nature	Prep. phrase—attrib. to 2.
4 of a classical education 3.
5 will undervalue	Predicate of sentence.
6 it	Object to 5.
7 in all likelihood	Exten. of pred.
8 (when) he	Subject of sentence.
9 perceives	Pred. of sentence.
10 (that) so much	Attrib. to 11.
11 time	Subj. of sent.
12 is spent	Pred. of sent.
13 on the study	Exten. of pred.
14 of a few authors	Prep. phrase—attrib. to 13.
15 whose	Attrib. to 16.
16 writings	Subj. of sent.
17 do not appear adapted	Pred. of sent.
18 to the employments or gratifications	Ind. obj. to 17.
19 of the present age.	Prep. phrase—attrib. to 18.

FORMULA OF ANALYSIS CONSTRUCTIVE OR SYNTHETICAL—COMPOUND CO-ORDINATE, OR COMPOUND SECONDARY.

Sentence.	Kind of Sentence	Subject.	Predicate	Object.	Ext'sn.
a. Hengist and Horsa accepted the invitation of the Saxons	Prin. sent. co-ord. with b.	Hengist & Horsa	accepted	the invitation of the Saxons
b. and soon checked the progress of the Caledonians,	Prin. sent. cop. to a.	Hengist & Horsa	checked	the progress of the Caledonians.	soon
c. and being tempted by the fertility of the soil, resolved to remain on the island.	Prin. sent. cop. to a and b.	Hengist & Horsa	resolved to being tempted by remain the fertility of the soil	on the island.

DETAILED ANALYSIS.

1 Hengist and Horsa	Subject of sentence.
2 accepted	Predicate of sentence.
3 the invitation	Object to 2.
4 of the Saxons	Prep. phrase—attrib. to 3.
5 and soon	Exten. of pred.
6 checked	Predicate of sentence.
7 the progress	Object to 6.
8 of the Caledonians	Prep. phrase—attrib. to 7.
9 and being tempted	Partic. phrase—attrib. to 1.
10 by the fertility	Prep. 9.
11 of the soil! 10.
12 resolved to remain	Pred. of sentence.
13 on the island.	Exten. of Pred. 12.

Practical Grammar. Under this head, we embrace the correct use of language, whether spoken or written. The former is comparatively a new department, but, in our view, of the greatest importance, The

latter usually falls under the head of composition. To each of these we would briefly solicit attention. As to the first of these points, correctly spoken language, every one must perceive the value of the attainment. To be able to express ourselves with fluency and accuracy, in common conversation, is of immense consequence, and no one has any title to consider himself a scholar, or educated, who cannot do so. But it is still more necessary, and indicative of proper scholarship, when an individual can, at once, in the rehearsal of any event, or, in the discussion of any topic, express himself in correct, perspicuous, grammatical language, and that without any uneasiness, or, in the least degree, disconcerting him, in the following out of his train of observation. How often is a juvenile speaker disturbed and distracted between his language and his ideas. In the course of his discussion of any topic, he makes a glaring mistake in grammar. He observes it, but it would only aggravate the case to return and make the correction. He proceeds, but he is so annoyed and chagrined with himself, that not unfrequently a mental fluttering ensues, which threatens well-nigh to throw him off his guard, or, at all events, to place him in such an awkward predicament, that, for a time, he loses his equipoise, and neither does justice to himself nor his subject.

Surely it must be an acquisition of no ordinary value to be above and beyond such disturbing circumstances; to be able to dedicate all his energies to the subject matter of reflection, and to give expression to his thoughts, if not with elegance, at least, with grammatical correctness. But this is a state of things, only to be acquired by a long course of experience. And it is here the instrumentality of the teacher comes into play. Every exercise gone through, ought to be an exercise in practical grammar. It matters not whether it be a more formal recitation or a casual occurrence, the teacher, from the day the pupil goes to school, ought to feel himself called upon to correct a mistake, or, when an inelegant expression is employed, to point out its clumsiness or inaccuracy. All this, of course, will demand the utmost care on the part of the teacher himself, not on more formal occasions merely, but in all his intercourse with his scholars. He should never forget that he is not only a director but an exemplar, that his pupils are far more likely to copy his example than to carry out his instructions. But it is needful that there be stated work, by which the pupils may, from experience, acquire the habit of expressing themselves with grammatical accuracy. And there is, perhaps, no exercise better fitted for this purpose than to accustom them, from the very commencement of their educational career, to tell their own stories, to

give a *viva voce* rehearsal of the lesson they have finished in the shape of an abstract or abridgment, and otherwise to encourage them in the answers they give to all the catechetical questions, that these answers be not only materially but formally correct, expressed with elegance and force. By these and similar means, the art of speaking grammatically will, in course of time, be acquired. And who can estimate the boon to the possessor? An occasional oral lesson will also largely tend to the furtherance of the same object.

But we may say a word or two about written language or composition. This is of equal, if not greater importance than the preceding. It gives to the acts of the human mind a perpetuity of existence. The most polished and eloquent human orations, when delivered at the spur of the moment, soon pass into oblivion, however much they thrilled, and fascinated, and enrapt the listeners. But it is otherwise with those thoughts and sentiments that are written or printed. These can be handed down to the latest posterity, and form part of the stock of the ever accumulating product of ages, as well as extended to the utmost ends of the earth. Thus, by the invention of printing, are space and time, as it were, annihilated, and the mind of one age or generation made to jostle with the mind of the succeeding, and thereby stimulated to unceasing progression. How often have the finest and loftiest thoughts, the creations of human genius and the products of the most towering imagination been lost, save to a few, lost to the world at large, in consequence of their never having been committed to writing or printing! But we pursue not this theme; it is more to our purpose, that we inquire into the nature of written composition, or what should be our aim and object in training the young to the acquisition of this power, to the attainment of this art. This is an important point. Many seem to imagine that the power and skill of composition mainly consist in a knowledge of certain vocables or sentences. This is a great misapprehension. It is no doubt true, that a certain amount of this knowledge, as well as some acquaintance with the structure of language and of sentences, is of vast value in this process, is of great assistance to our composing power; but this knowledge will never operate upon mind in such a way, as to call forth commanding thought or high-toned manly sentiment. The grand aim of the teacher in this department ought to be, to awaken mind to lively and energetic action, to evoke that action in the most befitting expressions, to allow every mind to speak for itself, to elicit every phase of idiosyncrasy. There are not two minds of any force cast exactly in the same mould. The difference is sometimes very

marked, just as much as in the physical features, and at other times it is less perceptible. And, seeing that the Almighty Creator has imparted this variety of endowment, surely it should be our aim and object to exhibit every such trait of His handiwork. And this is done by the kind of written composition of which we are now speaking. As language is but the embodiment of thought, we are then but doing justice to the mind itself, we are but striving to make others partakers of the diversity of its operations, we are but eliciting the perfections of the unseen Creator. And what steps should be taken by the teacher for the accomplishment of all this? 1st. He should endeavour to show his pupils the necessity of a thorough understanding of any subject before they commit a word to writing. The pupils should be directed to cogitate the subject in all its bearing with deep and earnest attention, to jot down the views, findings or conclusions of their mind regarding any one aspect, to discontinue their ruminations for a brief season, and afterwards to recur to it with fresh vigour; and all this before they even consult the most distinguished authors. This will enable them really to profit by what others may have written or spoken regarding it. And it will especially enable them to maintain their own views and modes of thinking, and style of expression, whatever modifications these may undergo by being brought into contact with other minds, &c. Every one in short should be taught to rely upon and to exhaust his own resources, and then, and only then, to resort to foreign succour. But along with all this self-dependence, the young should be well indoctrinated respecting the great leading principles or laws of language, with cardinal or fundamental rules. And this should not be done by hap-hazard strokes, but calmly, and deliberately, and consecutively, and through the medium of the best common sense text-books, of which there is no deficiency either in point of number or of mode of execution. In the legitimate use of these works, however, much caution is needed, and here come in the skill and experience of the teacher. A careful selection of certain leading rules, as embodying great and important principles, should be made, and these should be thoroughly engraven upon the minds of the young before proceeding to matters of detail. It might be well, too, that these exercises are accompanied with analytic criticisms. A standard author should be taken up and examined, not so much in reference to the subject-matter as to the general style, both grammatical and rhetorical. Half-an-hour's criticism, twice or thrice a week, will prove of more lasting benefit than the study of any synthetical books with the most precise rules and the most copious, apt exemplifications. But this is not

enough. Great benefit will be obtained by the young associating with others more advanced than themselves, not only in imbuing their minds with their views and principles, but still more with their whole manner and style of acting. "As iron sharpeneth iron so doth the face of a man, his friend." And this is equally the case, though in an inferior degree, by bringing the mind in contact with others through the perusal of their written works. Standard works, and none but such, should be read on the great subjects that go to make up a liberal education. These, especially if they present exemplifications of high genius, or magnanimous achievements, or philanthropic patriotism, or noble intrepid daring for the maintenance of a principle or truth, will not only inspire with corresponding emotions, but operate most powerfully in inducing them to imitate their very style, their very modes of expression. Teachers should use every effort, not only to recommend such employment, to rouse into energy an enthusiastic love for knowledge, but should strive to put such books within their reach, and give suitable directions and encouragement for their perusal.

Logic and Rhetoric. This is a still higher department; and may be considered as the extension of thought, on the one hand, and the embellishment of language, on the other. The former has respect to the consecutiveness and cohesiveness of the ideas, and the latter to the beauty and adornment of the words.

Logic is the science and art of reasoning. As a science it investigates the principles on which argumentation is conducted. As an art it furnishes such rules as may be derived from those principles intended to guard against erroneous deductions. The skilful teacher should know something both of the science and art of logic, be able to point out the qualities of good reasoning on the one hand, and of flaws or imperfections on the other. By this means he might teach all that is valuable in Logic, without referring to the technicalities or rules of the thing itself, and thereby obtain all the practical good that may result, even from a systematic study of the same.

Rhetoric. This, as already hinted, bears the same relation to language that logic does to thought. In its widest acceptation, it seems to take cognizance of everything appertaining to language in prose composition. When reduced to a system it may be regarded as a body of rules, derived from experience and observation, extending to all communications by language, and designed to make it efficient. It sits as umpire and decides upon the appropriateness of the use of words, and especially of synonymous words. It judges whether the style is adapted to the nature of the thoughts communicated. It takes

special cognizance of the various figures of speech, whether they are well chosen for the occasion, &c.

Now the skilful teacher ought to be well acquainted with all the rules upon which these and similar niceties depend, and able to direct the attention of his pupils to the subject, without even once mentioning the name of Rhetoric. At a very early period in the history of the education of the young, may he commence to unfold to them the structure, and the use, and the history of words with their finer shades of difference from other words, to which they bear the closest general resemblance. And where can there be a finer field for observation than is presented in the whole subject of figurative language; and the young are perfectly competent to appreciate that language when the power or faculty of comparison begins to develop itself. In no department will they listen with more attentive ears, if the subjects are at all judiciously chosen; and the reason of this is obvious. These comparisons appeal to their senses, or they are borrowed from objects or things with which they are familiar, or else they fail, and fail egregiously, in accomplishing the end in view. In explaining these figures minutely and elaborately, the children are on the known territory, and are anxious to hear explanations, or have new points on the subject unfolded. And this but prepares them for making the neat application to the subject in hand, and thereby seeing it with their mind's eye as distinctly as any object in the external world with the naked eye. Even in reading, they can direct attention, at a very early period, to the rhetorical arrangement of the words, so as to give effect to the meaning, force or power to the expression. The teacher can do the same thing in reference to what are called rhetorical pauses. These pauses give the highest possible colouring to the import of the passage, grouping those words together that have a closer affinity to one another, and pausing accordingly. And this can be done at an early period. Thus it is evident that the most important lessons may be given, involving rhetorical points, at a very early period, in the education of the rising generation, and that without the least allusion to rhetoric as a science. All this implies a thorough acquaintance with the subject on the part of the teacher, both systematical and experimental.

Classics. It has been maintained by some that if the dead languages,—as the Latin and Greek,—are to be acquired, the learning of the grammar of our own language is useless. It has been alleged by such that as the Latin grammar, for example, is far more complete, and copious, and elaborate than the English, and that as the latter is, to a

certain extent, founded on the former, it is a waste of time to acquire it. With this opinion we do not at all sympathize. It is no doubt true that the grammars of the Greek and Latin languages are more full and copious than the grammar of the English, but it is a mistake to suppose that it is founded upon either the one or the other of these, or that they have any more connection therewith, than what springs from general coincident principles. The real question at issue, common to all languages, and by consequence to all grammars, is, which is the more easily acquired, so that the one shall form a kind of basis or platform for the acquisition of the other. And surely there can be no difficulty in answering this question. The grammar of our own tongue will be admitted by all to be much more easily acquired than that of a foreign one, whether dead or living, and if so, the inference is plain. All, whether they intend to pass through a liberal education or not, should first master the grammar of their own vernacular, and with that, as a ladder, they shall, with a great deal more ease, mount into the acquisition of any other. If we have been properly taught, not only are our minds well disciplined, but we have been made acquainted with the great general principles or laws of grammar, which are just the great principles or laws of the human mind, and which must, therefore, be found in the grammar of every language, whether ancient or modern. In passing from the known to the unknown, all that we have to do is to discover the specialities of the latter, and this can easily be done by comparing the one with the other. On the supposition, then, that we thoroughly understand the grammar of the English language, and that we are about to proceed to the study of the Greek or Latin, say the latter, all we have to do, is to bring the one into juxta-position with the other, and proceed to find out wherein they are alike and wherein they differ. This is a profitable exercise, and cannot fail to awaken a deep interest in the minds of the young.

It is in the matter of inflection where the grand distinction consists. Here we possess on the part of the dead language not only greater copiousness, but a different kind of inflection. In the Latin, the inflections are out and out terminational; in the English, they undergo little or no change, there being only terminational differences in a few instances. There are not less than six cases in the Latin noun; in English there are only three. The inflection of the verb is much more complete in the dead languages, in so far, at least, as their own composition is concerned.

In syntax, we find between these languages, ancient and modern,

the same fundamental relations. That between the predicate and object is much more copious in the Latin than in English, arising very naturally from the greater number of cases, giving birth in consequence to a larger number of rules in the matter of government. This is manifest when we look at the cases governed by verbs and prepositions.

In prosody, too, there is as great a difference as in every other department. Though the ends in both may be the same,—the production of rhythm and metre, yet the principles that guide thereto are widely apart. In the English it depends upon accentuation and time. In the Latin these have nothing to do with it. The whole matter of versification is made to turn on the quantity of the syllables, and these are all fixed and arranged by principles and laws from which there is little or no departure. We have briefly compared the two grammars, and, in general terms, traced their similarities and differences. By the application of our fixed principle, viz., proceeding from the known to the unknown, we have discovered what in the foreign language is really necessary to be learned, and, consequently, in the most favourable position both for picturing out and for outlining. No new technical term should be used without its first being presented to the mind's eye of the learner by some apt pictorial illustration. And all should be carried on by outlines. Whatever is thoroughly mandated, should be at once practically applied by every variety of examples, both written and spoken. The time spent, and the pains taken in these initiatory steps, will largely facilitate and expedite future progress.

In reducing to working order these general remarks, every Latin or foreign grammar should be divided at least into three sections or divisions. The first section should consist entirely of what is indispensably necessary to be committed to memory, with a large list of examples, on which the pupils must be well drilled. The second should present the leading exceptions, some of which might also be advantageously mandated; and the third, the peculiarities and niceties, or idioms of the language, with abundance of examples under both. This, in our opinion, would form a much better arrangement than having all blended and intermingled together, some with larger or smaller type, drawing the distinction between what is more or less important. Where grammars are not arranged either in one way or other, it would be no difficult task for the skilful teacher to construct a grammar for himself, to divide it into three grades or stages, and to see that his pupils have thoroughly mastered the one before they break ground on the other. We give a sample of the method that should be pursued with first stage, by far the most important.

Starting with the etymological department, we take the noun first. The pupils are supposed to be thoroughly familiar with every thing connected with the noun in general, its nature, number, gender, case, &c. The two grand peculiarities of nouns in the Latin language are their classification in declensions, and the number of cases. Here the word declension should be pictured out, showing from its derivation, that it means a downward slope or bending from the nominative throughout, the oblique cases being all indicated by certain terminations. These declensions are five in number, generally considered, though they might be easily reduced to three, distinguished from one another by the termination of the genitive case. The first has *æ* diphthong, the second *i*, the third *is*, the fourth *ūs*, and the fifth *eī*. These have certain terminations in the nominative, which go far to determine the gender. The cases in the singular and plural are the nominative, genitive, dative, accusative, vocative and ablative, which, before they are used, should be all illustrated. An example of the first declension may here be given, such as *penna*, along with two others, such as *arca* and *toga*, to shew the difference between the hard and soft sound of *c* and *g*. These examples must be thoroughly committed to memory, and recited over and over, backward and forward, reiterated again and again, until they are fairly incorporated into the mental framework of the scholars. At the end of these examples, there should be given a list of the more common nouns of this declension, which also should be carefully mandated. Underneath there should be given a number of short Latin sentences to be translated into English, and thereafter a number of short English sentences to be translated into Latin, with a few common verbs supplied. The same ordeal should be gone through with every declension, and before any new lesson is taken up the whole of these exercises should be repeated again and again. The adjectives should be got next, those of the first and second declension immediately after the second declension of nouns, and those of the third in all their forms after the third declension of nouns.

After the nouns and adjectives, should come the pronouns, as these are used in connection with the verb, and then the verb *esse*. The verbs, in all their completeness, should now be discussed; and here the first thing is to compare the nature and form of the English with those of the Latin verb. As to the former there is evidently no difference. The verbs perform the very same functions in the Latin as in the English, expressing either a state of being, or doing, or suffering. There is a radical difference, however, in reference to the latter. All the changes of voice, mood and tense are terminational, whereas in

English, they are effected through the medium of what are called auxiliary verbs. Properly speaking, there are only three principal parts in the English verbs, the present, the past, and the past participle, all the rest are supplied by what are called auxiliaries, by whose help every mood and tense either in Greek or Latin can be made up. It cannot, therefore, be said that the English verb, as compared with the Latin verb, is defective. We have, indeed, what are called supines and gerunds in Latin without any corresponding parts in English, but these can be easily expressed by other parts of speech; on the other hand, we have defects in the Latin that are not even found in the English, such, for example, as the perfect participle active, and the present participle passive. It is, therefore, nothing short of a libel upon the English language, advanced by some, that it is exceedingly defective. Every thing connected, both with acting and suffering, with the mode or mood of the action, with time or persons, can be all as fully expressed in English as in Latin, though in a different form. Having thus compared the English and the Latin verb, we are now prepared to take up the latter, and to examine it in its various forms, and inflections, and details; picturing out the difference between the term conjugation and declension, dwelling upon the completeness, and copiousness, and exactitude of the Latin with its four conjugations and their appropriate characteristics; then the four principal parts in their regular and irregular forms, with all the parts depending upon and flowing therefrom. These conjugations, in all their parts and forms, regular and irregular, must be thoroughly committed to memory, every one having its appropriate examples, and then the whole scattered promiscuously. The verb, with adverb and the indeclinable parts of speech, will wind up the etymological department.

On introducing the subject of Latin syntax, the first thing here is to give a list of examples, all intended to illustrate the fundamental relations—the attributive, the predicative and the objective, requiring the pupils, after the sentences are read and mastered, to construct the rules themselves. These examples will familiarize both with the vocables, and structure, and arrangement of sentences, and serve to pave the way for translation work. It may be well here, too, to direct attention to the outlines of Latin prosody, the leading forms of versification with examples and rules. We have now discussed the first two stages in the grammar of any foreign language, and especially of the Latin. After comparing the known and the unknown, we are prepared to proceed to the purely memoriter or second stage, introducing every new topic by a familiar illustration, and reducing everything at

once to practice ; in one word, using every means to carry the reflective powers of the scholars along with us. The third stage embraces the second division, or the exceptional part of the grammar, some of which may require to be committed to memory, and others not—the teacher can himself easily determine. Along with this, is the perusal of a *Delectus*, or a book of extracts, from the easiest and best Latin authors. This will serve for drilling both in etymological and syntactical departments, and bring out, especially, the difference of idiom in the structure of the languages, the known and the unknown. This will appear in the translation from the Latin into English, and no exemplification of any peculiarity should be passed over without the most sifting examination. To impress the minds of learners still more deeply, they should be required not only to write their translations into English from the text-book, but the text-books being taken from them, to reverse the order, and to render it from English into Latin. This, in our opinion, is a better plan at the commencement than Arnold's constructive exercises.

The more mechanical part of the language is now over, and this, if the plan sketched is pursued, ought to be in two years or less. This is a long period, but it is more than compensated by the accumulation of their knowledge, and the extent of their grammatical attainments. The pupils are now prepared to take the regular classical text-books into their hands, which books, with the assistance of their dictionaries alone, and after such a course of preparation, they should be able to read with considerable fluency. Much injury is done to not a few, by commencing to translate too soon, *i. e.*, the regular Latin authors, before they are well acquainted with the first principles or elements of the language. Pursuing the course we have specified, they will be able to read the classical authors almost at the starting with another relish altogether. Instead of spending wearisome weeks or months over a few chapters of Cæsar, they will master the whole in the course of a few weeks ; and that, instead of proving an irksome toil and drudgery, will be a real pleasure and satisfaction. Here the third part of grammar may be gone over. It is scarcely necessary to say more, save that in the reading of the standard works in the Latin language, the usual rule should be observed of proceeding from the simple to the more complex. The usual order of the classics is the following : Esop's Fables Cordery, Eutropius Cornelius, Nepos, Cæsar and Ovid, Sallust and Virgil, Livy and Horace, Tacitus, Quinctilian, Cicero and Juvenal. In recitation exercises the following course is usually followed :—1. Read the Latin as in text-book, and

be very particular about the quantity, whether read after the English or Continental fashion. 2. Construe the passage or arrange the words in syntactical order. 3. Give the translation, and from the very commencement let there be an adaptation to the English idioms. 4. Examine carefully any peculiarity in the construction, and apply rules of syntax to every relation. 5. Parse every word for a considerable period, and thereafter the more difficult words.

The mere translation into English ought not to suffice. There should be also the constant practice kept up of rendering from English into Latin. Exercises should be given, at least, once a week, and these should be consecutively arranged so as to bring out the various niceties and peculiarities. In addition to all this, the conversational method, even in reference to the dead languages, may be followed to a certain extent, and with great effect. The finer passages in Latin, as the student advances, should always be committed, so that, without any pedantry, on befitting occasions, the same might be cited.

Such is a brief outline of the mode in which any foreign language may be taught in accordance with the training system. The sketch, we think, will be found to contain all the leading features of that system: such as, proceeding from the known to the unknown, from the simple to the more difficult, teaching by outlines, accompanying the theoretical with the practical, &c. No one, we think, at all versant with the languages, can fail to perceive that, with a grammar constructed in accordance with this system, and judiciously taught, an immense simplification would be effected on the whole acquisition of language; that along, with greater efficiency, an immense saving both of time and labour would also follow.

Arithmetic. Most children at an early period have some idea of number. Scarcely have they begun to exercise their observational powers than they seem to be able, in comparing the objects around them, to mark those that are the same or identical, and thus they obtain their idea of number. They see two objects pretty much alike; they examine them more minutely, and are persuaded that they exactly resemble one another; and the one thus becomes two, unity is changed into duality. It is well, however, to notice here that this knowledge is one of realities or things, and is uniformly associated with the object or objects, is concrete. And, hence, the absurdity of the way in which the young are usually introduced to the study of arithmetic, plunged all at once into the mysteries of abstract figures, without the least effort to lead them on from the concrete to the abstract, or to attempt to bridge over the gulf that separates them, or

the space that lies between. Unless they happen to be gifted with a peculiar aptitude for the study of mathematics, they are doomed to wander for months and years in a region of abstract signs, which they neither comprehend nor care about, utterly useless to them in a practical point of view, and which, instead of disciplining mind, but tend to throw barriers and impediments in the way.

What then is to be done? If the young have no idea of number in the abstract, if they do not understand the meaning of 5, or 7, or 9, whilst they clearly perceive that of 5 apples, or 7 marbles, or 9 horses, the method of teaching arithmetic is plain and palpable, even through the medium of objects, and having, by means thereof, rendered them familiar with the great principles involved, gradually, and step by step, pass into the region of the abstract. Let this plan be pursued, and it does not matter how soon the young begin arithmetic. Some, on entering school, are better prepared for this work than for learning to read. This, however, must be carried on entirely by visible objects. It matters little what these objects are, provided the children can count them. The systematic way of carrying on this department is through the medium of a ball-frame—a frame of pretty much the same size as a large slate, with ten or twelve wires, and on each of these wires ten or twelve balls, painted with three or four different colours. By the help of this frame, the principles and practice of the fundamental rules can be explained and taught, and this can be diversified in a great variety of ways, by objects in school-room, by counting the children, &c. As soon as the children are sufficiently advanced to apply number to money, or weights and measures, it will be necessary that the teacher provide himself with a set of the common coins of the country as well as with the various weights, and scales, and measures. By these means the whole of the tables can be taught, and that in a way calculated to produce a more lasting impression than all verbal dissertations, or the most careful mandating. After being two years or so at mental arithmetic, carried on through visible objects, the children are now prepared to pass into slate arithmetic, or arithmetic abstractly regarded. This, of course, will require to be done, gradually. After the real objects come the symbols, or representatives of the objects with which the pupils are familiar, but absent, and lastly, the figures, the purely abstract. Not that we are to abandon the objective on the introduction of the abstractive. The mental and objective are to be carried on simultaneously with the abstract—the one to be the exponent of the other. The principles involved in every branch, as well as the rules by which it is to be worked, ought to be

studied out and practised by the pupils themselves before they attempt the abstract at all, that is, they are to be done first by word-painting, and then by examples carefully analysed. The principle being thus thoroughly understood, as well as the rules of working it out or reducing it to practice, the pupils are now ready to take up the slate and do the various examples usually found in arithmetical books. Hence, this branch of knowledge is naturally divided into two departments, arithmetic concrete and arithmetic abstract, and to each of these we shall now direct attention.

Arithmetic Concrete. Here, as in every other department, the young must be carried on from the known to the unknown. The teacher, when about to introduce any new subject to his pupils, ought to find out what about that subject, what connected with it, or what cognate subject, they are already acquainted with, and to constitute that the basis of his instruction, and of all future progress. Now, in so far as arithmetic is concerned, there is scarcely a child of five or six years of age, who cannot count as high as fifteen or twenty, and this plainly should form the first lesson in arithmetic. The children should be required to gather up ten or fifteen little stones from amongst the gravel before the school-house, or if there is a box of slate or lead pencils on the desk, to proceed to count these; and after they have finished this task to count the balls on the frame. After they have been well exercised in counting, the teacher should proceed a step farther, and show that two are just two ones, and three, three ones of the same sort only. To do this more clearly, two distinct objects should be taken and counted alternately; such as slates and books, boys and girls; and when ten is reached, the children should be asked whether there are really ten slates or ten books. This will lead the pupils to think, and to see that though there are ten things or objects, there are only five slates and five pencils; and that though there are ten children or scholars, there are only five boys and five girls; and therefore, that in adding one unit to another, every succeeding one must be of the same nature. The next lesson in enumeration should be to conduct the children from ten to twenty, in which it should be shown that eleven are just ten and one, that twelve are ten and two, thirteen are ten and three, and so onwards, dwelling especially, on the fact that a new name is given at the end of every ten, that every tenth figure is of a higher order, a unit, a big unit. Another form of the same exercise is counting backwards, first from ten and then from twenty. Every lesson, if possible, should be varied so as to impress the minds of the young with the idea that 20 are just twenty ones, and

100, a hundred ones. The longer these simple forms are dwelt upon, we are only weaving more thoroughly into the minds of the young, that which lies at the foundation of the science of numbers.

Symbols. Here a short oral lesson should be given on the signs or symbols used in arithmetic. Take a sign-board, such as the children may have often seen; say, the sign-board over a shoemaker's door, with a boot or shoe painted upon it. From this, picture out in words the difference between the sign and the thing signified. Another illustration may be taken from letters being the signs of sounds, and words of ideas. And so in figures. We have here also certain signs or symbols, expressive of a certain number of units. It would be exceedingly cumbersome, if not impracticable, to write down three ones or six ones, in the shape of dots or strokes, if we wished to convey the idea of three or six; and, therefore, to simplify matters, symbols are employed. Here the teacher may write on the black-board a series of ones, and put their corresponding figure underneath:

1	2	3	4	5	6	7	8	9	10	

These characters, nine of which are significant, and the cipher 0 are sometimes called digits, from the word that signifies fingers.

FUNDAMENTAL RULES.

Addition. Here, by an oral lesson, the teacher must picture out the idea that the quantity of anything can either be made larger or smaller, added to or taken from, increased or diminished. For example, ask the scholars of this class to hold up their left hand, and then ask:—How many fingers have you upon it? *Five*, they will, with one voice, reply. Then tell them to hold up their right hand, and ask:—How many fingers or digits have you upon it? The same answer will be given. Tell them to put all the fingers of both hands together, and ask:—How many have you now? *Ten*, will be the immediate reply. Now what is this? *It is adding.* You have five fingers on one hand, and five on the other, and by putting them both together, you have—*Ten*; this is called the sum, and the act of bringing them together into one is called—*addition*. Does any of you know the symbol used to represent addition? No reply. Would you like to know it? *Yes.* It is this +; and the name given to it is plus. Can you point out the sign or symbol placed between numbers to show that they are equal? *No.* Well, then, I will show you. It is =, ||||| + ||||| = |||||||||; that is, five plus five has for its sum ten, or is equal to ten, and hence it is sometimes called the sign of equality. Then give a great number of exercises on the black-board, such as the following:—

|| + || = ||||; || + |||| = ||||||; ||| + |||| = |||||||, &c.

After picturing out the thing itself, the children should be now formally taught the art of adding. The various objects in the school-room may be first taken up; such as the panes of glass in window, the desks, chairs, boys and girls—adding together first the ones, then the twos, and then the threes. The ball-frame should now be called into requisition, and systematically pro-

ceeded with. A great variety of forms may be employed, beginning with the simple and going on to the more difficult. We may first take the numbers as they occur and add them to the previous sum, as the ones—twos—threes—fours—1 and 1 are 2, and 1 are 3, and 1 are 4—2 and 2 are 4, and 2 are 6, and 2 are 8. Or we may take the digits in a more systematic form and add them consecutively together; as 2 and 2 are 4, 2 and 3 are 5, 2 and 4 are 6, &c. And after we have familiarized the pupils with these two forms, we may then take a more miscellaneous method. Take any number of balls, and ask how many there are. Then divide the 7 into 3 and 4, and ask how many in each lot, and what these make when added; and what other divisions will, when added, make up the same number, &c. Laying aside the ball-frame or present objects, the next stage should be the addition of things or articles which are absent, but with which they are perfectly familiar. Take the following as a sample:—(1) William has six marbles in one pocket and four in another; how many has he altogether? (2) There are seven girls in a class; if three more be added; how many will there then be? (3) Henry got ninepence, then fivepence and a penny; how much money had he? (4) A man took three horses to be shod; one had to get all his feet shod; another had to get three, and the last had only to get one; how many shoes would the blacksmith require to furnish? (5) How many feet have a horse, a cow, a sheep, a goose, and a hen?

Subtraction. Explain the term by a short oral lesson; and this may be done by reversing the one on addition, and asking the children of the class to hold up both their hands. How many fingers have you on both? *Ten.* Take one hand down, and how many fingers do you hold up? *Five.* Well, then, do you now see that you can do something else besides adding to any quantity? *Yes, we can take from it.* Do any of you know what that is called? *No.* It is called subtraction, and the symbol that represents it is a straight or horizontal line — which is called minus. Give a few more examples of the same description. There are how many in your class? *Nine.* Take away John, and James, and Jane, and how many remain? *Six, &c.* Here are six books, suppose I subtract three from them, how many remain? *Three.* These can easily be added to. Then take the ball-frame and go more systematically into the exercise. Begin with the first wire of balls, and take one from ten, and how many remain, two from ten, and how many, three from ten, and how many. Then take the opposite course, and take nine from ten, eight from ten, seven from ten, &c. Then take a series of examples with the objects absent, (1) John has sixpence in his pocket, and he gives Thomas threepence for a knife, how much has John left? (2) A window has twelve panes of glass, five of them are broken, how many are entire? (3) A dozen birds sat on a tree, seven flew away, how many remained? (4) In two weeks a tradesman lost four days work through ill health, what number of days did he work? (5) A boy in a hay field worked ten hours a day, how many in the twenty-four hours did he not work? These may be succeeded by exercises in what may be styled double subtraction. Thus, John had six marbles, and he gave two to James and three to Robert, how many had he left? A butcher had twelve sheep; he killed three and lost four, how many had he left? Then may addition and subtraction be joined. Thus, John had six marbles; he won from Thomas five, and from William two; and afterwards lost three the first game, and five, second; how many had he then? In this way an abundance of exercises may be constructed. It may be well, however, that the teacher note down every evening some new form of exercises for every day, that the calculations may go on steadily and progressively.

Multiplication. Give a short oral lesson on explanation of term. Ask the children, for example, how many rows of panes there are in one of the windows of the school-room? They all cry *four.* How many panes are there in

each row? *Three*. And how do you find the whole number? The children looking at the window begin at once and count, *one and one are two, and one is three, and so on till they make twelve*. The teacher again asks could not you shorten this? At once they say, *three and three are six, and three are nine, and three are twelve*. Is there not a shorter way still? *Yes*. And they say *four times three are twelve*. And what is the lesson we are taught by all this? That whenever a quantity exactly contains a certain number several times, it can be done in a short or abridged form. Twelve contains three exactly four times. Twelve is in this case a *multiple* of three; that is, it contains three four times, and the act of doing it is called multiplication. Multiplication is, therefore, nothing but a short, or an abridged, or a contracted way of addition. The sign of multiplication is \times . A number of similar examples by visible objects, such as slate pencils, &c., should here be given. Then with ball-frame or lines on black-board the multiplication table should be formally taught. The ones should be first taken up in succession, and the pupils taught to repeat after the teacher, two ones are two, three ones are three, or three times one are three. Then the second line in multiplication table, placing the twos on the different wires, and causing the children to repeat after teacher, two ones are two, or two times one are two, two twos are four, or two times two are four, three twos are six, or three times two are six. Then take three, putting the three balls together, two threes are six, or two times three are six, three threes are nine, or three times three are nine. And so on throughout the whole decimal or duodecimal multiplication table. In consequence of the general way in which the multiplication tables are now printed, we mean, duodecimally, it may be well to have three ball-frames at least, one with ten balls on each wire, another with twelve, and another with twenty, so that the decimal, the duodecimal and vigesimal, or the pythagorean tables may be got according to the stage of the pupils.

Here the teacher may give a number of examples of objects, though absent, yet with which the children are familiar. How many feet have 2, or 3, or 4 sheep? How many legs have 6, or 7, or 8 cows? How many units are there in 3 tens? Bought 3 eggs at 2 pence each, how much should I pay? What should you pay the milkman for 4 pints of milk, at 2 pence a pint? Find the cost of 4 loaves at 5 pence each. If a man travels 3 miles in 1 hour, how far will he travel from 6 o'clock in the morning till noon?

When the class is a little farther advanced, it may be well to picture out the terms Product and Factors. Take objects first. You cause two children to hold up their hands, and you ask how many fingers on each hand. They say *five*. Tell them to add four fives and you have *twenty*. Then cause them to multiply one of the fives by four, and ask what is produced. They say *twenty*, that is produced, or that is the product of 5 multiplied by 4, and this, therefore, is called the *product*. And how is that produced? By the two agents, the four operating on the five. And what is an agent? It is a person that *does* a thing, or doer. There is a word derived from the Latin that does the same thing, and that is *factor*. These, then, are called *factors*, and the result of their operation *product*. This may then be performed by drawing lines on black-board, or on ball-frame,

$$\begin{array}{r} \text{|||||} \\ \times \text{||||} \\ \hline \end{array}$$
 Then give signs, $6 \times 2 = 2 \times 6 = 12$. Change the lines into three or fours to give variety. The children may afterwards be required to make rectangles, like the foregoing, out of marbles or bricks, and deduct the factors themselves. This varies the exercise, and never fails to amuse and interest.

Division. I have got in this basket not less than 24 apples, and I want to give every child in the class an equal share. There are just 12 children in the class, and how many must I give to each? *Two*, the children will at once exclaim. I then divide them into twos, and give each child accordingly,

and because when I do so, I divide, or am making a division, this is called *division*, and has for its sign \div . This is done a great deal quicker than by taking 2 from 24 leaving 22, and 2 from 22 leaving 20, &c. And hence a new rule is introduced, though after all it is nothing but a short way of working subtraction, in the same way as multiplication is a short way of working addition. Give here a number of similar examples,—(1) Four whips cost 8d., what is the price of 1? (2) Three loaves cost 9d., what is the price of 1? (3) Divide a shilling among three boys, how much has each? (4) Throw 18 marbles into three holes, how many will there be in each. (5). There are 36 boys in a class, seated equally on 4 forms, how many will be on each form. (6) A horse galloped 40 miles in 5 hours, what rate is that per hour? This may be done in a more systematic way, by reverting again to the multiplication table, either on ball-frame or lines on black-board.

|| two ones are 2, or the half of 2 is 1.
 ||| three ones are 3, or the third of 3 is 1.
 || || two twos are 4, or the half of 4 is 2.
 ||| ||| three threes are 9, or the third of 9 is 3.
 |||| |||| four fours are 16, or the fourth of 16 is 4.

At the end of every new lesson there should always be given a few exercises on the preceding one. When subtraction is going on, combine it with addition; when multiplication, with addition and subtraction; and when division, with addition, subtraction and multiplication. Here there should be given a large number of miscellaneous exercises on the fundamental rules.

Fractions in their Simplest Form. Here give an oral lesson to show the real meaning of the term. Children, do you see this slate pencil? *Yes.* Is it a whole pencil or part of one? *It is a whole one.* Could you give me another name for whole? *Yes, entire.* Any other? *No answer.* Well, I will tell you. The word *integer* is just the Latin word for whole or entire. Now, this whole or integer slate pencil, I am going to break into two equal parts. Done, and now I have to ask you what you call each of these? *The half.* Suppose I divide these halves again equally, how would the slate pencil be divided? *Into four parts.* And can I go on dividing these as I will? *Yes.* And what are these parts, when applied to number called? *No answer.* I suppose you don't know, and therefore I will tell you. There is a Latin word, *fractus*, which signifies broken, and hence the word fraction, which just means *broken*. These fractions or broken numbers are therefore the parts of a whole, or integer number. Come and I will show you the symbols employed to represent these fractions or broken numbers. Here is a half, $\frac{1}{2}$; a third, $\frac{1}{3}$; a fourth, $\frac{1}{4}$; a fifth, $\frac{1}{5}$; two-thirds, $\frac{2}{3}$; four-fifths, $\frac{4}{5}$, &c.

Having thus fixed in the minds of the young the idea of a fractional number, it is very easy to go on, and by dividing an object into a great number of parts to give more enlarged views on the subject. Take an orange. If I wish to divide this orange amongst three boys, what must I do? How much must each get? Here is half an orange, and I divide it between two boys, how much of the half does each get? How much of the whole? Very likely this question would not be answered. An easy demonstration of it would consist in dividing a whole orange into two, then each half into two equal portions, and the children would at once see that one-half of half an orange was exactly the same thing as one-fourth of the whole orange.

The pupils having been thus rendered familiar with the elementary ideas of fractions, they should then be led on to the addition, subtraction and multiplication of fractional numbers, the teacher still availing himself of tangible

ocular demonstrations or visible objects; and he need be at no loss for these. Here follow a few exercises in the fundamental rules,—

1. Two-halves and one-half are how many halves?
2. Three-fourths and four-fourths, how many fourths?
3. Four-fifths and six-fifths, how many fifths?
4. A boy has three half apples, and gives one of these halves to his neighbour, how many halves has he left? How many whole apples?
5. If I were to give one boy six-fourths of an apple, and another boy two-fourths, which would have more? How much more, how many apples more?
6. Take four-tenths from six-tenths, eight-tenths from ten-tenths, two-hundredths from three-hundredths.
7. From five-thirds take two-thirds.
8. Let five boys hold up each ten fingers, and if of these fifty tenths we take two-tenths away, how many tenths will be left?
9. Six boys got half an apple each, how many halves had they all? How many wholes?
10. In three apples how many halves?
11. How many thirds are four times two-thirds?
12. How many tenths do four times three-tenths make?

Application of number to money. What is this (the teacher holding up a cent in his hand)? *A cent.* James, suppose I were to give you this cent, what would you do with it? *I would buy a pear.* Well, then, you go to Mrs. Thompson's, and you ask her to give you a pear for a cent; she gives you one and you put down the cent on the counter. But suppose you found the pear, the moment you took it into your hand, to be rotten, what would you do? *I would say to Mrs. Thompson, this pear is rotten, give me another pear that is worth a cent, or of the same value.*

When, then, you buy the pear, you give what you consider of equal value, and what do you call the cent? *Money, a piece of money.* Any other name? *A coin.* The cent then is . . . of equal value, and you exchange it . . . for the pear. Could you get the pear for anything else? *Yes, if I were to give Mrs. Thomson a ball, which would be of little more value than the pear.* Would she like this as well? *No.* Why? *Because it is not nearly so convenient; and very likely she might not get any person to purchase the ball at all, and it would be of no use to her.* Do you know any other kind of money? *Yes. A dime.* How many pears could you get for a dime? *Ten.* And why? *Because the dime is worth ten cents.* What coin is this? *A quarter dollar.* And how many pears could you buy for it? *Twenty-five, because there are twenty-five cents in a quarter dollar.* What is this? *Half a dollar, or a florin.* And how many pears could you purchase for it? And so on till you go over all the decimal currency, holding up every coin before the children, and requiring them to tell how many cents it contains from the number of pears they would get for it, and allowing them to touch every coin, if they wish. Next take a farthing, a penny, a shilling, a pound, and go over them in the same manner. Now the children are prepared to make the application in accounts, like the following:—

1. John gave five cents to James, ten cents to Andrew, and had four remaining, how many cents had he at first?
2. How many dimes are there in half a dollar, in a whole dollar, in two dollars?
3. If John had two pennies, how many farthings would you require to give him for them, how many half pence?
4. John has four pennies and Jane eight, how many have they between them?
5. How many pence in one shilling, in two, in three?
6. How many shillings in one pound, in two, in three?

7. John goes to the grocers and buys three pounds of sugar at six pence a pound, how much should he bring home out of two shillings?

8. James bought a pair of shoes for a dollar and a half; a jacket for two dollars, and a cap for seventy-five cents, how much did he pay for all?

These may suffice for a specimen. The teacher may multiply these exercises to any amount, and the more they are within the range of common life, the more clearly will the children see that arithmetic has to do with every day transactions.

Application of number to measures, weights, &c. The teacher being provided with a few inch, foot and yard measures, will proceed to the first lesson. He will picture out, first, the necessity and advantages of having exact measures and weights, whether we buy cloth, or sugar, or tea. Having done this, he will then call attention to the measures, by showing them to the class, and giving their names; then by comparing them with one another, first by holding them up together, afterwards drawing them on the black-board and requiring the pupils to do the same on their slates or on the black-board, he will show that there are twelve inches in a foot, and thirty-six inches or three feet in a yard. Having proved this by actual measurement, the various objects in the school may be taken and tested, the pupils being required to state what they believe to be the length of each object in succession, and then ascertain the matter positively by measuring it themselves. This is the true way of giving them a correct idea of distance. Exercises, similar to the following, may then be given:—

1. In five yards how many feet? inches?

2. John is five feet, three inches, and William is four feet, nine inches, what is the difference?

3. How many yards of cloth, at two shillings per yard, can be purchased for three dollars?

4. I bought six yards of cloth for twelve dollars, what was that for each yard?

The application of number to square measure, as well as measure of capacity, may be taught exactly in the same way.

The application of number to weights should now be considered.

The teacher, being provided with a pair of scales, and the more common of the Avoirdupois, Troy and Apothecaries' weights, will proceed to explain everything connected with the scales, and then give the names of the different weights. Taking the ounce weight and putting it into one of the scales, and the dram weights of the Apothecaries into the opposite scale, the pupils will at once perceive how many drams are in an ounce, which the teacher will mark on the black-board, and the pupils on their slates. Again putting the pound weight into one scale, and the ounce weights into the other, it will be seen how many ounces are in a pound; and so onward with all the weights. Exercises on the weights, similar to those on the measures, can here easily be given.

Decimal Notation. This, as already stated, is a pure convention. The power assigned to number from the localizing process on the left hand might just as well have been placed on the right, and instead of being fixed to the tenth power, it might just as well have been to the twelfth or sixtieth, the duodecimal or sexagesimal. But whilst all this might have been so, no one can fail to perceive or admire the inimitable simplicity of the decimal system, evidently originating in the fingers of the human hand, and lying at the basis of the whole system of counting or enumeration; for what is every tenth figure from ten up to millions but the addition of ten to the preceding. Being thus a convention, it is clear that it cannot be demonstrated or worked out to the young through the medium of a geometrical proposition, or by a process of reasoning; it can only be presented to the young by illustrations and

exemplifications, until they become thoroughly acquainted with the arrangement. Here it might be well to follow our usual plan, first to take an illustration from actual objects or things. Suppose we wish to count a box of pencils, what would we naturally do? We would tie them together in bundles of ten, until we had gone over the whole, and we find, say, six remaining. We place these six aside, drawing six strokes on the black-board, and marking underneath the figure 6, telling the pupils that these strokes represent the 6 pencils, or six ones, and the figure 6 the symbol of these six strokes. We now tie every ten of the bundles of ten units together, and find after we are done 4 bundles remaining. We draw four strokes on the black-board, and write under the figure 4, and tell the pupils that these represent the 4 bundles of ten. We now take the last made bundles, each of which contains ten tens or one hundred units, and we tie them together. We have only one bundle of these with three of the one hundred remaining. We put down on black-board the three one hundred strokes, putting 3 and two cyphers underneath. Lastly, we place on black-board one thousand strokes, and write underneath 1000, telling the pupils that this one bundle represents the ten one hundred bundles, which remained over and above the whole. We have now placed in succession on the black-board 6 units, 4 bundles of ten each, 3 bundles of 100 each, and one bundle containing a thousand. We now ask the pupils to bring all these strokes and figures together, and to put each of these to the left hand side of the other, and to tell the whole number, 1346. Beginning them to name these figures over and over, both from right to left and from left to right.

After these illustrations, first, from the reality of the bundles, and secondly, from their signs or representatives,—the strokes, and lastly, from the symbols or figures, a large number of examples should be introduced. Add 24 to 35, What have you here? 4 units and 5 units, which make 9 units, 2 tens and 3 tens, which make 5 tens. Thus we have 9 units and 5 tens, or 59. Add together 365 and 233. Here we have three units and five units, which make eight, three tens and six tens, which make nine tens, and two hundreds and three hundreds, which make five hundreds, or 598. Here, too, a number of examples may be given, both in money, weights and measures, when these are under ten. The exercises in subtraction, &c., should be of the same nature as the preceding. Take 28 apples from 39. Here we take 8 units from 9 units and 1 remains; 2 tens from 3 tens and 1 ten remains. But 1 unit and 1 ten make 11. And so on with multiplication and division.

But besides the examples thus necessary to make the scholars familiar with the real and local value of numbers, there is another element, namely, classification, and this, too, must be set forth by an array of examples. Take the same illustration as before, the bundles of slate pencils. We have then 5 bundles of one hundred, 4 of ten, and 3 ones, or three single pencils; 8 of one hundred, 4 of ten, and 6 ones; 3 of one hundred, 2 of tens, and 7 ones; 1 of one hundred, 7 of tens, and 5 single pencils. Mark these on black-board, informing the scholars that they represent the bundles of pencils. Put down one line as before 543, and now train the class how to arrange the others, placing the hundreds, the tens, and units in their respective columns, in other words, apply the principle of classification, and the work is done. This process, too, will explain the whole matter of carrying.

Arithmetic Abstract. (1. *Initiatory.*) We have discussed, at some length, the subject of concrete arithmetic. We have shown that the young become acquainted with number at a very early period, not for its own sake, but for the sake of the object or objects with which it is associated. We have dwelt at length on the application of num-

ber to realities, or the objects themselves, then to their signs or representations, and lastly, to the objects with which the pupils are familiar, but which are now absent. And thus, by the systematizing of the concrete, we have paved and prepared the way for an easy and natural transition to the abstract. Instead of being launched all at once into the region of the unknown, which is generally the case with all children at the commencement of their arithmetical career, by going through this course of training they feel the stability of the ground on which they are treading, and they understand right well what is the index of these signs, and the end in view in the processes they are required to work out, as well as the character of the means by which this end is accomplished. Abstract arithmetic is thus rendered a perfectly rational and intelligent exercise, an exercise in which children possessed but of ordinary or medium powers may be brought to take an interest.

Scholars, generally, who have received anything like justice in their education, and been regular in their attendance at school from the time they were six years of age, are quite competent to enter upon abstract arithmetic about eight, or the period when they pass from the Primary to the Intermediate department. So long as they are in this department, that is, from about eight till ten, their reflective powers are not yet developed, and consequently their attention, during this period, in arithmetic, should be directed to a few of the more fundamental rules, to be worked with all possible accuracy and expedition. This naturally divides the whole subject of arithmetic into two great divisions, thereby requiring two text-books, an initiatory, and a more advanced. The former should embrace the following rules:—

1. Enumeration and notation.
2. Fundamental rules.
3. Addition, subtraction, multiplication and division of decimals, and vulgar fractions.
4. Reduction and compound rules.
5. Practice.
6. Proportion.
7. Simplest rules in interest, discount, &c.

This initiatory text-book, which would be to all intents and purposes the text-book of the common schools of the country, should be mainly devoted to examples both in mental and slate arithmetic; and these invariably rising from the easy to the more difficult. Each new rule should be introduced by a short oral object lesson on its nature, so as to bring out in pictorial relief the import of the designation; this

should be followed by one or two, or, if need be, by three examples, worked in full with a minute analysis of every step in the process, and from these two, the object lesson and the example, the rule for general guidance should be deduced by the pupils themselves, aided by the teacher. We here subjoin a few illustrations of the mode in which we conceive such a text-book ought to be constructed:—

ADDITION.—OBJECT LESSON ON EXPLANATORY EXERCISES.

EXAMPLE 1.—Henry gave 5 dollars for a coat, and 3 dollars for a vest; how much did he pay for both?

ANALYSIS.—He gave as many *dollars* as 5 dollars and 3 dollars, which are 8 dollars. Therefore he gave 8 dollars for both.

2. John sold a pig for 3 dollars, and a calf for 6 dollars; how much did he receive for both?

3. Mary has five apples in a basket, and 7 apples in her hands; how many apples has she altogether?

From the preceding operations we perceive that ADDITION is the process of uniting *several* numbers of the same kind into *one* equivalent number.

The SUM or AMOUNT is the result obtained by the process of addition.

The sign, +, is called *plus*, which signifies *more*. When placed between two numbers, it denotes that they are to be added; thus, 5 + 4, shows that 5 and 4 are to be added.

SIMPLE ADDITION.—CASE I.

When the amount of each column is less than ten.

EXAMPLE.—A farmer sold some oats for 102 dollars, twelve cows for 360 dollars, and a horse for 217 dollars; how many dollars did he receive for all?

OPERATION. ANALYSIS.—We arrange the numbers, so that units of like order shall stand in the same column. We then add the columns separately, for convenience beginning at the right hand, and write each result under the column added. Thus, we have 7 and 2 are nine, the sum of the units; 1 and 6 are 7, the sum of the tens; 2 and 3 and 1 are 6, the sum of the hundreds. Hence, the entire amount is 6 hundreds, 7 tens, and 9 units, or 679, the answer.

6 7 9

CASE II.

When the amount of any column equals or exceeds ten.

EXAMPLE.—A merchant pays 896 dollars a year for the rent of a store, 687 dollars for a clerk, and 390 dollars for truckage; what is the amount of his expenses?

OPERATION. ANALYSIS.—Arranging the numbers as in the former case, we first add the column of units, and find the sum to be 13 units, which is 1 ten and 3 units. We write the 3 units in the place of units, and the 1 ten in the place of tens. The sum of the figures in the column of tens is 26 tens, which is 2 hundreds and 6 tens. We write the 6 tens in the place of tens, and the 2 hundreds in the place of hundreds. We next add the column of hundreds, and find the sum to be 17 hundreds, which is 1 thousand and 7 hundreds. We write the 7 hundreds in the place of hundreds, and the 1 thousand in the place of thousands. Lastly, by uniting the sum of the units, with the sums of the tens and hundreds, we find the total amount to be 1 thousand, 9 hundreds, 7 tens and 3 units, or 1973.

1 9 7 3

This example should also be performed by following method, which is that in common use.

OPERATION. ANALYSIS.—Arranging the numbers as before, we add the

896
687
390
—
1973

first column, and find the sum to be 13 units; writing the 3 units under the column of units, we add the 1 ten to the column of tens, and find the sum to be 27 tens; writing the 7 tens under the column of tens, we add the 2 hundreds to the column of hundreds, and find the sum to be 19 hundreds; as this is the last column, we write down its amount, 19; and we have the *whole amount*, 1973, as before.

At this stage the teacher should again call the attention of the pupils to the different parts of the analysis, and thus enable them to form the rule for themselves.

They should also be made to give the rule thus formed in their own words, and if necessary, to compare it with that given in the book.

The teacher should now give a number of mental exercises to ascertain that the pupils understand the whole process and rule—if so, they may be allowed to proceed with the work in order.

In the same manner each rule should be introduced and illustrated.

But it is more to our purpose that we here give a few directions on the method of teaching arithmetic at this stage.

1. We trust it is scarcely necessary to notice that in arithmetic, as in every other department, the pupils should be regularly classified. This is specially needed at the present stage. The grand object, as already noticed in reference to this stage, is accuracy, neatness and expedition. This can be more effectually secured by the sympathy of numbers than by any other stimulant, and this can only have justice done to it by thorough classification. It has been too much the practice, whenever children are able to work examples in arithmetic, out of a book, to allow each to work on his own account, and thereby deprive them of the whole benefit of the sympathy of numbers. This is undoubtedly wrong, and is specially so here, where so much depends in the object aimed at, upon external stimulants. At this stage the scholars are to study not only the rationale of the principles involved, but facility in the working, and that with an accuracy that can be depended on.

2. The teacher himself should always, either in the class-room or in the school, expound a new rule to his pupils. If, in arithmetic, the aid of the monitor, or pupil-teacher, or assistant can be called in with as great effect as in any other branch, this should be confined entirely to the supervision of the working of the examples. The exposition of any principle should be left entirely to the head master. He ought to be perfectly competent to unfold it in such a way as it shall be thoroughly understood by the most stupid in the class. He can exhibit it by illustrations, both in itself and in its relations, that the whole class shall see it in all its importance, and appreciate it in all its value.

That such is the case a satisfactory test should be taken. Two or three examples should be given the class to work from the black-board before they are remanded to their seats. If they can work these with ease and intelligence, the object aimed at has been attained. They may then return to their seats, and under the eye of the monitor be allowed to work the examples in the book.

3. A certain number of examples should be given out for the working of the whole class, and the pupils that get them first done and pronounced correct by the monitor, should be marked in order, and shown to the master, and made to appear in their favour when the progress of the day is summed up.

4. In all the arithmetic classes, from the lowest to the highest, there should be constant reviews, specially of the fundamental rules, both simple and compound. An hour every day devoted to this branch is not at all too much, fifteen minutes of that time should be given to class reviews, with keen competition. This will prove of vastly greater service, both for mental development and practical purposes, than the solution of the most difficult problems, or the pondering of the most puzzling exercises.

Arithmetic Abstract. (2. Advanced.) As the grand object in the initiatory is to train the pupils to habits of accuracy, expertness and neatness in computation, so here it is to develop mind, to expand and enlarge the highest intellectual endowments of our nature. Whilst arithmetic is in itself of vast practical utility in every walk and pursuit of life, and demands, therefore, the highest place next to reading in every system of popular education, it is of all branches usually taught in our common schools, the best fitted to discipline the reflective powers. This has not been neglected in the preceding part. We have taken for granted that the head master has, with the help of the black-board, given a full exposition of each rule, as well as, when necessary, presented a pictorial delineation of the same. But this is the main field for elaborating the theory or rationale of every rule. The pupils, generally, before they finish the concrete and the initiatory abstract, are past twelve years of age, and both by their age and attainments in a state of preparedness for the exercise of their reflective powers, and perfectly competent for a due appreciation of the theory of each rule. In this stage there ought to be a complete list of all the different rules in arithmetic, with their varied relations and dependencies traced.

In examining these rules or problems, it will be found that in all their diversified processes of operation, or modes by which their

resultants are effected, the two fundamental rules of addition and subtraction pervade the whole. There is, no doubt, considerable diversity and complexity of combination and of operation, but all is traceable to one grand principle, the principle of adding to or taking from. This is more palpably the case on to proportion. Here the principle of comparison, or the doctrine of ratios, is introduced, but this is more in the formula of the account or statement than in the process of its operation. All, from proportion on to the square and cube roots, are dependent on the same process, all flow from the rule of three as it is sometimes designated. In evolution, which is neither more nor less than one of the properties of number, there is the application of the same principle in an indirect form. It may be well, as the advanced class proceeds from the one rule to the other, to point out their several distinctive features in what they resemble, and in what they differ in their processes and modes of operations, and specially to call attention to their practical comparative usefulness. As at this stage the abstractive and reasoning powers of the pupils are principally to be developed, so every effort should be put forth to expound the theory of each problem or kind of exercise, and from it to elicit the rule as well as the converse, from the rule to evoke the theory. When the exercise can be easily illustrated by geometry or algebra, this should at once be done, as it will tend largely to enlighten and expand the views of the pupils on the whole question. When there are several ways by which the conclusion may be reached, it would be advantageous not to bind the pupils to any one course or mode, but to leave them very much to their own latitude. Indeed, if there are two or three ways of working out the same result, the pupils should not only be encouraged, but positively required by the master to do so. The same plan should be pursued with the proving or verifying. When that can be done in more ways than one, it should be resorted to, as it will not only give additional confirmation, but develop and enlarge the conception.

The examples here should rise under every exercise to the highest possible pinnacle. It matters not how difficult they may be, if they rise orderly and consecutively. Indeed, the more difficult the better; the more diversified, too, the more likely are they to call forth higher energy and more profound research. At the end of every rule there should be a few exercises derived from the immediately preceding rules, for the purpose of withdrawing the mind from the more formal or routine, and directing it to general work. It were well, too, even in the more advanced department, to have a weekly competition with

the other classes in reference to the fundamental rules, or reduction, or even proportion, rising of course in difficulty in accordance with their advancement. This is a grand defect in all our teaching of arithmetic. Immediately when the pupils are competent, by dint of the development of their intellectual powers, to grapple with the deeper questions, they abandon the more simple, and seldom, if ever, work any account in them. What they gain in knowledge or in arithmetical power, they lose in accuracy and speed, and oftentimes allow their juniors to surpass them. This should not be. It is still the fundamental and the more easily wrought rules that they are most dependent upon in common affairs, and which they will find of the greatest advantage, when they embark on life's busy scenes. It is quite proper to go to the more advanced, but it is not less so that they lay aside an hour or so every week for rising to yet more unvarying accuracy and expertness in the more common and the more generally useful rules.

Algebra. Much is lost in connection with the value and beauty of computation, in consequence of this branch not being introduced or taught till the pupils are far advanced in arithmetic, or have well nigh finished it. As $xy z$, the unknown numbers, may be employed to represent any concrete number just as any other object, so may it be taught as soon as the pupils are able to work addition with tolerable ease, we mean, of course, in its more simple or elementary forms. And here we may state, that it is our decided opinion that algebra should be divided into three stages, just as arithmetic has been. The first stage should be merely adding and subtracting, using only simple signs. The second stage should embrace the application of algebraical signs and symbols, called sometimes *praxis*, with some exercises in very simple equations. The third, or last stage, may commence with the common works on the science. On each of these stages, we shall make a few observations, and give a few exemplifications.

Stage 1. This is exceedingly initiatory, and can be worked by any child of eight or nine years of age. There is nothing but simple signs employed, and simple addition and subtraction. But simple as this may be, it is admirably calculated to open the tender bud of the juvenile mind to the matter of number, and to enlarge his views on the whole subject.

EXERCISES IN ALGEBRA.—FIRST STAGE.

1. Find the sum of $a + 2a + 6a + 7a$.
2. Find the value of $4a + 3a + 2a + 6a + 5a$.
3. Find the value of $3b + 2b - \frac{4}{5}b + \frac{1}{5}b$.
4. Find the value of $3a + 2a + 5a + 7a - 6a$ when $a = 7$.

OPERATION.

$$3a + 2a + 5a + 7a - 6a$$

$$3 \times 7 + 2 \times 7 + 5 \times 7 + 7 \times 7 - 6 \times 7$$

$$21 + 14 + 35 + 49 - 42$$

$$119 - 42$$

77 Ans.

5. Find the value of $\frac{2}{3}a + \frac{3}{4}a + 8a$ when $a = 15$.

SECOND STAGE.

1. Find the numerical value of $4x + 5y + 3a$ when $a = 4$, $x = 7$ and $y = 5$.

OPERATION.

$$4x + 5y + 3a$$

$$4 \times 7 + 5 \times 5 + 3 \times 4$$

$$28 + 25 + 12$$

65 Ans.

2. Find the value of $5axy$, when $a = 4$, $y = 8$ and $x = 5$.
 3. Find the value $3a^2x^2 - 4x$ when $a = 7$ and $x = 5$.
 4. Find the value of $a^2 + 2ax + x^2$ when $a = 4$ and $x = 6$.
 5. Find the value of $x^2 + 3(a+x)(a-x) + a^2$ when $a = 5$ and $x = 3$.
 6. Find the value of $3x^2 + \frac{2a + 3x + 1}{4y} - \frac{2\sqrt{ay}^2}{4}$, when $a = 4$, $x = 5$ and $y = 2$.

In the following exercises the pupil is to attach any value to the letters he may wish and find the result.

7. $2(a-x)^2 = 2a^2 - 4ax + 2x^2$.
 8. $3\frac{(a^2 - x^2)}{a+x} = 3(a-x)$.
 9. $\frac{a^4 - x^4}{a-x} = (a^2 + x^2)(a+x)$.
 10. $a^3 + x^3 = (a^2 - ax + x^2)(a+x)$.
 11. $(a^2 + ax + x^2)(a-x) = a^3 - x^3$.

THIRD STAGE.

Same as given in any work on Algebra.

Geometry. One grand defect in common with algebra, in the teaching of this branch of education hitherto, has been the lateness in the school course at which it has been introduced to the notice of the young. We do not here refer to Geometry in its highest abstract stages, such as it is elaborated in Euclid. This, generally speaking, is not taught at too early a period. We refer to the practice of ushering the pupils all at once into the abstractions of Geometry without the slightest preparation in reference to form in the concrete, without their even knowing what an angle is, or the difference existing amongst the most common figures, whether made up of straight lines or curves. They are launched all at once into the very heart of the definitions, axioms and postulates of Euclid, into all the technicalities of the science, without the most distant idea of what constitutes the magnitude of an

angle, or the distinction between the various sorts of angles and triangles, or even without the capability of distinguishing the most common figures. Need we wonder, then, that with so many, Geometry becomes a meaningless round of vocables, a purely mechanical process, those very faculties, which it was intended mainly to exercise and discipline, remaining untouched and unmoved; and the whole study in fact becoming a tiresome and unpalatable task.

Now, we apprehend that much, a great deal of the mysticism and empiricism, in which this interesting and important science has been involved, may be obviated, by treating it pretty much in the same way as arithmetic, beginning with the concrete and rising to the abstract, familiarizing the mind first with forms or figures that prevail, and with all the primary qualities of bodies; then passing on to the consideration of some of their more prominent properties and uses. And after this process has been gone through, to pass over to all the abstractness and technicalities of Euclid. With this view, and for the accomplishment of these important purposes, the study of Geometry should be divided into three departments or stages. The first may be designated the Geometry of form initiatory; the second, the Geometry of form advanced; and the third, Plane Geometry, with all its higher stages and practical applications.

Geometry of Form. This subject has already been presented to the mind of our readers in connection with the cultivation of the perceptive faculty, through the medium of object lessons. As form or figure constitutes the first knowledge we derive through the medium of the senses, so does instruction in this subject constitute the very first lesson which the little child receives on his entrance of his educational career at five or six years of age, or under the parental roof at a much earlier period. The idea of the existence of different kinds of forms may be developed, and the faculty of perception cultivated at three or four years of age; and this may be continuously carried on through all the different stages, as a branch of education, until the pupils are fit to be transplanted into the very midst of the definitions and abstractions of Euclid. Of course other departments will be greatly benefitted by the culture of the perceptive. The abecedarians, for example, will be able at once to decipher the different forms of the letters, and to distinguish them from one another. The penman and the painter, too, will be far more competent to progress in their respective avocations by the aid they will obtain from the culture of the perceptive, both theoretic and practical. But whilst all this is the case, and all these advantages will flow from the prosecution of this department, it is not on these

accounts, but for its own sake, it ought to be studied and attended to. This will free it of all encumbrances, and enable the students to follow on in a more consecutive and progressive course. This preliminary concrete department ought to consist, as already hinted, of two stages, an initiatory and an advanced. The initiatory, after pointing out how different kinds of forms may be developed to the minds of little children about four years of age, should consider everything connected with straight, and curved, and crooked lines, with the various figures bounded thereby, whether rectilinear, superficial or solid. The grand point to be aimed at here is not so much the forms of figures to be constructed as the modes of their development, so as to call forth and strengthen the perceptive faculty. (See mode of conducting an object lesson.)

2. *Geometry of Form. (Advanced.)* The pupils are now thoroughly acquainted with form of every shape and size, both linear, superficial and solid, their tactual and visible organs have been extensively cultivated and improved, and both in their theoretical and practical knowledge, ripe to proceed to a more advanced stage, even to point out some of the more common properties and uses of straight lines, angles, triangles, squares, parallelograms, circles, &c.

1. *Properties of straight lines and curves.* A line that is not bent in any part of it, is called a straight line. A straight line is the shortest path that can be made from one point to another. So, when we wish to tell the distance from one place to another, we measure how long the straight line is that joins the two places. Two straight lines can never cut across each other in more than one place, but a curved line cannot be drawn that cannot be cut at least in two places; and so on.

2. *Properties of Angles.* When two straight lines go in different directions, the difference of their direction is called an angle. The size of the angle then depends on the difference of the direction of the line, and not on their length. The point where two straight lines meet is called the vertex of the angle. When two straight lines cross each other, they make four angles. When two straight lines cross each other the opposite angles are of the same size. When two straight lines, crossing each other, make four equal angles, each angle is called a right angle.

3. *Properties of Parallels.* When two straight lines are parallel, they are just as far apart in one place as in another. When two curves are everywhere at the same distance apart, they are called concentric curves. When a straight line crosses two parallel lines, it

makes the same angles with the one as with the other. If a straight line is parallel to one of two parallel lines, it is parallel to the other.

4. *Properties of Triangles.* The three angles of a triangle taken together will make two right angles; show how this can be done by cutting a triangle out of paper with a pair of scissors. A triangle cannot have more than one angle as large as a right angle. If one angle in a triangle is a right angle, the other two put together will, of course, just be equal to a right angle. If one side of a triangle is longer than another side, the angle opposite the longer side is larger than that opposite the shorter side. When one angle in a triangle is larger than another, the side opposite the larger angle is longer than the side opposite the smaller angle. The size of triangles and the different kinds of triangles, quadrangles, parallelograms, &c., with their various uses, should be here pointed out.

5. *Properties of Circles.* A curve that bends equally in every part is called a circumference, and a figure bounded by a circumference is called a circle. Parts of a circle are called arcs. If there was a tree in the middle of a field, and the boy should keep all the time at the same distance from the tree, he would come round to the place he started from, and the track of his wheel would bend equally in every part. He would in fact go round in the circumference of a circle. A straight line drawn from the centre of a circle to its circumference is called a radius. All the radii of the same circle are equal. Rectangles and circles are the most common figures in all manufactured things. They are the easiest figures to make exact, and the most convenient when made. Circles are almost as common. But in natural things—in things made by the Creator, circles are much more common than rectangles. A straight line joining the ends of an arc, is called a chord. Any straight line going across a circle having both ends in the circumference, is a chord. The longest chord we can have is the one that goes through the centre of the circle, or the diameter. If we divide a circumference into six arcs, the chord of each arc is just as long as a radius. Then it may be shown how to measure angles, how to measure the size of a circle, &c. The properties of chords and tangents. All these things illustrated by the drawing of objects, both in the world of nature and art. These may be continued with great advantage to higher exercises, remembering that all must be exemplified by the concrete.

Plane Geometry. Euclid. The pupils are supposed to be perfectly familiar with magnitude or measure, and quantity in the concrete. And they are now well prepared to enter upon the consideration, the

advantageous discussion of the abstract science of Geometry. With what delight and relish will they now enter upon the study as compared with what they would have done had they been ignorant even of what constitutes an angle or the plainest properties of lines, surfaces and solids. And in launching the student upon the arena of this science, so purely abstract, and yet so eminently practical, so suggestive, and yet so inexhaustible, so pregnant with results, and yet so transcendently illuminating and enlarging; we may state it as our conviction, that we know no treatise so well fitted to lay the basis of this science than the six elementary books of Euclid, as given in the improved editions of Simson and Playfair, and we know no collection of these elementary books so correctly and so admirably arranged, as well as containing so many improvements in the shape of practical examples at the end of each book as the one on Geometry in Chamber's educational course. In our estimation this book not only presents the best exposition of Plane Geometry, but lays the most substantial foundation for the higher theoretical branches, such as Solid and Spherical Geometry, Spherical Trigonometry, Conic Sections; also, for all the practical applications, such as Engineering, Civil and Military, Architecture, Navigation, &c.

In entering upon this branch, the first thing plainly to be done is the thorough understanding and the accurate committing to memory of the Definitions, the Postulates and Axioms. The enunciation of each proposition should also be well fixed in the memory, that it may be cited, when required, with ease and correctness. This constitutes the very excellence and glory of Geometry, every step taken requiring confirmation from what has gone before. Whether that proof is a postulate, or axiom, or some preceding proposition, it ought to be at once given and carefully recited. What adds to the beauty and nobleness of this fortification is the fact of its utter destitution of all ambiguity, it must either be right or wrong—it must be unique. This distinct reference to the proof will go far to prevent a purely mechanical process in the different steps of the argumentation, and cannot be intelligently given without an understanding of the connection, and a consequent clear apprehension of the demonstration itself.

As the grand object of Geometry is the exercise and cultivation of the ratiocinative faculty, every effort should be put forth, and means employed, to see that the faculty is really exercised, in the prosecution of this branch of study; and that too great dependence is not placed on the memory, if it does not sink into a purely memoriter process

altogether. To prevent this as much as possible, it might be found in every way advantageous to insist upon the students in this department, when they enter on a new theorem or problem, to endeavour to make out a demonstration or construction for themselves before they ever look at the one or other in Euclid. This course they should pursue most conscientiously and scrupulously, whatever the difficulties, the sacrifices or conflictings to be encountered. Half-an-hour spent at this work is worth hours devoted to the most laborious and assiduous plodding, even when that imparts the capability of the most correct rehearsal of Euclid's demonstration. To avoid everything in the shape of routine or mechanism, to keep the mind and understanding in vivid exercise, and to give the reasoning full justice, it may be well, in addition to the above remark, for the teacher to alter the position of the letters from that in Euclid, and if the proposition is differently demonstrated, such as the eighth, ninth, eleventh and twelfth of first book, to require the pupils to recite any form and every minutiae of detail.

We have again and again pointed out the advantages of reducing, if possible, everything to practical application. These advantages, in all their length and breadth, are here felt, and every opportunity, such as is presented in the XXXII. and XLVII. propositions of the I. Book, should be embraced and turned to account. Indeed, in Geometry of form advanced, it were of the highest value to endeavour at every stage to have something practical by way of exemplification, something tangible to our every day observation, and to carry out the same in every book of Euclid. Measuring fields and houses furnishes good practice.

Finally, in addition to all the other endeavours to develop the reasoning faculty, as well as to show whether we are profiting by the study of Euclid, exercises should be given out periodically, once every week or fortnight, bearing some relation to the stage at which we have arrived, either in the shape of enlargement or deductions of propositions we have considered, &c. At the end of every book of Euclid in our text-book there are some capital examples of these exercises. These, or others of a cognate nature, may be given out for solution, and prove in every way beneficial both in disciplining mind and in adding to our knowledge in this department.

Penmanship. There is a strong disposition on the part of too many teachers to depreciate or undervalue this branch, a disposition this, which, wherever it obtains, must militate materially against its successful teaching. Various reasons may be assigned for this state of things.

Some regard it as a purely mechanical process, a mere imitation which any one, with a good eye and a steady hand, can accomplish, and thereby conferring neither credit nor discredit upon the teacher. Other teachers may be indifferent penmen themselves, priding themselves in this very defect, because certain great men have been notoriously poor scribblers; and it is very unreasonable to expect that such will manifest much interest in the progress of their pupils. But, whatever is the reason, such individuals labour under a grievous delusion. Next to reading there is no branch of such extensive practical importance as writing, and no branch demanding such unwearied industry on the part of the teacher, or one where his diligence and success will be so amply rewarded or so highly appreciated, or one in the successful prosecution of which he will obtain higher popularity as a teacher. Besides though writing is unquestionably a mechanical art, it should never be forgotten that, like every such pursuit, it is founded upon fixed principles or laws, and that in the acquisition of the art, the greatest advantage arises from these principles or laws being associated therewith. Every teacher, then, should not only be able to point out this connection, and assiduously persevere in doing so, but he ought to labour to set before his pupils the best example possible; and for this purpose to acquire an increasing skill in the use of his own pen. All can be taught to write with legibility, just as all can be taught to read with intelligence, so every teacher ought to possess the capability of presenting to his pupils, at least a fair specimen of this quality. But enough of preparatory remark. Let us, as briefly as we can, point out the principles that ought to guide the pains-taking teacher in this branch of education, then say a few words on the more prominent systems that have been resorted to, and lastly, address a few observations both to teacher and taught.

1. And we would notice in the first place, that this branch ought to be taught with intelligence. Nothing has done so much injury to it as the prevalence of the notion, that it is purely a mechanical art, entirely dependent on the eye and hand. That it is a mechanical art and depends largely upon the imitative powers for success, no one will call in question. But like every similar pursuit, it is, and ought to be, founded upon some theoretical principle or principles, some natural element or elements, which ought to be clearly apprehended and steadily kept before the mind in all the practical stages. Drawing, architecture, sculpture and the like, have all certain fixed laws or principles upon which they are founded, and which must be carefully carried out in all the artistic departments; and the closer this union

is maintained, the higher will be the proficiency arrived at. So is it with writing. The basis of this art is form or figure, and that built upon no arbitrary or capricious arrangement, but the most natural principle, even the motions of the hand in the exercise. These motions are four in number—the straight line, upward and downward, the curve, from right to left and from left to right. These may be all reduced to two,—the straight line and curve, and every letter of the script alphabet, whether small or capital, are but modifications of these two forms, but scions or twigs engrafted upon these two stocks. In this engraftment process, two things must be attended to—the law of proportion, that is, the relative length of these lines, and the law of symmetry or beauty, that is, the exact distance at which each letter should be placed from the other. What could be more simple or beautiful than this arrangement, and yet how completely does it occupy the attention, the understanding, the judgment and the memory. The mechanical process is indispensable; steady, patient, persevering practice, is essential for the acquisition of this, as of every other art, and the higher the imitative powers, the more successful the practical results; but the more successful far, will the learner, be when the theory and practice go hand in hand, when the art is but the legitimate carrying out of the science. This places the whole exercise upon a rational platform, imparts a fixedness of purpose, a definite law to all the operations of the scholar, a union of means and end, of design and intelligence, a combination of the æsthetical and mechanical, which cannot fail to spread an animating, an enlivening charm over the whole process; it invests, too, the teaching with an importance and interest, which it could not otherwise possess, and stimulates both teacher and taught to ply their best energies, both intellectually and mechanically, in the acquisition of the art.

2. Writing should be conducted on the gradation system, proceeding from the easy to the more difficult, from the simple to the more complicated. For this purpose, one of the first things which the teacher must master is the classification of the script letters, rising from the simple to the more complex, and founded upon the two original motions, the straight line and curve. The following order rests upon this principle, and rises step by step: *i, u, t, l, m, n, h, p, e, o, a, d, g, j, y, l, f, r, v, w, k, s, x, z*. The capitals may be arranged pretty much after the same fashion. These are founded upon what is called the line of beauty, which is neither more nor less than the two-fold curvature, that is, the curve from right to left, and the curve from left to right. Before doing anything with the relative heights, some

conclusion, some definite judgment must be come to, as to the absolute height or the size of the hand which the scholars are required to write. It is well known that the all but universal custom is to commence with a large rough text-hand, and to continue at this for a considerable period. This is for the purpose of enabling the pupils to trace, all the more distinctly, the exact forms of the letters, and there is undoubtedly great advantage in this. But whilst we repudiate the idea of beginning with a small or common current hand, we question whether a large text does not overtax the muscles, and lead to much awkwardness both in the formation of the letters and the general posture of the body. Perhaps, all things considered, the best course to pursue here is to begin with a medium or half text-hand, to intermingle this after the muscles are duly supplied with a large text, care being taken that even then the muscles are not overstrained, and as soon as the pupils are capable of forming the letters correctly, to allow them occasionally to write a small hand copy. But whatever is the size of hand determined on, the relative heights of the letters that go either above or below the lines can be easily fixed by the drawing of a horizontal line right in the centre of the two parallels, designating the whole a height, and the half, half a height, measuring both above and below the line accordingly. This fixes, very definitely, the proportional length of the letters that go above or below the lines,—we mean, of course, of the small letters, as the the large ones or capitals are not supposed to be taken up until the pupils are able to form the others. In this way the law of gradation, and that on the most natural principle, will be carried out to the very letter. There will be, first, the straight line; second, the straight line and curve; third, the curve; fourth, the double curve; fifth, the double curve and straight lines combined; sixth, the relative length of straight lines; seventh, the loop, or the double curve in miniature, such as in the letters *j*, *g* and *y*; eighth, the loop, or the double curve in half miniature, such as in the letters *b*, *f*, *v*, *w*, *r*; ninth, the double curve in whole and half miniature, such as in *v*, *k*, *s*, *x*, *z*. In this classification process, great diversity of view may obtain. Some may desire to resolve all the letters in script alphabet into the two motions or elements, the straight line and curve; others into the four motions or elements, straight line, up and down, curve from right to left, and from left to right; others into the nine motions or elements as above, and others into thirteen. And from these motions or elements respectively, construct the twenty-six letters of the alphabet. Perhaps the simplest way would be to divide the whole into the half, and then again to subdivide these,

it being always remembered that whether we prefer the thirteen, or nine, or five, these are but modifications, or rather exemplifications of the two original motions, the straight line and curve, which may be optionally designated either elements or principles.

3. Writing should be taught with all mechanical equipments, and with all necessary aids. Here, perhaps more than in any other branch of education, is it necessary to be provided with all external apparatus, and means, and aids. However conscious any individual may be of his powers and capabilities in any one of the fine arts, however exalted his genius in any one department, he never would attempt to undertake any important work—a work on which his credit is staked—without being furnished with the adequate materials, without being placed in the most advantageous position for the performance of the task. And it is exactly so with penmanship. It is a mechanical art, and demands the most befitting machinery for its acquirement. The first thing here to be attended to, is the furniture, the seats and desks. These should be all properly graded and adjusted in complete adaptation to the work, with proper slope, ink-fountain, footboard, &c. Every scholar should have writing books, models, pens, &c., and these should all be of the first quality. It is a false economy, even with beginners, to stint the supply of the best materials, or to use an inferior article. With the scholars all classified and provided with the materials, and seated right opposite the black-board, the first thing that should engage the attention of the master is the position of the body. In writing, the body should be preserved as erect as possible. The children should be prevented from leaning on the desk—a habit which injures both their health and writing. The left side should approach the desk, while the right is thrown slightly back. The writing book should be placed somewhat to the right, and at such a distance from the pupil as will enable him to reach it with perfect ease and freedom. It should be parallel to the edge of the desk, and kept from moving by the left hand, which, for this purpose, should be drawn in close to the left side, the fingers stretched out and resting on the paper. In order to give the right hand the liberty necessary to write well, the arm should rest on the desk about midway between the wrist and the elbow. The pupils must be trained to take and retain the proper position, by frequent and oft-repeated exercises. The next thing which the teacher has to do, is to train his pupils to handle the pen with ease and dexterity. This is no easy accomplishment. Young children find very considerable difficulty in wielding the pen in such a way as to cause it to obey the impulse of the will. “The understand-

ing may be thoroughly alive to the due proportion, form and symmetry of any one letter, and the eye may have completely mastered the elements which compose it, and yet the hand may refuse to form it according to the prescribed model, or according to the idea which the pupil has in his mental vision." In such cases, and they occur with all beginners, the master must, with pains and patience, show the children how the pen is to be held, lightly, yet steadily, between the thumb and first and second fingers, at a certain distance from the nib, pointing to the shoulder, but so that the nib shall fall square upon the copy, the fingers, which hold it, being neither too stiff nor too much bent, the others quite at rest, and the hand as a whole not turned over too much on its edge. Not only must the teacher give these or similar directions, he must occasionally guide the wavering hand, and must always smile on the faintest symptom of improvement.

4. Writing ought to be taught with fidelity, and yet with freedom of imitation. In the acquirement of every trade or mechanical art, there ought to be, at the outset, the closest copying or imitating of the original. Both the eye and the hand require to be trained, and that by the closest imitation. There is, no doubt, the greatest possible diversity in the imitative capabilities, both of the one and other of these, but even the greatest require at the outset to walk according to a fixed rule or standard. And there is a striking reciprocity between the standard and the execution of the task, between the task and standard. The more correct and conformable with the original performance, the more clear and precise will be our estimate of the standard and *vice versa*. And this is exactly the case with the mechanical art under consideration. The best eye and hand are liable to make mistakes until they become familiar by a reiteration of copies, until both go through the work as by second nature, by instinct. It is on this ground that in our estimation everything should be done in accordance with rule, with a perfect standard. Hence, feint lines should be drawn for every step, and the closest imitation insisted upon. It has been already stated that a horizontal line should be drawn in the centre of the fixed size of the hand, in order to regulate the relative lengths of the letters; but more than this, we maintain, that there ought to be oblique or slanting lines to regulate the matter of inclinations and distances of the letters. Let such lines be drawn at a certain angle which does not seem to be fixed, though the less the slope or the nearer the right angle the better, and let this slanting line equal in distance half a length, and call every intermediate distance a space, causing the straight line and curve to occupy the same, and so on with

the other elements according to their size and requirements, and the whole matter of distance is symmetrically arranged. But not only should there be at the beginning the most complete dependence on these lines, there should also be the closest imitation of the models that are set before the pupils until these models are thoroughly mastered. It is mainly on this account that we prefer slips or writing models to the inscribing or engraving of the letters or words on the upper line of the copy-book. The imitation, generally, does not extend beyond the first, or, very partially, the second line, and the whole of the remaining lines of the copy are imitations of the preceding, and not of the writing models; and the result is, that the last half literally undoes the first. To prevent the recurrence of such a waste, both of time and means, the teacher ought to inspect every line, at least, to point out its excellences or its faults, and to insist upon a yet closer imitation of the one and avoidance of the other; and all this should be continued, step by step, until there can scarcely be a distinction drawn between the model and the copy.

But here the question may be asked, are we to keep the children always in leading strings? Unquestionably not, we reply. It is only until the eye and the hand have become perfectly familiar with these aids, and their understanding cast into the same mould, that this dependence on these lines is to continue. After the series has been gone over three or four times, and the most correct idea entertained of the formation of the letters, their length and space, &c., the slanting or oblique line may be removed, then the horizontal one. After a considerable time the upper, and lastly, the under parallel may be taken away. In this way, we encourage and foster both the fidelity and freedom of imitation.

5. But we would notice yet farther, that writing should be taught analytically and not synthetically.

We shall suppose that the teacher has thoroughly mastered the art, that he has analyzed the letters, and rendered himself perfectly familiar with the elements of each, and the means and aids necessary for the recasting, the recombining, the synthesis of the same; and that he is about to proceed to give the first lesson to a class of beginners of seven or eight years. He prints and writes in script on the black-board any word with which the class are familiar, causes them to trace and master the differences between these forms. Then he requires them to take up the script by itself, to observe its more prominent features, and particularly the predominance of the straight and curve line, that the lines are all inclined in one direction, and that all are nicely joined to

one another. By this analytical process the class will see that writing is conducted according to certain fixed laws, that it is not a mere imitation process or a kind of hap-hazard work, that one wrote well and another badly. By this process the class will be prepared to enter on their work with understanding, to attend more earnestly, and to make greater improvement than if set to imitate a few strokes or lines without any knowledge of the benefits which the imitation would confer on them. The way being thus cleared, a model should be set before them for their imitation, the simple always preceding the more complex, and one stage thoroughly mastered before another is encountered. As soon as possible, words or short sentences should be given rather than their elements; this will incline them to take a deeper interest in their work. Every new letter or element should be first thoroughly analyzed by aid of the black-board, its form clearly deciphered, and its description so plain and palpable that the weakest intellect can understand it. It will impart ten-fold greater effect when all this verbal delineation is accompanied with the exemplification of the teacher.

Lastly, writing ought to be taught with a specific reference to its end. That end, need we say, is to convey our thoughts and those of others to our fellow-creatures, to generations unborn. To effect this, legibility is indispensable;—a property this, demanding that every letter be properly formed, of correct length and right distance from each other,—a property this, which every teacher should, at least, possess and seek to impart to his pupils, or else the end contemplated is not subserved. Though comparatively few read with taste, all can read with intelligence. So in writing. Though few can write with elegance, all can with legibility. This is the object contemplated in the whole preparatory process, in all the calligraphic stages. But legibility in itself is not enough unless accompanied with a due amount of speed, an attainment this, only to be reached by practice, by constant experience. So soon, then, as the letters are properly formed, the scholars should strive to acquire rapidity, to aim at a current hand; and for this purpose writing from book or dictation should be practised every alternate day with calligraphy, in fact the latter should only be practised with a view to the acquisition of the other. It is exceedingly desirable that all acquire a current fixed hand before they leave the school. This would really be eyeing the end, and prove eminently successful in securing at once legibility and speed—attributes really worth striving for and retaining.

Such are the principles that ought to guide and direct in the acqui-

sition of this art. We have dwelt the longer on them, not merely because of the intrinsic importance of the subject, but because it is pre-eminently the branch that shuts up the learners to the training system. It is altogether impossible that the scholars can learn writing without going through the exercise themselves, and the more adroitly that is done, the higher and speedier will be the proficiency.

Various plans and systems have been propounded and followed out to facilitate the acquisition of this art. We have the Dantonian, the Spencerian, the Staples, the Mulhauser, and many others. We unhesitatingly give the preference to Mulhauser, and those on the same plan, simply because all their devices and adjustments are based upon nature, have all a respect to the judgment, the eye and the hand, as having to do not only with the mechanical but the æsthetical and the intellectual. We do not consider Mulhauser perfect by any means. Without going into anything like a critical analysis of the system, we have no hesitancy in pronouncing it at once redundant and defective. It contains a great deal that is altogether impracticable and absurd. The four elements, for example, or with the hook and link, the six elements that he forms, after reducing the whole of the scrip alphabet to the two straight lines founded on the motion of the hand, are utterly useless. Why not at once make the different motions, the elements or principles. Then, again, the system makes no proper provision for the small or current hand—the ultimatum towards which all should tend. The Mulhauser system is but an approximation to a true system. The simplification of that system, and the supply of its leading defects, is yet a grand desideratum in this branch of education. There is, however, one peculiarity in all the systems that have been propounded, deserving of special attention, viz., that they have all made good penmen. And to what is this phenomenon owing? Plainly to the enthusiasm and industry of the author or propagator, thereby exhibiting in bold relief the instrumentality of the teacher, demonstrating in this branch, at least, the truthfulness of the saying, 'the school-master is the school,' and verifying what we stated at the outset, that in no one branch will the industry and enthusiasm of the teacher be so highly rewarded. Let the teacher but resolve vigilantly to inspect every line, and faithfully to point out its excellencies and imperfections, and thoroughly to analyze every new element as it occurs, and the battle is won.

Form and Colour Drawing. This, like vocal music, is a comparatively new branch of education in our common schools. It has, no doubt, been taught for years as one of the accomplishments of a

finished education; but even as such, generally speaking, it has been confined to the more wealthy, and still more to those who possessed a decided taste for the study, and who, in consequence of this very relish, had made decided progress in the art. It is now, however, beginning to be regarded in another light, and to be taught for the purpose of discovering those who have really a natural inclination for the pursuit, and of expanding and fostering the same.

Like vocal music, it ought to be taught to the young at the very commencement of their educational history, beginning as usual with the most initiatory, and proceeding by progressive stages to the more advanced. These stages may be divided into three.

Stage 1. Should be confined to the drawing of straight lines, and to simple objects around with which the young are familiar, as well as the distinguishing of the different sorts of colours. This stage will form a kind of pastime or profitable amusement to the primary department in a graded school, or to the initiatory class in a miscellaneous. And yet it should not be less systematic or consecutive on that account. The teacher here, as elsewhere, should observe the most regular order, see that the children arrive at proficiency in the one form before proceeding to the other, and that every succeeding form is based upon and differs from the preceding. All the forms of straight lines should be first presented one by one, two by two, and three by three, and so onward continuously. It matters little how fantastic the forms, provided the children are required to copy exactly after the pattern shown. These, as far as practicable, should be accompanied with the illustration of real objects in the natural world around. Indeed, it were well that these objects were presented before the outlines be drawn on the black-board.

At this stage little more should be done in reference to colour than merely teaching the children to distinguish and name the seven colours of the rainbow, viz., red, yellow, blue, orange, green, purple and indigo. These may be presented in strips of paper, or in worsteds or ribbons, and the class invited to name those they know. Some may be acquainted with one colour, and others with another; and those to which all are strangers should be made known by the teacher. Having attained a thorough knowledge of colours, they should be required to study their various hues, and to read them in the objects of nature around—the flowers—the birds, &c.

Stage 2. Should embrace the elements of perspective, with the blending of crayon and other paints, so as to bring out the shades, hues and combination of colours. Here the children of the interme-

diate and preparatory departments should proceed systematically and consecutively to work, provide themselves with drawing books and cards, such as Dyce's outlines, or outlines of familiar objects, by art-masters in connection with the department of science and art, and better still, Bartholomew's sketches, and form themselves into regular classes. Every new picture should be drawn first by the teacher on the black-board, giving proper explanations, and directions, and shadings, and then the class should take their books and vie with one another in imitating the drawing. About a third of the class will soon evince their superiority to all the others, and show a decided taste for the pursuit. These should be moved to a higher class, and others brought to supply their place from a lower. This will put all, who have any appreciation and relish for the art, on the best possible vantage ground; will enable them to stimulate one another, and if the teacher is imbued with any love for such pursuits, to provide every species of appliance for their advancement. Thus, opportunity and encouragement will be given to those possessed of real genius for the art to prosecute it with unabated ardor; whilst those who have not, may acquire a facility in sketching any object around, which may prove of the greatest possible utility in after life, open up sources of highest gratification, and tend largely to their refinement and elevation. Crayon may be here advantageously introduced, in illustrating the classification of colours into primary and secondary, with their various combinations and hues. This is an important and interesting field, and should engage the closest attention both on the part of the teacher and the taught. Here, too, the combination of colours—the primary, the secondary, and the tertiary should be all explained and exemplified.

Stage 3. Drawing should here attain its highest perfection, in so far, at least, as the common school can carry it. A predilection for some department more than another will now manifest itself on the part of the pupils. Some will prefer landscape; others, portrait painting; others, flowers; and others, beasts, &c. And whatever is the selection made by one or another should be encouraged, and every means provided for their gratification and the prosecution of the same. All in this department should be required to copy from nature, as well as from the productions of masters in the art.

The harmony of colours should be here carefully studied and practised. This is founded on the principle that every colour, when placed beside another, is changed in appearance; each modifies the one with which it is in proximity. It is the observance of this law, or the violation of it in dress, in the decorations and furniture of a

room, and in the arrangement of flowers in a bouquet, that constitutes the chief distinction between taste and the lack of it in these departments. True taste, therefore, is the observance of philosophical laws, that determines what colours are becoming to certain complexions, also which colours harmonize in the decoration of a room, &c. (See object lessons—Geometry of form, &c.)

Book-Keeping. Though this is one of the direct practical applications both of writing and arithmetic, an application with which not merely commercial men, but every tradesman and householder have severally to do, it is marvellous that it does not receive a greater share of attention, that it does not constitute one of the staple branches of a common school education. It is no doubt taught to a few who intend to devote themselves to a mercantile life, but even to those few, it is, we fear, of comparatively slender benefit, and that mainly by reason of the imperfect manner in which it is taught. "As it is generally taught," says Stow, "it is literally a fancy not a reality. It is scarcely any attainment whatever, save the power of making neat and correct figures, which certainly is something; but as to acquiring a knowledge of book-keeping in school on the ordinary plan, it is perfectly a misconception. In business we have had scores of applications for clerkships from young men, taught in various parts of the country, and by all sorts of teachers, who presented their books as proofs of having acquired this valuable branch of education; but we never found one who was competent to keep books, until he had been trained to do so in a counting-house. They even, sometimes, do not know at first on which side of the cash-book to place monies received. It would indeed be an attainment were practical book-keeping taught in schools; but theoretical book-keeping is proved to have been perfectly nugatory." From this statement of Stow,—and no one was better able to judge from the combination alike of his educational and mercantile knowledge—it would seem that the grand defect in the teaching of this branch, consists in the pupils not having clearly expounded to them the principle or principles involved, in their being mere copyists of the examples set before them without their being required to work out exercises for themselves, in their being mere transcribers of accounts without their being trained to keep accounts, and being necessitated to draw out sets of books for themselves. Even the balancing process in some form is all done to their hands.

And what, in these circumstances, ought to be done to extricate this important branch of education from the anomalous position it has hitherto occupied? What, but to place it on the same footing that

the other branches hold, such as arithmetic, grammar, reading, and the like. And what is that? It is to impart to the scholars, by plain and familiar illustrations, a clear understanding of the theory of book-keeping, a thorough knowledge of the principle or principles involved. Along with this exposition there must go a full practical exemplification and analysis. This, generally speaking, is the terminal point of almost all systems of book-keeping; the pupils are required to copy the practical exemplification, to see that the balancing process is correctly executed, and this winds up the whole matter. But surely this is not enough. Why not treat book-keeping in the same way as grammar, arithmetic, and the other staple branches of education? Why not append to these examples and analyses a series of exercises, illustrative of the various points, and require the pupils to work out these, that the various processes may be incorporated into their minds, and thereby furnish the most irrefragable evidence that they are not only competent to copy, but actually to keep the various books required. It is by the adoption of this or some similar course that book-keeping can be taught in accordance with the training system.

The object of book-keeping is to aid the memory in our worldly transactions with our fellow creatures, whether these are small or great, simple or complicated, common or formal commercial transactions, to keep account of our property and debt. Whilst it is exceedingly right and proper that all should be cognizant of the condition of their worldly affairs, of their financial state, it is specially incumbent on every merchant to exhibit clearly the whole amount of his property, with the particulars of which it is composed, and also the amount of his debt, how he stands with the parties with whom he carries on business, how they stand with him, whether his assets exceed his liabilities or his liabilities his assets, whether, in one word, he is solvent or insolvent, and the cause of his being either in the one condition or the other.

Now, if such is the object contemplated by book-keeping, it is clear that that will be more or less elementary, or more or less complicated according to the character of our worldly transactions, or the extent of our commercial enterprises. Suppose, for example, that our transactions are entirely carried on by cash accounts, then cash books, either of the most elementary or elaborate character, are all that will be required. Suppose again that we both purchase and sell on credit, these cash books will no longer form a suitable medium for recording either of these transactions; we will require to be provided with a day book. But these two classes of books are not sufficient. As

some of our transactions are for cash and some for credit, we must know the state of our accounts with each individual, and this necessitates our being provided with another book, called a ledger, in which personal accounts are inserted under the name of the parties, and by which we find at once the cash or goods due to them or by them. This is usually designated single entry. But there are not only persons with whom we deal, but things in which we deal, and this renders it necessary to have accounts of property, such as goods, cash, &c. But another class of accounts must also be recorded. There is the current expenditure of carrying on business, the private accounts of the merchant, the gain or deficiency, of prosperous or adverse circumstances, called profit and loss, and these, too, must be recorded in the ledger, which is designated double entry. When all these transactions are faithfully engrossed in these books respectively, not only can it be discovered whether the merchant is solvent or insolvent, but the reason or source of his being in the one condition or in the other. There are other books, such as the waste or transaction book, the invoice, the journal, &c., but these are indispensable in a common mercantile establishment. No real business can be carried on without them.

These three essential books, arising from the very nature of the case, naturally divide this branch of education into three distinct stages, which may be named accordingly,—1. Cash book stage; 2. Day book stage; 3. Ledger stage. These may begin with the most elementary and proceed to the most advanced. For example, an individual, whose expenditure exactly meets his income, may open a cash book, and this every one should be accustomed to do from the time he earns a few pence weekly, that he may know the distinction between the terms debtor and creditor and the balancing of his accounts, or an individual, who, by his own industry, has saved £10, and is about to commence business, may open a similar book on a more advanced state, and so onwards. As with the cash book, so with the day book, ledger, &c. These books, viz., the cash and day, ought to be separately taken up, their nature explained by teacher and examples furnished, beginning with the most elementary, and a series of exercises afterwards worked. Then the relation between the cash and day book, and the ledger, the mode of posting into the last mentioned exemplified, followed by such exercises as will involve the construction and the working of these books, showing by a careful balancing the various assets and liabilities under each. There are two ways in which these exercises may be worked,—1. The training of the pupils by the actual keeping of the books in school. They may be provided

with miniature sets of books, and actually required to do the things, to insert the real or supposed transactions, and balance their books accordingly. Books of very small value would be sufficient for the purpose. Whilst as good figures would thus be taught as on the old plan, book-keeping would be acquired, an interest would be felt by the boys, and a bustle exhibited during the half-hour of these real transactions in school, resembling the aspect of a large mercantile establishment. At first, of course, small entries would only be made of simple transactions in purchases, sales, receipts of moneys, and banking arrangements; but, progressively, every variety of mercantile books might be brought into requisition, and double entry in its most perfect form attained.

Boys so trained, not simply taught, might then present their school productions as a claim to a clerkship. Though every mercantile house has its own mode of keeping books, the principle is the same, whether three, or four, or five, or twenty books are kept, and whether by single or double entry. The other way of working these exercises is to take them from a printed form of supposed transactions, such as are to be found in the last part of Knox's book-keeping. These are judiciously selected, and, if given out to be performed after the cash, the day book and ledger are explained and exemplified, can hardly fail to render the scholars familiar with the whole machinery of book-keeping, and well qualified to keep not only their own books, but those of any mercantile establishment, however difficult or complicated.

BRANCHES THAT CONVEY KNOWLEDGE DIRECTLY.

Oral Lessons. This exercise, both in its theoretic and practical aspects, has been already considered; the former, in the second book, in answer to the question, "What is Intellectual Education?" and the latter in preceding chapter, in so far as its nature, subjects and utility are concerned. We proceed to the discussion of another branch of this latter aspect, viz., how oral lessons ought to be conducted. As much, we had almost said, as the whole effect and benefit of the exercise depend on this point,—its mode of being taught, we crave for a little the special attention of our readers. We shall consider, first, the purely object lesson, second, the word-painting oral lesson, and third, the religious oral lesson. Under each head we shall make a few general observations, and then give some examples. Thereafter, we shall address a few words to trainers on the matter of preparation.

Observations on Object Lessons. 1. In all such exercises, the object examined must be presented to the senses. Teaching by objects and

pictures has been in use more or less in all ages and in all circumstances, and has been growing apace in these days. It is intended, and is, in every way, fitted to impart greater clearness and impressiveness to the thoughts or ideas we wish to communicate. It presents, as it were, a kind of outline, so that we are able to contemplate the whole in all its relations and parts. But this mode of illustration is something altogether diverse from the kind of object-lessons about which we are speaking, diverse alike in its aims and ends. The purely object-lesson, technically viewed, is designed for the cultivation, and development, and strengthening of the senses. And this is effected in no other way than by bringing the object or thing in contact with the particular sense, and relying thereon for all the knowledge it is fitted and designed to impart. Now, as our senses are more impressible, more flexible and pliant, when in a nascent condition, or before they have reached their maturity, which is generally supposed to be about the tenth year, it is evidently our duty to see that they are exercised while in this growing state. The more the senses are exercised at this period, the more will they be developed and expanded, and the more serviceable will they be during the whole remainder of our days.

2. These exercises should be graded, beginning with the analytical and going on throughout all the stages of the synthetical. Often and again have we, in every branch of education, shown the advantages of beginning with the former and afterwards proceeding to the latter. And this should be specially attended to in the method of instruction now under review. We have given in preceding chapter a list of subjects with which the youngest children are perfectly familiar, beginning with articles of food, &c. As their observational powers become strengthened, the pupils may be gradually introduced into the synthetical. In the consideration of the analytical, they have been well exercised on the subject of form, and have had their attention drawn again and again to the various parts, such as the sides, the corners, the surfaces, &c. They are now capable of looking at these separate and apart, as well as straight lines and angles, with the figures enclosed by such. Then curve lines with their figures, and so with solids, &c. The subject of colour may be afterwards taken up, and both the analytical and synthetical be presented; and so with other subjects, always taking the realities first, then their parts, and then their properties or qualities, in so far, at least, as these come under the cognizance of the senses; and lastly, their similarities and dissimilarities, adaptations, uses, &c. These may be all treated under distinct stages, and the

best possible foundation laid for the higher exercises of generalization and classification. Much incidental information may be imparted relative to the matter in hand, as to its source or origin, as to its manufacture or production, as to its applications or usefulness. That knowledge, however, cannot be considered as appertaining to the development of the senses, but as belonging to the recollective faculty, something to be stored up in the treasure-house of the memory, to be rendered available when the higher powers of the mind have come into operation.

3. Another matter that ought to be attended to in conducting an object-lesson is language, or the affixing the proper name to the object examined in all its parts, qualities, &c. We have often insisted upon the propriety of principles going before rules, realities before signs, ideas before words, and things before names, and we have as often assigned the reason for all this. When, however, the object or objects submitted to the mind are thoroughly canvassed and clearly understood, the appropriate names ought to be affixed, and pondered, and reiterated till remembered. This will prove of greatest utility in all time coming, as an index or remembrancer of the object or thing, furnishing the most suitable food or material for the conceptive faculty, and indeed proving of highest benefit for the future exercise of all the powers. And who is to give this nomenclature to the young? This is the special function of the trainer. The pupils, for distinction's sake, when prosecuting the study of the thing itself, may use any name they feel disposed to designate the whole or any part, but this will in all likelihood partake more of a verbal description than a technical term. It is then in every way desirable that the appropriate or technical term be applied and rivetted in the memory, by writing it on the black-board, by spelling and pronouncing it, by tracing its derivations, or by any other means calculated to associate, in all time coming, the sign and the thing signified, the reality and the symbol.

4. Much of this process should be carried on according to the Socratic method, that is, the pupils should be guided from sense to sense, or from one branch of the subject to another, by the asking of questions.

In prosecuting our investigation or inspection of any object, it is in every way proper that we do it orderly or systematically. The first thing, evidently, that should engage our attention, is the general appearance, the form, the size, the colour, &c. The next is the parts with their properties or qualities. These subjects should be all noticed in certain order. What that order is must depend upon the nature

of the object in view. Here come in the skill and the management of the teacher in putting his questions in such shape as will secure the following of some fixed order. He may, for example, take first all the peculiarities of the object or thing, and then the points subordinate and common to all others; or he may begin at the centre, and go on in systematic order till he reach the extremities; or, if it is an animal, begin at the head and terminate at the feet, or *vice versa*; or, if a plant, begin with the root and proceed to the flower or seed, or, if a building, take the exterior first and afterwards the interior. To guide the pupils aright in all these matters requires the hand of the skilful and experienced teacher. The questions he puts should be well weighed, carefully digested and fitted to develop certain senses by a consecutive and orderly analysis of the object submitted. And no questions should be asked but what fall within the range of the perceptive faculties, which, if they cannot be answered in the most idiomatic technical style, may, and ought to be in periphrastic form, in round about expressions.

5. The answers should be given sometimes simultaneously, and sometimes individually, according to the nature of the question and the end contemplated. We have more than once referred to the different ends to be served by these two methods of answering—the former being intended to cultivate and develop the intellectual faculties through the sympathy of numbers, and the latter to ascertain the amount of knowledge possessed by every individual pupil upon any given subject. In the weekly or periodical review, it is well to pursue the individualizing process, but in the regular object lesson, whose grand design is to develop mind through the sympathy of numbers, simultaneous answering should be generally practised. With this view the class should, if possible, be placed in similar circumstances in reference to the object submitted to the sense or senses, so that all should have an equal opportunity of examining and testing its parts or qualities by the same sense or senses. This is hard to be effected at times, except with the sense of sight, and how satisfactory to know that three-fourths of the knowledge we obtain of an external world is through our optical organ. In our appeal to this organ all are pretty much on the same level, and even much of the knowledge we derive directly from other senses, is very much aided or supplemented by this one. This being the case, we are almost always in the position of obtaining simultaneous replies, and these, when practicable, should be encouraged, that the greatest amount of good may flow therefrom, that not only new facts may be elicited, but that greater capabilities

in analysis and in the use of the observational powers may be acquired.

6. In object lessons special attention ought to be given to physical exercises, both by teacher and taught. The younger the children, the more frequent the changes required. This arises from the very law of their being. The growth and development of their body demand an extra supply of the vital fluid—the blood, and this can alone be secured by its acceleration throughout every part and crevice of the physical frame. Nothing but the exercise of the various parts can do this, and this is provided for by the law of the muscular system, the law of contraction and relaxation. And, hence, the restlessness, the all but unceasing motion of very young children; and the indispensable necessity of the change of employment of the young in school, frequent recesses, physical exercises, marching to music, &c.

But whilst all this is necessary from the physical constitution of the young, in object lessons, as in every other, something akin is required on the part of the teacher in the conducting of these lessons. What, we ask, is the cause that the senses of the young are so soon matured, so early perfect. It is plainly because the young feel their dependence thereon; they therefore use them, and this use strengthens or brings them to perfection. This not only constitutes the foundation of object lessons, but imparts valuable instruction as to their mode of being conducted. It shows that the teacher should not only be energetic, but actually personate the author, or rather act, theatrically act, the thoughts or ideas he endeavours to present to the young—the attention he ought to give to the modulations or tones of the voice, the various gesticulations or actions of the body, that these be in accordance with the sentiments he expresses, the eye and every feature enforcing and giving effect to all he utters.

Examples of Analytical Object Lessons. 1. *Apple*—*Ribston Pippin*. Cultivation of senses and acquisition of language, with uses and lessons.

You can all tell me the name of the object I hold in my hand . . . *It is an apple*. Describe its size . . . *It is of middling size for an apple*. What do you think as to its form or shape? *It is round*. Its colour . . . *is greenish yellow on one side and dullish red on the other*. Now, who will tell me its parts? *The stalk or stem*, says one . . . *It is short*, says another . . . *Slender*, another. *It is in a large hollow or cavity*, says John Thomson. *It goes through to the other side*, says Mary Brown. Well, what is it called on the other side . . . You don't know. It is called the calyx. How does the calyx look? *It is small closed, and set in a small basin*. Go on and tell me the other parts . . . *The outside and inside*. Well, what name do you give both. The outside is called . . . *the skin*, and sometimes . . . *the rind*, and the inside . . . *the flesh*. You can tell the colour of the flesh . . . *deep yellow*, and the little parts full of juice are called . . . You don't know—they are called, *cells*. And what are these black knobs you see right in the cavity in the centre?

They are the seeds. And who will tell me how it feels . . . *The base is somewhat rough or russetty, and the top is quite smooth.* And how does it taste? *It is crisp,* says James Thompson. *It has a fine sharp taste,* says Peter Johnstone. *It has a rich flavour,* says Jane Forbes, &c. And does it smell? *It has a most delicious fragrance,* says Jessie Brown. *It is strong scented,* says another, and another, *it has a very spicy agreeable odour.* And you all know the uses of the apple? *It is good for food—nourishing. It is good for quenching thirst.* Will any of you tell how it is prepared? *Sometimes it is eaten raw—at other times it is baked—at other times stewed, boiled, &c.* But can't you tell me any other use? You don't know. Well, can you tell me the use of the seed? *To produce other apple trees.* And what does the fruit do to the seed? *It protects it.* Anything else? *It nourishes, &c.* And what does all this teach us in reference to the Creator? *It furnishes evidence of the care of the Creator in preserving the work of His hands.*

2. *Object lesson on Coal.* Bringing out, more specially, the qualities of the object.

You all know what this is. *A piece of coal.* Who can tell me some of its properties or qualities? *It is pure black.* Anything else? *It is glistening bright.* Can you see through it? *No.* Then it is not transparent, and if so, it must be . . . *Opaque.* John, bring a hammer, I apply it and it breaks into a thousand pieces. You call this property . . . *brittle.* I am going to throw one of these pieces into the fire, watch what becomes of it? It burns with a bright flame, and gradually becomes . . . *red hot,* and then . . . *a cinder or ashes.* This shows it to be . . . You don't know the term . . . *combustible . . . like wood, or peat, or turf.* It is then one . . . *of the inflammables.* Do you know any other quality this coal possesses? *Yes—some kinds of coal have a great deal of gas.* This is extracted and lights . . . *cities and dwelling-houses.* Will you now repeat the qualities of coal? *It is black and glistening—brittle—opaque—combustible and gaseous.* But it has another property I would like you to tell me. Can any tell me what that is. Well, can you tell me whether it is a natural or an artificial substance? *It is natural.* Why do you say so? *Because it is found deep down in the bowels of the earth.* What would you, therefore, call a substance found deep in the crust of the earth . . . *A subterranean substance.* Now, all of you know some of the uses of coal, or the purposes to which it is applied . . . *It produces heat, and enables us to preserve, even in the coldest climate, an equality of temperature.* What else is it good for? *It lights our streets and houses.* And what else? *It makes steam.* And you all know what steam does . . . *It drives the steam engine . . . both on sea and land;* and thereby enables man to gratify his nature as a social being. What else? *It drives machinery of all sorts, and thereby promotes manufacture and the prosperity of communities.* The important lesson here taught is . . . *the foresight of Deity . . . for the welfare and comfort of man.*

Another object lesson on the leaf of a rose—eliciting the materials, the similarities, and dissimilarities.

What do I hold in my hand? A leaf of . . . *a rose.* What do you think of the rose? *It is a very beautiful flower.* It is the queen . . . *of flowers.* Who is compared to a rose for beauty and fragrance? *The Lord Jesus Christ.* He is called . . . *the rose of Sharon.* Now, who can tell me the shape of this leaf? *It is shaped like an egg, broader at the one end than at the other.* And who can give me the proper term? *Ovum* is the Latin word for an egg, and hence the word oval. The leaf then is . . . *ovate.* And its colour is . . . *green.* Look now at the upper and lower side. Do you observe any difference? *They differ in a great many respects.* Who will tell me some of these differences? *In colour, the upper side is greener than the lower.* Come and look through this instrument and tell me

what you see on the surface of the leaf? What is the name of this instrument . . . *A microscope*. Its use is . . . *to show us what can't be seen with the naked eye*. Who wishes to look through the magnifying glass? Well, John, you see . . . *A great many little slits, or holes, or openings*. Yes, and the proper name given to them is—breathing pores or stomata. You observe two small cells covering them running parallel . . . Yes. What are these for? . . . They allow the superfluous substance to escape—another word . . . *to evaporate*. They open and shut . . . *according to the necessities of the case*. Now, in what plants do you think these cells are most fully developed, and most easily seen? In plants that are natives of tropical countries where the rains . . . *are periodical*. Now, you can tell me the reason why the upper side is greener than the lower? *The upper evaporates and the lower absorbs*, and therefore the cellular tissue is more compactly arranged . . . *in upper*. Do you see any difference between the upper and lower side of leaf besides that of colour? Yes. What is it? *I see a kind of net-work . . . a great many little pieces . . . fibres running up and down the green matter*. (Parenchyma). You all know what the ribs serve in the body . . . *The y uphold it—bind . . . all the parts together*. Just, then, as the ribs uphold the whole fabric of the body, so does this beautiful and regular net-work . . . *support the whole substance of the leaf*. Now, who can tell me the name of its different parts. I hold in my hand . . . *the stalk—the leaf-stalk—called by Botanists . . . The petiole*. And it is designed to support the real leaf or the whole of this green part, called . . . *the blade or limb, and sometimes lamina*. What do you perceive on the margin or edge of the leaf? *It is furnished with notches*. These are like . . . *the sharp pointed teeth of some animals*, and accordingly a leaf that has such points on its edge is said to be . . . *toothed*, or, technically speaking, *dentate*. You see at the end . . . *a small notch*. Can you tell me the term given to a leaf possessing this notch . . . You cannot tell. *Emarginate*. Here pass it along and tell me how it feels . . . *It is smooth*, says Jane Muir. *It is thin*, says John Allan. *It is easily folded, and quite pliant, &c.*, says Mary Stewart. Now, who can describe the uses or functions of the leaves? They perform the very same office in the vegetable that digestion and respiration, or the nutritive organs do . . . *in the animal*. These assimilate . . . *the food into the very nature of the animal*. In vegetables, they convert the crude juice . . . *into the very nature of the plant*. It is, then, an organized substance . . . *part and parcel of the plant*. It need, therefore, be no cause of wonderment that the leaf should be selected as a type of the whole plant. What is the lesson taught? *Proof of design on the part of the Creator*.

4. *Object lesson on Newfoundland Dog*,—eliciting comparison and leading on to generalization and classification.

You all know this animal (teacher pointing to the picture of a Newfoundland dog). *It is a dog*, and the kind . . . *A Newfoundland*. You have seen other varieties of dogs, who will give the names of some of them . . . *The shepherd's dog, the cur, the bull dog, the mastiff, the greyhound, the bloodhound, pointer, terrier, lurcher, water dog, pug, &c.* You can tell me more particulars . . . *about the Newfoundland dog*. *It is above the middle size, and very stoutly made, and of black colour—it is particularly broad and deep in the chest, and strong in forelegs*. Yes, James Nelson is quite right in saying that it is very strong in these parts. Some of you can tell me the reason of this? *Because it drags its load principally by the chest*. Yes, have any of you ever seen the Newfoundland dog pulling a draught of timber from the forest, and over the snow? *I have seen it pulling little boys on a sled*. None of you, I dare say, have been in Newfoundland. If you were there in winter you would see this animal pulling a heavy load over the trackless snow with nothing but a strong belt . . . *round the chest*. Now, who can tell me why this variety of dog is

stouter in the chest than other dogs . . . *Because it principally uses that part.* Yes, and is the principle, that whenever muscles are used they become stronger, a universal law in the animal kingdom? Yes. This is right; and who will tell me the lesson that you boys should learn from all this? *That the various faculties of the mind are improved by use.* You can tell me something else about this dog? Its hair or fur is . . . *long, and thick, and waved.* And the reason of this is . . . *because it is a very cold country to which it belongs, and it has often nothing to shelter it but its own natural covering.* Any other reason . . . You don't know. Well, you have all seen Newfoundland dogs diving and swimming. Yes, I have seen our Carlo dive down into the water and bring up the stone that was thrown into the pool. True, but they have done far more wonderful things, they have held up on the surface sinking children, and prevented them . . . *from being drowned.* And you have seen this variety of dog doing something else . . . *Carrying baskets and going to the shop a message all alone, or carrying his master's staff.* You see, then, a Newfoundland dog is capable of being trained to anything, and you call an animal of this description . . . *very docile and sagacious.* And, now, you can tell me on what organ or sense this particular race of dog mainly depends? You can't answer this. On what, let me ask you, does the pointer, or the spaniel, or the terrier, in their main pursuit or employment, depend? On their . . . *scent.* Yes, that is the act, but what is the sense . . . *the sense of smell,* and that is seated . . . *in the nose.* Now, you understand, sometimes the Newfoundland dog would almost seem to read our thoughts or desires by our features. On what, then, does he depend? *On the sight.* Just as the greyhound depends . . . *on its legs for its swiftness in catching the hare, &c.* And the important lesson taught by this instinct in dogs . . . The wisdom and the goodness of the Creator in adapting . . . *the instinct of each sort of dog, to its use or employment.*

5. *Object lesson.* Friday's review of the preceding four lessons.

We have had four object lessons this week. The first . . . *on the apple,* intended to elicit the knowledge . . . *of all the parts of that fruit,* with the appropriate name of each. The second . . . *on coal,* with the view of ascertaining . . . *its qualities,* in so far as they are presented to the senses; the third . . . *on rose leaf,* pointing out its similarities and differences; and the fourth . . . *on Newfoundland dog,* taking its leading peculiarities and . . . *comparing these with others.*

Now, who will tell me all that you saw, and felt, and smelt in the apple? *Muddling size, round, greenish yellow and dullish red.* Now, its parts . . . *stalk, calyx, skin or rind.* Next, flesh . . . *deep yellow, cells, seed, base—rough, apex—smooth, taste—crisp, rich flavour, delicious fragrance, strong scented, spicy odour.* Its uses . . . *as nourishment, quenching thirst, eaten raw, baked, stewed, boiled—protects and nourishes seed.*

The next lesson was on coal. You all remember the qualities . . . *It is black, shining, bright, opaque, brittle, combustible, gaseous and natural, subterranean.* Its uses . . . *It enables us to preserve . . . a uniformity of temperature—it lights cities and dwelling-houses—it makes and preserves the vapour or steam for the propelling of machinery, with all its invaluable results.*

Who will now tell me the instruction you learned from the next lesson . . . *rose leaf.* *It is ovate in shape, green in colour, more green on the upper than on the lower side, covered with breathing pores for evaporation on upper side, and absorbing pores on under.* Another feature of the under side is . . . *its venation or net-work of fibres.* *Petiole; blade, margin, dentate, point, emarginate.* Its use . . . *leaf, type of plant—stomach and lungs of plant.*

Who will relate all the peculiarities . . . *of Newfoundland dog—how he differs from others . . . His great size, strength of his chest, the blackness and thickness of his hair or fur, his wondrous docility and sagacity, his dependence*

on his sight and ears, &c. And the organ by which he gets all this knowledge. *The sense of sight.* And the lessons taught by all this . . . *First, the demand thereby laid upon us to cultivate the senses by the analysis of the various objects submitted, and second, the utility of instinct.*

Synthetical Object Lessons. In the object lessons already given, attention has been called to the sides, and corners, and forms of figures, to straight, curved and crooked lines, as well as to angles, triangles and squares, &c. These parts are now to be separated from the object, and discussed abstractly and systematically.

1. *Object lessons on the position of straight lines.* You see this rod, (the teacher holds a rod in his hand) how am I holding it? Up and down. John, you will draw a line straight up and down on black-board. What is the proper name to give this . . . None of you can tell me. You draw it from the top downwards. The word that signifies top in Latin is *vertex*.—*icis*, and the line is therefore called . . . *vertical*. Again, in what way am I holding it now? *Straight along.* Janet, will you make a line like this on black-board. This line is level or even with the horizon, and therefore it is called . . . *horizontal*. And, again, do you see these two rods? *Yes sir.* In what way am I holding them? *The one comes down on the other so as to make the two openings or angles, or the two adjacent angles equal.* What is the name given to each of these angles? They are called right angles—and the straight vertical line that falls upon the other is called . . . You don't know what to call it. Have you seen the plumb line used by the builder? *Yes.* That line is called in the Latin language *perpendicularum*, and hence this line is called perpendicular. James, will you make two lines on the black-board exactly resembling these.

I am again holding two rods in my hand, and how am I holding them? *They are neither vertical, nor horizontal, nor perpendicular.* Could you, Margaret, draw them on black-board? *Yes.* And what are they like? *They are like the roof of a house, made with a slope to let the water run off.* And what is the proper name to give them? *Slanting or oblique.* Who will now make on the black-board two vertical, horizontal, perpendicular, slanting, curved, lines? Please measure the distance of each of these lines, and add to each as much as you like at the same distance, will they ever approach nearer? *No, never.* What is the name given to all lines that are equidistant? They are called . . . You don't know. They are the same distance from one another, and the Greek word that has this meaning is *parallelon*, and hence the English word parallel. Go and make all these lines on your slates, and print beside them the names.

2. *Synthetic Object Lesson. Angles, Triangles and Squares.* You all know what I hold in my hands . . . *Scissors.* What are these two parts called that shut when they cut? *They are called blades.* It is by them . . . *the work is done.* When I cut with them, what is the act? *You bring them together till they meet.* When I receive the cloth to cut I then . . . *open the scissors.* Is the opening of the blades always of the same size? *It is sometimes larger and sometimes smaller, according to the thickness of what is to be cut.* Will some of you draw on the black-board two lines to represent these blades when open. Very well. Alexander, now show where the blades meet and the opening. Can any of you give a name for this opening, the opening between two lines which meet in a point? You can't answer that question. Well, then, I shall take another illustration. You see these two pipes of the stove, the one is . . . *vertical*, and the other . . . *horizontal*. You observe the opening where these join. What is this opening, which,

when they meet, is like a corner, called? I see you don't know it. The Latin word that signifies a corner is *angulus*, and hence the English word angle. The opening, then, between two lines which meet in a point or corner is called . . . *an angle*. You must now see what determines the size of the opening. It is not the . . . *length of the limbs*, you may extend them any length without affecting the size of the angle. What then? *It is the slope of the straight lines that meet*. The opening is entirely regulated by these lines. And from the very nature of the case there are just three great classes of angles. If a vertical line fall perpendicularly upon a horizontal line, it makes each of the angles . . . *equal*, and the name given to each . . . You don't know. It is a right angle. Who will make a number of right angles on the board. Who will point out all the right angles in this room? This, which is the fourth part of a circle, is regarded as a type or mould . . . *of all angles*, and all others must be either . . . *larger or smaller than a right angle*, and whether it is one or another is seen . . . *by lengthening out the lines where they meet*. If smaller, it is sharp, and you all know the name of a sharp or pointed object. The man who is sharp is said . . . *to be acute*. And, hence, an angle less than a right angle is called . . . *an acute angle*. The one larger than a right angle has a . . . *blunt corner*, and the Latin for that is *obtusus*, and hence all angles larger than right are called . . . *obtuse angles*. Can you pen anything within an enclosure by two straight sticks or boards? No . . . *Three lines are indispensable*, and three straight lines, when they are affixed to each other . . . *enclose a space*. Let me see you do it on slates. Show it. Yes. Now, how many angles have you in each of these figures? Three. And hence these figures are called . . . *Triangles, or figures with three angles*. These are measured in two ways, their sides and their . . . *angles*. (Here develop the idea of an equilateral, an isosceles, and a scalene triangle, or a right-angled triangle, or an acute, or an obtuse, &c.) Here is an atlas, who will describe it? *It has all its sides equal, and all its angles are right angles*, and what is called in consequence? *A square*. Who will transfer it to the black-board? John has made . . . *an exact square*. What do you call the space enclosed by these four lines . . . *a square*, and the lines . . . *the boundaries of the square*. (And here the rhomb, rhomboid, parallelogram, &c., are all developed after the same systematic fashion).

Synthetic Object Lesson. On Surfaces and Solids. Here present objects with plane and curved surfaces. Here, too, develop the idea of solids in contradistinction to hollow figures. Then take objects representing pyramids, cones, prisms and cubes. Get description of their composition and parts. Transfer them to black-board, analyze and systematize.

Word-painting Oral Lessons. In the practical carrying out of this essential element of our system,—picturing out in words,—it is well that we constantly bear in mind the principle on which the whole rests. That principle is simply this;—all language is the expression of our mental operations borrowed from objects or things in the external world with which all are familiar,—or from their combinations and relations. There would be no use in the employment of signs or representations of what is passing through the mind unless these are understood by all; we would still be as much in the dark as ever. By taking these signs from natural or visible objects or things, with which all, in a normal condition, are acquainted, all can understand; all, if the mental state is properly expressed, can apprehend

what is going on in its most hallowed domain, in its most secret, retired recesses. It matters little what the word is, whether a noun or adjective, that is, an object, or the combination of objects, or the qualities of the same, or whether it be a verb or adverb, the condition, or a particular property of that condition, or a preposition or conjunction, that is, the relation between one object and another, all can be pictured out in words, representing the particular phase or circumstances of the object or thing. But we must be more particular, giving, first, a few practical directions on the mode of conducting these word-picturing oral lessons, and then furnishing a few exemplifications. And, in the spirit of these preliminary observations, we would say

1. Picture out the natural or visible, and this will furnish the best illustration of the truth conveyed and of the lesson enforced. If it is a term that is to be painted, find out, if possible, its derivation, and this will, in all likelihood, present the most appropriate illustration. Suppose it is my duty to give to a class a verbal delineation of Christ as the Redeemer of his people from sin and punishment; I first trace the derivation of the word and find its root to be *emo*, I purchase, *emptum*, purchased, with the prefix *re*, back, and affix *er*, the agent or doer; and from this derivation I infer that the word Redeemer signifies, literally, a person who purchases back, ransoms or liberates from captivity or bondage, or from any obligation or liability, by the payment of an equivalent. This furnishes an abundance of materials for illustration. I take a case, or a number of cases, of individuals who have acted in the capacity of redeemers, buying back property or goods that had been deposited as the pledge or guarantee of a certain loan, or liberating a fellow creature from bondage or captivity by the payment of an equivalent; and, from the graphic portraiture of these cases, the pupils are now prepared to take a realizing view of the conventional import of the term as applicable to Christ the Saviour of sinners. Again, supposing that I wish to picture out, verbally, the quality of an object, say transparent, I would pursue pretty much the same course. I would find the derivation of the word, take an object or a number of objects that present good illustrations of this quality, and having deposited the idea in the minds of my pupils, I would then give the term. And so with the condition or relation of any object, or a verb and preposition. Even on the supposition that I got no assistance from the derivation, I would pursue pretty much the same plan; first, giving a number of natural and familiar illustrations, and then applying these to the case in hand.

Leaving the region of vocables and going to clauses or sentences, I

take up my grammar lying beside me, I open it and the following sentence first catches my eye:—"Prepositions govern nouns and pronouns in the objective case." Taking for granted that the class have had pictured out to them all the technical terms here employed, my business is to illustrate and enforce the affirmation or sentiment conveyed. I picture out, in the first place, the case of the head of a house controlling, or directing, or governing his family, or a monarch his subjects, or an individual his temper, or the helm the ship; and from these illustrations the pupils perceive as distinctly with their mind's eye as they do any object in nature with the naked eye, the affirmation contained in this sentence, 'That prepositions govern, or demand, or require the objective case after them.

But I am now to present to the class the word-painting of a subject of considerable length, entitled 'the leaf of a plant,' covering two or three pages of the advanced reading text-book. And how is this to be done? By seizing on the more salient features, the external configuration, the internal structure and the physiological functions, and by presenting a glowing picture, around which the details and the circumstantial points will group and cluster. If all these features are to be discussed in one lesson, it must only be in the broadest outline. Then they may be considered separately, and even here the same course will require to be pursued, first, the outline, and in two or three other lessons the details to be gradually filled in.

2. The trainer ought to take all the benefit he can from any figure or analogy employed by the author. We have often called attention to the adaptation that exists between the world without and the world within, between external nature and our mental constitution. In the former, though the two grand departments of the divine government, the material and the moral, are different in kind, and, therefore, the laws which regulate the one cannot be the same as the laws which regulate the other; but, in both, one designer operates towards the accomplishment of one object, and, therefore, the laws which regulate the one must be like the laws which regulate the other. From the duality of creation, there cannot be identity between the physical and moral laws, but from the unity of the Creator there must be similarity. Nor is it only between the two great departments of the divine government generically distinguished, that similarities may spring; within either department, analogies innumerable may be found between one species and another, and even between individuals of the same species. Between two parts of the natural world, or two portions of human history, or two processes of mental effort, analogies may be

traced, as well as between the evolutions of matter and the laws of mind. And the word of God is as full of analogies as His works. The histories, offerings and prophecies of the Old Testament are figures of better things which have been brought to light by the Gospel. "The lessons of our Lord and his apostles teem with types. Almost every doctrine is given in duplicate, the spirit is provided with a body; a body clothes the spirit. Every fruitful vine has a strong elm to which it clings, every strong elm supports a fruitful vine." It is by the combination of similarity and dissimilarity among sensible objects that science, from its lowest to its highest measures, becomes possible. If all objects had been alike, or all had been dissimilar, our knowledge would have been the knowledge of individuals; it would have been less than that of savages. The foundation of all knowledge lies in the similarity which enables man to classify, accompanied by the diversity which enables him to distinguish. Wanting these two qualities in balanced union there could be no analogy, and wanting analogy man could not be capable of occupying the place assigned him in creation.

Now, all possess the capability of perceiving and understanding analogies. Though it is developed in a higher degree in some persons and in some communities than in others, yet it is inherent in humanity, and consequently co-extensive with the race. Scarcely has the youthful mind become acquainted with any two objects or things, than it traces the resemblances and differences, and upon this foundation, with instructive propensity, proceeds to arrange and classify. These analogies are expressed by various forms called tropes or figures of rhetoric, or emblems or symbols. Sometimes it is a real similitude or comparison introduced by like, or so, or as; at other times, it expresses the resemblance of two objects, by applying either the name or the action of the one directly to the other; as, 'God is my shield,' 'Thy word is a lamp unto my feet.' At other times it is a combined narration of fictitious events, designed to represent and illustrate important realities, and is called an allegory, of which the 80th Psalm, in which the Jewish nation under the symbol of a vine brought from Egypt and planted in the land of Canaan, furnishes a good example. And again, we have parables into which human motives and actions go as constituents, and in most of them the processes of nature are also interwoven.

If the thought or sentiment conveyed is illustrated by any of the above analogies, the trainer ought to avail himself of the same, and take all the benefit it is fitted to yield. If the illustration is borrowed from objects or things beyond the sphere of his observation, the

trainer must endeavour to explain that emblem by one with whose parts he is acquainted, and which bears some resemblance to the one in question. And if that should fail, to try another and another. These similarities abound in nature, and hence the necessity laid upon us to make ourselves acquainted with external nature, to study all the branches of natural science with their respective nomenclatures.

3. Elaborate that part of the illustration or figure that bears most directly upon the thought imparted. In this picturing out process, and especially when there is a figure or an illustration, there are two things that the teacher ought to have a clear apprehension of,—1st. The thought communicated, and 2nd. The relation between it and the illustration. For this purpose the context must be fairly weighed and pondered, and the exact meaning of the author scanned and decided on. Much unfairness is oftentimes perpetrated, and much vagueness and mysticism of idea prevail by individuals isolating and regarding a passage in itself, instead of looking at it in connection with the design of the author, and the scope or drift of the whole piece or passage. It is only when regarded in this latter acceptance that we are in a right position to consider the individual passage under review, and to arrive at a sound interpretation thereof. Then we have a proper foundation laid for the application of the illustration. The teacher should endeavour to inform himself on every point connected with the nature of the figure, whether it be a metaphor or similitude, &c. And he should do so, that he may be in a competent position to do justice to the part that has the most direct bearing on the thought conveyed. Here beginners and all unskilful practitioners expend a great deal of useless strength. They take up all appertaining to the figure, whether an object, or quality, or condition; descant at length on all the parts in succession, and leave themselves little or no time for the discussion of that on which the whole stress depends, the relation between the thought and the illustration. It is all very well to have a few general statements in reference to the natural object or quality pointed at in the figure, but all this should be for the purpose of imparting greater power or force to the part bearing on the thought or idea. As soon as possible get at that, and elaborate it with the greatest earnestness and the most powerful emphasis.

4. The trainer, in the selection or manufacture of anecdotes or analogies, should constantly have respect to the condition and circumstances of his school. Oftentimes the trainer is left to his own resources in the fabricating of an illustration, whether it be in the

ratification of a fact or truth, or in the enforcement of a precept; and in drawing inferences therefrom, it is his duty to see not only that it is suitable and apt in itself, but that it is in every way opportune and befitting the occasion. Is it necessary, for example, to hold up to execration some crying evil, or the criminality of some particular course of sin. It may be the intelligence is conveyed to the mind of the teacher that several of the scholars are given to swearing, or lying, or the like. Whatever the private means adopted to impress the guilty culprit with the criminality of the vice, (and this the trainer will see after) he will strive at the same time to hold it up in general terms, without the mentioning of any names to the reprobation of the school, he will labour to bring the best conditioned to pronounce a verdict in the matter, and by that judgment get at the consciences of the guilty party. He will not only take a precept of the Bible condemnatory of the act, but cull from the same record all the illustrations he can possibly get to bear on the subject. Beside this he will bring all his own artillery to bear upon it, so as to awaken in the minds of his pupils feelings akin to his own, and thereby to enlist the whole sympathies of the school establishment in any punishment that may be awarded. Here should the trainer be particularly studious in seeing that the pupils themselves draw the conclusions or inferences, whether of a more general or more particular character, that whatever takes place they may be hedged in by their own convictions, their own calm deliberate judgments. This will give far greater weight than the most solemnly enunciated sentence passed by the trainer himself, or by any other individual or body of trustees. Having come to a certain finding, and having pronounced a certain judgment themselves, they feel that they are committed, that they are bound to pursue a certain course, their own dignity, self-respect and consistency shut them up and constrain sweetly, yet forcibly constrain them to act in accordance therewith. Hence, we see that this exercise is calculated not only to strengthen the intellectual, but the moral powers of those who pursue it.

5. Here, too, must the law of gradation be rigidly carried out.

In our past discussions we have had frequent occasion to refer to the gradual development of the intellectual faculties. This subject has been already discussed under the different epochs of intellectual development. 1. The perceptive and conceptive. 2. The imaginative and recollective. 3. The abstractive; and 4. The reasoning, and the law of adaptation to this phase of intellect must be obeyed in oral lessons as well as in every other department. The objective oral

lessons are in meet adaptation to the perceptive and conceptive, so that we need say no more on this topic. The next epoch is the imaginative and recollective; and what better calculated to meet this than the whole subject of word-painting? What is every analogy but a direct appeal to the faculty of imagination? In very proportion to the strength of this faculty is our power in tracing similarities between the natural and moral world, between the various objects in the world of matter and that of spirit. The faculty that comes next into operation is the abstractive; and what form should these lessons assume to be adapted to this? Plainly to trace the relation between one part and another of the same object, or quality, or condition, or between one object and another, or between one quality and another, or between one condition and another. And all this with a view to generalization and classification. The last and highest development is the reflective or the reasoning. This consists in the deducing of certain conclusions from certain data or premises. And in what can this be done more easily or appropriately than by oral lessons? When one sees certain data before him palpably conducting to certain indubitable conclusions, he cannot fail, he would be acting in diametric opposition to the principle of his nature, not to apply his reasoning faculty, not to draw the conclusion referred to. And all these processes of adaptation to these epochs of intellectual development may be carried out either through the medium of one subject or a variety of subjects.

6. These lessons should be mainly conducted on the simultaneous principle.

We have shown that this should be the case with object lessons, and far more should it be with word-painting. The grand end of these lessons is the discipline and cultivation of the intellectual faculties by exercise. For this purpose it is of essential moment that every appliance and stimulant are brought to bear upon these faculties, that they may be impelled to the uttermost. There are few things so rousing or stimulating as the emulative and sympathetic principles. That these principles may have fair play, that they come with full swell, with all their inherent impetuosity, the exercise, whether in answering questions or in supplying ellipses, should be conducted on the simultaneous principle. Whatever reply is given, or whatever ellipsis is supplied, must be taken whether right or wrong; if right, to give every possible encouragement to persevere in the same course; if wrong, to prove or show that it is so. In whatever way given, let it pass through a process of infiltration in the hands of the trainer and thrown back upon the class in the shape of a question. Thus, whether

right or wrong, the simultaneous process is encouraging and stimulative to more strenuous effort. In this exercise the highest power is put into the hands of the trainer. If he thoroughly understand his business, by these lessons, where there are no chains or fetters to bind him, he can put the very questions, or present such ellipses before the class as will elicit the idiosyncrasies or peculiarities of each mind. In this exercise, both teacher and taught have it in their power to pursue an independent course, such a course as will expand talents and increase the attainments of one and of all. There may, and there ought to be, revision here as in the object lessons, and then the individualizing process may be resorted to. Much in the way of testing particular scholars may be done here by abstracts or abridged outline statements.

7. Always aim and strive after the fullest accomplishment of the end in view, the real exercise of the intellectual faculties. This is the grand educational problem, in so far as the intellect is concerned. It is an easy thing, both in physical and moral education, to exercise whatever organ of the body or energies of conscience we desire; it is otherwise with the intellect in almost all its faculties, particularly with the untutored and undisciplined. With minds that have grown grey in the service, and that can follow out by dint of their own ingenuity and experience, there is no need of resorting to such expedients. How to keep the youthful faculties at work in a continuous train of thought is the task—the difficulty. The plan devised by Stow for this purpose, viz., the questions and ellipses, not separately, but together, contains, in our estimation, the whole secret of his discoveries, the whole burden of his practical sagacity. By questioning the faculties are kept in a state of activity, ready to avail themselves of every favourable breeze that passes. By ellipsis the particular power is called forth and exercised and strengthened. It is thus manifest that the ellipses constitute the alpha and omega, the sum and substance of the whole of intellectual training, confers a boon upon mental development which no powers of arithmetic can estimate. With the skilful practitioner the grand burden of his efforts will be directed towards the management of the ellipses, to see that it embosoms real thought or actual ideas. The mere kind of guess-work, whether in completing the syllable of a word after the trainer has imperfectly articulated one or two syllables, or the inserting a word at the end of a sentence, is literally no ellipsis at all, is a pure mockery of the principle, the carrying out of intellectual training. Unless the ellipsis contains a real thought, that is, a noun and its predicate, or more, it

can make no pretension to such a claim at all. This, then, should form the main effort of the trainer, and when he succeeds in this work he is performing an intellectual achievement of which every well conditioned mind may be proud. Subjoined are a few specimens of word-painting. We begin with

Stage 2. Ploughing. Children, you can all tell me the season (May) of the year . . . *It is spring.* Is it so in all temperate countries? *No. In England spring is over and summer is begun.* What is the reason of this? You don't know this. Would you like to know? *O yes, yes.* It is because the slope is northward in British America, and in England southward, which makes the winters in the former far more severe and longer. Well, it is spring, and the farmer, as you come along to school, is engaged . . . *ploughing in the fields.* Who will tell me all about ploughing . . . *Two horses are pulling,* says John Brown. *I saw one horse and a team of oxen,* says Peter Johnson. *My father has an iron plough with two handles,* says Jane Smith. Who will describe all the parts of the plough? Here one describes the beams and bridle, another the coulter, and another the ploughshare, and another the mould board. (All this belongs to the object lesson on which they have received a lesson). Now who will tell me the object in view by this work? *It is to bury the poor earth and bring up the good,* says one. *It is to stir up the soil,* say half a dozen. *It is to put the manure into the soil and thus to feed the roots,* say a whole seat. And David Nelson cries out, *I gathered up the roots of the couch grass after it was dug up last spring and had become dry.* You are all right, and you must all repeat these objects. (Here they repeat simultaneously.) Some of you will state the benefits of this work? *It makes a nice bed for the seed. It allows the roots to grow downwards into the ground. It nourishes the roots. It takes out the weeds.* Can you think of nothing else? I think there is a great deal of good done in a way that none of you have mentioned. Did you ever hear of people and other animals, suffering and being killed in coal pits and other places because the air was foul . . . that is not good? *Yes, I once read about the black hole of Calcutta,* says Mary McDonald. *I saw a miner with a lamp in his cap to tell him in the pit whether the air was good,* says one talented boy in the class. Now, seed, to set it a sprouting, requires . . . *good air* as well as . . . *animals.* Do you think the air would get to the seed if it were buried under the sod, or if the earth pressed it down? *No.* And now you see another benefit in ploughing. It is to let in the air . . . *by loosening the soil,* rendering it . . . *porous.* Can any of you tell me any other way of cultivating the soil besides ploughing? *Yes.* Cry a large number. Silence. Don't tell till all the boys on back seat find out. Now, you may all answer at once . . . *Digging.* Who will describe the difference between digging and ploughing? (Here the faculty of comparison is called forth, the faculty mainly intended to be exercised in second stage.) Trainer indulge here as long as he likes, carrying on this process, drawing a comparison between ploughing and digging, ploughing and trenching, &c.

Stage 2. Lesson 2. Elephant. What animal is this? (Trainer holding up the picture.) *An elephant.* Then you have all seen an elephant. Some say yes and some no. Those of you that have seen an elephant, how did you know this animal? *We have often seen a picture and read about the elephant.* *We have seen a live one,* say others? Where? In the fields? *No,* (laughing). Where then? *In the menagerie or collection of wild beasts,* say some of them, and others say . . . *in the Zoological gardens.* Then you can describe its form and general appearance? *It is a very large, clumsy, unwieldy looking animal.* Its size . . . *about nine feet, though often higher.*

And what most interested you when you first saw the elephant. *Its trunk*, cry some. Yes, this is a very wonderful part of the animal, wonderful both for its power and delicacy. By this instrument . . . *it can root up large trees and lift a needle*. Anything else to be wondered at? *Yes, its thick skin—its small eyes—its large tusks, out of which ivory is made—its heavy head and short neck—its erect and very strong legs*. (All this description belongs to the objective department on which the pupils have received lessons before.) Suppose you saw the foundation of a house just laid, very deep and very broad, the stones and cement of the most massive character, what would you infer regarding the house to be erected thereon? *That it was to be very large and heavy*. (Take any erection with which the children are familiar, and picture out to them the relation). In what parts of the elephant do you perceive the same relation, as between the foundation . . . *and building? Between the strength of the legs and the enormous weight of the body*. The body is, as you tell me . . . *enormous for size, and would require . . . a tremendous powerful support*. And is it so? *Yes. The legs are like pillars, short and straight, each bone almost resting the one above the other*. Can you tell me where the elephant is a native of? *Of Asia and Africa*. What can you tell me about its mode of life . . . *It lives in the thick jungles of tropical forests, and moves . . . among the tangled masses of brush-wood, and feeds . . . upon the twigs and leaves of tall trees as well as on grass*. And what would you expect it to have? A very soft skin and prominent eyes would you? *No, quite the reverse*. And so it has. *It has a thick skin and very small eyes*. You see, then, when you trace the relation between the habits of this animal, and its skin, and its eyes . . . *another complete adaptation*. Again, you have told me that the head of the elephant is very ponderous . . . *in consequence of the immense tusks of solid ivory he wears*. And would you naturally expect from this a long or a short neck? *A very short one*. And is this really the case? *Yes, we scarcely see his neck, and thus we have . . . adaptation the third*.

You can tell me the two great classes of mammals that exist . . . *They either live upon the flesh of other animals or upon grass*. And are called . . . *carnivorous and herbivorous*. To which of these great classes, do you think, does the elephant belong? *To the herbivorous, it lives upon the foliage of trees, and the grassy substances it can gather*. But how is it to get at the grasses or herbs with such a short neck, and ranging, as it does, from nine to twelve feet in height? *It collects the fruit, and grass, and branches with its trunk*. The trunk is provided . . . *for this very purpose*. And this is adaptation . . . *the fourth*.

But there is still another relation more valuable and important than all we have noticed, and what is that? You don't know. Perhaps you will be able to tell me what makes the horse so useful to man? . . . *Because it can be tamed and trained from its intelligence and docility to promote, in many ways, his comfort and happiness*. This makes it . . . *exceedingly valuable*. And so with the elephant—both in India . . . *and Africa*. It is, along with its great strength, not only the most intelligent, but the most docile . . . *of tropical animals, and therefore it can be trained . . . to do almost everything, to endure all hardships, so that man can use it in every way that can contribute . . . to his welfare*. Accordingly, the chiefs in heathen countries use the elephant . . . *both for war and hunting*. Now, tell me what we have a proof of in all these nice adaptations? *Of the wisdom and the goodness of the Creator, and all for our benefit*. And what should be the effect of all this upon us? *It should increase our dependence upon, and our affection to the giver of every good and perfect gift*.

Stage 2. Lesson 3. *A sketch oral lesson. Comparison between Duck and Hen*. Having compared one part of the same object with another, and

having seen the adaptation that universally reigns, the class is now prepared to go a step farther, and to compare one thing with another. We take the duck and the hen with which fowls all are familiar. It is supposed that a lesson has been given on each of these fowls, in which, of course, all the parts have been analyzed, and the peculiarities of each dwelt upon at length. Now they are compared. 1. The legs and feet are first compared.—The legs of duck much shorter than those of hen, because long legs would retard the swimming of the duck—The position of the legs is different in the duck from that of hen—In the latter they are placed about the middle and balance the body; in the duck they are placed farther back, on the same principle as the oars used in propelling a boat are placed, not in the middle but a little behind—Besides a greater weight in front enables the duck to plunge its head more easily beneath the waters—Here picture out the effect of this in the walking of the two animals, the awkwardness of the duck and the stateliness of the hen—Observe, next, the difference between the feet—Those of the duck are webbed, like all swimming birds—this sort of feet acting as paddles or oars for propelling these birds along in the watery element—The feet of the hen are claws with sharp points or nails, and are just as well fitted for its purpose, namely, scratching the soil in search of worms and other animals for food. 2. Compare the feathers of the two fowls.—Those of the duck are much prettier and more diversified than those of the hen, but if you examine the breast and the under part, you will see a thick soft down, evidently intended to keep the body warm when exposed to the cold in swimming—The hen possesses no such provision, and for an obvious reason, it is not an aquatic animal at all—Follow out this idea. 3. Compare the bills of both birds.—That of the duck is round like a spoon, and that of the hen is sharp and pointed—Both admirably adapted to the character of the food and the way in which they receive it—The former gobbles it up and the latter picks it—The nostrils of the duck act like a sieve separating the food from the mud—The hen deposits at once the food that nourishes into its crop. 4. Draw a comparison between the usefulness of the duck and hen.—The points of usefulness in each are pretty much the same—The eggs, flesh and feathers—And yet there is a marked difference between these—The hen far outstrips the duck both in the nourishing properties and the flavour of the egg; the duck equally so in the flesh and feathers. 5. What important lesson is taught by this contrast?—1. The complete adaptation of both to their respective modes of life, thereby displaying at once the wisdom and goodness of the Creator—2. All fitted to promote man's comfort and happiness. 6. What the practical improvement to be made?—It is to exercise more simple trust in God—If He takes such care of these animals far more of you—The manifestation of His love should encourage us to go to Him at all times for counsel to direct.

Stage 2. Sketch oral lesson, intended to prepare the way for generalization. The Hog. The children of this class are supposed to have had one or two lessons on the pigs, so that they are well acquainted with its general appearance, size, parts, qualities and usefulness. In this lesson the trainer stirs up the minds of the class to a sense of the vast importance of the animal, as pre-eminently the poor man's stock—as capable of subsisting and thriving in every country, and as the most profitable of animals—And all for the purpose of inducing them to know more particularly about the animal. The trainer has succeeded in awakening the attention of his class, and proceeds to make them see, either from the picture or a specimen, that it possesses both a skull and backbone, the former for the protection of the brain and the latter for that of the spinal marrow; and because it possesses these two parts it belongs to a large class of animals called *vertebrata*, comprehending mammals, birds, reptiles and fishes. The trainer then makes out the difference that

obtains among those animals that have a vertebral column, in so far as the temperature of their body is concerned, the mammalia and the birds have a temperature of body quite independent of the surrounding medium, and the other two, the reptiles and fishes, have a body under the influence of the surrounding medium, and that by reason of this difference the former are called *warm-blooded*, and the latter *cold-blooded*. The hog, then, is a warm-blooded vertebral animal of the first class, mammals, so called, because all the young of this class are suckled by their mother. The trainer will next show that the hog is a quadruped, thereby belonging to the first of two orders—pedata and apoda, or those animals that have feet and those that have none. He will then inquire at the class whether the four extremities terminate in fingers or in hoofs—And having found that the latter is the case, he will then speak to them of the two extensive tribes of animals called *unguiculata* and *ungulata*, or finger quadrupeds and hoofed quadrupeds—The next point of inquiry will be, whether the hog chews the cud, like the ox, or goat, or sheep, or deer. (Picture out this act and give the technical term *ruminantia*.) It does not, therefore, belong to this subtribe, but to another, called *Belluæ*, whose genera have thick skins, and are, therefore, called *Pachydermata*, such as the horse, the elephant, and the boar—The horse has a hoof entire with six incisors in each jaw. The boar has a hoof divided with six incisors in each jaw. The hog must, therefore, belong to the genus, *Sus*—This genus or family has three distinct species:—

1. *Sus Pabyroussa*, confined to the Indian Archipelago. 2. *Sus Larvatus*, the African boar. 3. *Sus Aper*, the wild boar.

Of these species the most widely distributed and the most important is the wild boar. He is found in Europe, Africa and Asia, and the islands of the Eastern seas. He is the parent stock of the domestic hog and its varieties.

The trainer will now endeavour to get his pupils to make out these different steps themselves. The hog, then, is, 1. A vertebral animal. 2. A warm-blooded vertebral animal. 3. Class 1. Mammalia; 4. Order, 1. Pedata, 5. Tribe, 2. Ungulata, 6. Subtribe, 2. *Belluæ*—*Pachydermata*, and do not ruminate or chew the cud; 7. Genus or family *sus*; 8. Of species *aper*. Thus epitomized—vertebral—warm-blooded—mammalia—pedata—ungulata—*belluæ*—genus—*sus*—species *aper*. By this and similar exercises, the children obtain natural ideas of generalization and classification.

Stage 3. Oral lesson adapted to children of thirteen years of age and upwards, designed to exercise and develop their reasoning faculties, that is, to train them from the use of their own observational powers, to draw conclusion from premises or data laid down. Scholars in this class are supposed to have gone through the two previous stages, and are well acquainted with the phenomena of common objects or things.

Regular oral lesson. Subject—The bread we eat. You can all tell me what constitutes the staple food in all temperate climates, and indeed in all civilized countries . . . *bread*. Bread made from the grain called . . . *wheat*. In consequence of this being the bread universally used in these countries, it is designated . . . *the staff of life*, and it may be considered the representative, or more appropriately . . . *the type of all vegetable food*, or more generally . . . *farinaceous food*. You know what is necessary to be done to the grain before it is ground in the mill . . . *It is threshed, and winnowed, and kilned*. And the first thing done by the miller is to crush it . . . *between the stones of the mill*. And the next is the . . . *sifting process*. The object of the sifting is . . . *to separate the fine from the coarse, or . . . the bran from the flour*. Does this improve the flour? *It makes it whiter*. But do you suppose that this exhausts my question or even contains its main drift? *No*. What then? You mean, improve its strength, or the object for which given . . . *its nutritious powers*. And what use is made of the bran? *It is used*

for feeding horses, pigs and other animals, and sometimes applied to the land as a manure. And what do you infer from all this? *That it is a wasteful expenditure of the Creator's gifts.* But you are told that this adds to the whiteness of the flour, how would you answer this . . . *We would tell such parties that they ought not to judge from appearance, but look at the realities of things.* The flour may be dark, but it is both . . . *more wholesome and more nutritious.* What is the first thing done by the baker, or, if home made bread, by our mother, or sister, or maid-servant? *It is to moisten the flour by pouring upon it a quantity of water.* This forms . . . *dough*, which consists of . . . well, I scarcely expected you to know this. Have any of you seen bird lime? *Yes. I have used it and caught birds by it.* It is a . . . *sticky looking substance.* Now, suppose you take the dough and rub it against a sieve or muslin cloth and allow a stream of pure water to fall upon it, so long as the water that passes through remains milky, there will remain on the sieve a white sticky substance, just like . . . *bird lime*, and this is called gluten. I want you particularly to notice this (the trainer has a muslin cloth which he holds up to view). You call it . . . *gluten.* And why do I want you to know and remember this? Simply because it contains the main nourishment in all vegetables, whether grain, or roots, or leaves. And what do you observe at the bottom of the vessel after the water has strained awhile? *A white powder.* This is common white starch. In the flour is there a greater quantity of the former or latter of these ingredients? *The latter.* On what principle do you draw this conclusion? Good things go into small bulk, and so less gluten just because . . . *of its value.* This is reasoning . . . *from analogy.*

What have you seen your mother or baker doing next after making the dough . . . *putting in the yeast.* And what is that? *It is the froth or mass, which rises to the surface during the vinous fermentation.* And how is this preserved? It is skimmed, hermetically sealed, kept fresh by the infusion of hops, and is admirably fitted to excite fermentation . . . *in saccharine liquids, and various farinaceous substances.* This then is inserted into the dough, thoroughly worked, and a fermentation of the . . . *whole mass ensues.* What is necessary to add to the inherent power of this substance, or that gives effect to it? *An increased temperature, and this must . . . be gradual.* Accordingly, your mother puts the dough in a place where its temperature . . . *is increased, allows the fermentation to go on for ten or twelve hours.* She then works it thoroughly, and puts it . . . *into the oven*, that it may receive . . . *greater heat*, and when the temperature has reached the degree of boiling water, it does not rise more or the fermentation ceases . . . What do you suppose is the cause of this? *The yeast ceases to act.* And why so? *The heat destroys its power.* Are you chemists enough to know this? *We know the different stages of fermentation.* The starch is converted into saccharine juice, and this, by the fermentation, yields alcohol and carbonic acid gas. As the gas cannot escape, it collects within the glutenous dough . . . *in large bubbles*, and this renders the dough . . . *spongy and porous.* What is the effect of this upon the bread? *It lightens it and makes it far more digestible.* How do you account for the fact that no other meal will produce exactly the same results as wheat? . . . *We would infer that this arises from the proportion of the gluten and starch.*

The bread is now baked. Can you describe its character as it comes from the oven? *It is soft and tenacious.* For how many days does it retain its softness? *For two days or so. It then becomes free, and crumbling, and apparently drier.* Then it is said to be . . . *stale.* Is this because the moisture has evaporated? *No.* Is there much water in the bread? *Nearly the half—45 in 100.* Yes, quite correct. Has, then, this water, or a great portion of it, made its escape? You don't know. Now, suppose after the bread

had become quite stale, I was to put it into a pan and put it into the oven at its old temperature, and then take it out after it had been in the usual time, and it looked as soft and tenacious as it did before, what conclusion would you draw? *Certainly that the water had not made its escape.* You are perfectly right, and can you tell me why it is retained . . . You have seen gum . . . Yes. What do you infer from its appearance? *That it is very impervious.* And it so happens that a good deal of the starch is converted into this very substance, and this retains the water. Bread is then . . . *both food and drink.* And what is your view as to the wholesomeness of newly baked or stale bread? *I know from experience that the stale is the more wholesome, and the reason is because it is far less tenacious.* You would recommend, then, those whose digestive organs are delicate . . . *not to eat newly baked, but stale.*

Stage 3. Lesson 2. What is the predominating universal law in the material world?

You have all heard over and over again the story about the apple, how that by the simple falling . . . *of an apple from the tree,* when Sir Isaac Newton was seated one day in his garden, and the train of suggestion to which this gave rise, that world-renowned philosopher discovered the law . . . *of universal gravitation—that law which regulates . . . the whole planetary system.* What were the views that prevailed before his day? Did you ever hear anything about those philosophers that preceded him? *Yes, Copernicus first solved the problem of the system of the universe, by showing that the sun is the centre of our system, and that the planets move around him in circular orbits.* Under this theory were there any things inexplicable? *Yes, the change of planetary velocity in different parts of their orbits, and the consequent alteration of the apparent magnitudes.* Who spent a whole life time in his attempts to explain these phenomena; and the result was . . . the three familiar laws, which may be considered among the most brilliant discoveries made in science. *It was Kepler.* Who placed the keystone in the mighty arch erected by his predecessors, by the discovery of the law of universal gravitation? *It was Newton.* And this completed the theoretic view of the planetary system. And this is called . . . *the attraction of gravitation,* and the operations of which are influenced . . . *by mass, and distance, and measured by weight and motion.* It is the great aggregating power, influencing alike the products of combination, cohesion and adhesion. Will you draw the distinction that obtains between the attraction of gravitation, and the three forms of this law just named? These are excited with a range so limited, that they are said to act . . . *at insensible distances,* and the other . . . *at a sensible distance.*

Will you now describe the distinction that obtains amongst these various forms of this law of attraction, combination, cohesion and adhesion. The first is the most important . . . *as it lays the foundation of all the others.* The names given to it are—1. The attraction of combination, sometimes chemical attraction, and sometimes . . . *chemical affinity.* Perhaps the most appropriate of all these is the last. Will you describe its nature . . . *It is that attraction, which, when two elementary bodies unite under its influence, each element loses its characteristic properties, and the compound or chemical particles exhibit special qualities.* Please show me in what this differs from all other unions . . . There is the union of mixture. Give me some examples . . . *Chaff with grain . . . Sand with clear water . . . Dross with metal.* There is also the union of diffusion. Give examples . . . *Union of alcohol and water, of alloys and metals. Gases and gases, &c.* And again there is the union of solution. Give examples . . . *Salt and water . . . Sugar and tea, &c.*

Now, in what respects do all these differ from attraction of combination, usually termed chemical attraction? The former can all be separated . . . *by mechanical means, the latter cannot.* When chemical action has really taken place, whether in reference to weight or bulk, nothing can destroy this

but . . . *the power of elective affinity, that is, by bringing in contact with the new or chemical particle some other body for which any one of the ingredients has a stronger affinity—in other words, one chemical act can only destroy another.* And how does chemical affinity differ from the attraction of cohesion? The attraction of combination is necessarily heterogeneous, that is, it multiplies the materials for the construction of masses, and may be considered as preliminary . . . *to the operations of cohesion.* This attraction is essentially homogeneous, building up masses of one kind of particles, whether these be elementary or chemical particles. Thus, the diamond is built up exclusively with elementary particles . . . *of carbon, while calcareous spar consists of three elements, . . . carbon, calcium and oxygen, in the form of chemical particles . . . of carbonate of lime.* The characteristic features of the force of cohesion, when acting unrestrainedly, are exhibited in masses being built up according to the materials . . . These are . . . *Definite—in form, density, hardness, elasticity, ductility, brittleness.* This form differs, too, from chemical affinity by its results, *being destructible by mechanical means.*

But there is another form of this law, called . . . *the attraction of adhesion.* This is an action exerted between certain particles, simple or compound, and previous to or . . . *after the operations of cohesion.* The particles or masses may be similar or . . . *dissimilar.* See in the case of solids adhering to solids, liquids to liquids, airs to airs, solids to liquids, solids to airs, liquids to airs. This also differs from all the others; it differs from gravitation, because it is contracted . . . *at insensible distances*—from chemical affinity, because destructible by mechanical means, and the particles coming together, though different, . . . *remain unneutralized, adhere to one another . . . without being neutralized.* But this law not only governs the formation of all aggregates at insensible distances, as well as over the solar system. It also governs the systems of the universe. What is the opinion generally entertained regarding the universe? *That the fixed stars are the suns or centres of other systems.* Of these stars how many are visible at the equator? 5,000. The whole number down to the I magnitude is . . . 15,000. The total number visible by means of the best telescope is . . . 500 billions. Prodigious as is this number, it will be indefinitely increased as the powers . . . *of the telescope are extended.* And when we consider that each of these is surrounded by innumerable planets, and that both these stars with their accompanying planets are preserved in their orbits . . . *by the same great law, we cannot fail to perceive . . . the universality of this law.* And how appropriate the language of the poet,—

“The very law which moulds a tear,
And bids it trickle from its source,
That law preserves the earth a sphere,
And guides the planets in their course.”

Stage 3. Lesson 3. Why should the school-house be better ventilated than any other building?

Do you understand what it is to have a room well ventilated? *Yes, it is to have a due supply of good fresh air.* By fresh air you mean . . . *just good atmospheric air, that is . . . air made up of the same ingredients as you have in atmosphere.* But it may be the same ingredients and yet not pure. *These ingredients may not be in the proper proportion.* What is the proportion? *For 21 parts of oxygen per cent, there must be 79 of nitrogen, with an imperceptible quantity of carbonic acid gas.* This makes it . . . *pure atmospheric air.* Is this of incalculable moment for our health and comfort? *Yes, of more moment than the food we eat or the drink we consume.* Why so? *Because neither the food we eat nor the drink we consume would be assimilated or become part of our very physical nature, unless there was this very proportion . . . and therefore they would not go . . . to our nourishment.* Can you explain the *reason of this proportion being necessary?* Well, I shall try to do so. When

the venous blood, which is the concentrated essence of the food, goes into the lungs, it is mainly made up of carbonic acid gas. These two gases must be decomposed, or, at least, such a quantity of the oxygen liberated as will vitalize what is necessary, and the rest is returned back to the atmosphere. Nothing short of this proportion will effect this object; that is, will liberate a due supply of the oxygen. When this proportion exists in the air inhaled, the blood in the lungs is . . . *vital or oxygen, is then diffused through the arteries over the whole body, and so nourishes our frame.* What do you infer from all this? *That we are far more dependent on the air we breathe than on the food or drink we consume.*

Now, can you tell me in what houses the greatest provision should be made for an ample measure of ventilation? *Those buildings where the greatest quantity of oxygen is consumed, the largest amount of carbonic acid manufactured and exhaled, and where an impure atmosphere is most deleterious.* And that is . . . *the school-house.* The inmates of a common dwelling-house, whether in the kitchen or parlour, are generally . . . *few in number and not long in one situation, and have every now and then the opportunity of inhaling fresh air.* A hall or place of public resort is only occupied . . . *some two or three hours of an evening, and that only occasionally.* A church is generally occupied . . . *but one day in seven, and the grand mass of those who occupy it are composed of those who are fully grown.* The school-house, which is more frequently too small than too large in proportion to the population . . . *is occupied five or six days every week, and that for five or six hours a day.* What consumers of oxygen, what manufacturers of carbonic acid gas! They are moreover occupied by those who are . . . *in a growing condition, and by consequence every part of the frame . . . more susceptible of noxious influences, and the most delicate parts liable to be damaged or injured.* The employments, too, of the young in school, require that the brain, the most delicate part of our physical organization . . . *require a more healthy supply of the vital fluid, and that simply because a greater demand is made upon it.* And you would infer from all this . . . *that a large amount of the seeds of the diseases by which the human family is cut off is sown in school.* And still farther, you would infer from all this . . . *that far more ample provision should be made for the ventilation of school-houses than of any other buildings, not only of dwelling houses but of public places of resort.*

Word-picturing Oral Lessons. Religious Subjects. Under Moral Education we have discussed the general principles involved in this section, and in the preceding chapter we have pointed out the nature, the position, the benefits and the order of procedure, in which religious subjects should be presented to the minds of the rising generation, and might here proceed at once to lay before our readers a few examples on the mode of carrying these out. Still, notwithstanding the risk of repetition, it may not be amiss, before giving these examples, to present a few general statements on this practical department.

1. We would first press upon every trainer, before discussing any Bible topic, the indispensable necessity of obtaining a clear and vivid apprehension of the meaning of the passage or sentiment conveyed.

This is exceedingly desirable under all circumstances, but it is especially so when we have to do with the words of the true and faithful witness. Here everything is absolutely true, every declara-

tion is perfect as its author. There are truths revealed in the Bible, which our finite minds shall never fully comprehend; there are others hard to be understood, which they that are unlearned and unstable wrest, as they do also the other scriptures, unto their own destruction; and there are others apparently inconsistent and contradictory, which require much patient study, much searching examination, and a clear discernment of the general scheme of christianity to reconcile and satisfactorily explain. But altogether independent of these and such like, there is a large number of passages, of whose exact import considerable doubt, and uncertainty, and indefiniteness obtain. This last mentioned class of passages, constituting a large number of the whole, is the one to which we mainly point, which all scripture trainers should endeavour thoroughly to understand;—so to understand as that they shall be able by analogy and illustration, with which all are perfectly familiar, to bring home to the understanding and hearts of the young of every grade and complexion. The Bible is pre-eminently its own interpreter. Not only hath it promulgated the most precious truths, touching the highest destiny of man, the glories of our Creator and Saviour God, and the principles of His government, but it hath also enunciated, in the plainest and most explicit terms, a way in which all may arrive at a knowledge of its general contents and of its particular facts. For this end two grand agencies have been appointed in wisest adaptation, alike to the interests of humanity and divinity. The first is the honest and legitimate use of all natural means and appliances, collating and comparing one passage with another, one truth with another, &c.; and the second is a humble dependence on the spirit of truth—that spirit by whom the sacred penmen spake as they were moved. These two agencies, when faithfully and honestly plied, are in every way competent not only to impart the exact meaning of the passage or truth conveyed, but to deduce the most logical conclusion from any given passage, in adaptation to any particular practical case. Now, it is the high function of the scripture trainer to avail himself of these auxiliaries, and never to attempt the exposition of any passage, or doctrine, or truth, without a clear and distinct apprehension of its meaning.

2. Having arrived at a clear and precise view of the passage or truth to be expounded, the next point is to establish, illustrate and enforce the same by the analogy or figure of speech employed by the sacred penman, or constructed and elaborated by the trainer himself.

We have more than once referred to analogy in its nature, its origin and its utility, as the foundation of all science, and as the best perpetu-

ating conservator of moral and spiritual conceptions. We have again and again pointed out the tribute levied upon it in the sacred scriptures, showing that, just as the whole visible world is only a parabolic representation of the invisible, so is revelation but one gorgeous picture gallery, studded and embellished with every scene and feature that can impart embodiment and elucidation to the truths it propounds and the lessons it enforces. But we cannot again open up this subject. We have introduced it here for the specific object of calling attention to the admirable appropriateness, the all perfect and all glorious suitability of every image and metaphor employed in our great statute book, and the consequent supreme obligation resting upon every trainer to trace and elaborate the bond of connection subsisting between the thought and the visible representation around which it clusters. Man, in his imaginative flights, sometimes succeeds in culling a befitting analogy from the scenery around, but he as often fails alike in his conception and execution. In the Bible all is perfect—divinely perfect. Here everything bears the impress and mould of infallibility. No pretensions to science, and yet the most distinct and manifold indications of the possession of that knowledge on which all science is based, cropping out at every crevice and corner. And if the adaptation is so apt and so complete, the grand duty of the trainer is to bring out and glorify the link that unites the figure and the idea. How many expatiate at length upon the figure, describing its parts, properties and qualities, and yet give but a passing notice to the particular point upon which the whole utility and beauty of the emblem rest, or, at least, attach to it no other prominence or importance than is done to the surrounding parts or qualities! In that beautiful emblem, for example, "As the hart panteth after the water brooks, so panteth my soul after Thee, O God," how often have we listened to the most beautiful descriptions of the animal, its characteristics, its habits, and its usefulness, without any particular prominence being given to the condition of the animal when, after being pursued by the huntsman for hours under the influence of a tropical sun, it first espies from some crag or eminence a small brook of crystal water welling forth from its base, in which, or in a similar one, it has often bathed and been refreshed. This plainly ought to constitute the grand burden of the application of the figure to the illustration of the thought herein embodied; and so with innumerable emblems. Not that the trainer is not to avail himself of every means of obtaining all the information he possibly can relative to the object or thing from which the illustration is taken, or that he ought to say nothing regarding its

general characteristics. Quite the reverse. But all the knowledge of the object he has accumulated, and his delineations, however correct and eloquent, should be brought to bear upon the point set forth—the bond of connection between it and the idea communicated. Nothing will test this better than the reiterated application of the correlative conjunctions, *as* and *so*. In the use of these conjunctions the trainer may appear somewhat mechanical to some, still the practice will be found upon the whole highly beneficial and salutary.

3. Here, as in secular subjects, gradation is indispensable.

In the brief programme of religious subjects we have already given, we have indicated some order, the necessity of adapting ourselves here as elsewhere to the stage of mental development of those we are instructing. Looking at the matter generally, perhaps a four-fold division of the rising generation is sufficiently minute, the first embracing all from 4 to 6 or 7 years of age, the second from 7 or 8 to 10 or 11, the third from 10 or 11 to 14 or 15, and from that upwards. As already indicated, the youngest division should have Bible stories both from Old and New Testament indiscriminately presented in the shape of oral lessons, simple emblems and plain precepts. The second division, embracing scholars able to read either the Old or New Testament with considerable fluency, should be directed in their studies so as to obtain a knowledge of the leading events of sacred history, both in Old and New Testament, in consecutive arrangement, with dates and places, and the emblems and precepts more fully detailed. Here the truths of revelation should be presented in a somewhat systematic order. A catechism, containing a compendious view of the dogmas of any one section of the visible church, cannot be used in a public or national school; but it were no difficult task for the teacher to construct, through the medium of the emblems and precepts, a systematic embodiment of scripture doctrine, analytically arranged, with the two leading truths of man as a sinner and Christ as a Saviour held prominently forth. In the third stage, the whole of the subjects in the preceding may be continued, more elaborately discussed, more copious in detail, and with certain modifications, such as the system of Bible truth synthetically arranged, beginning with the person and character of Deity, and then proceeding to an outline of His operations in nature, providence and grace. The principal new elements here introduced is the tracing of the various connections and relations that prevail in sacred as in natural things, in adaptation to the development of the youthful faculties;—such as the connection between Old and New Testament, between prophecy and fulfilment, between sacred and civil his-

tory, between the external and internal, the historical and experimental evidences. The fourth stage embraces the age of the youth generally found in the weekly Bible class of the minister of the gospel. Here the emblems and precepts are still continued, more fully and experimentally expounded—Bible narratives, perused with a more specific reference to Jewish customs and antiquities—Bible geography—Ecclesiastical history, and specially the history of the great leading countries that have sprung up at different ages. But the grand theme that ought here to be mainly studied is a historical exegetical and doctrinal examination of one or more of St. Paul's epistles to the churches, say the epistle to the Hebrews or Romans. Here there is scope for the highest exercises both of the scholar and theologian.

But we have said enough on this topic. It is more in harmony with the train of these observations that we say a few words on the subject of method. From allusions incidentally made, the inference must already be drawn that much use is here made of the principle so often referred to, namely, 'teaching by outlines.' This principle may be exemplified as frequently, and with even greater effect in religious than in secular subjects. There is a peculiar adaptation in the mode in which Bible truth is made known to all ranks and conditions of life, to all ages, young, middle and aged, to all minds, disciplined or undisciplined, learned or unlearned. Teaching by outlines is in beautiful concert with this adaptation process. By taking hold of the more prominent features, and getting these incorporated into the juvenile mind, we are but accommodating ourselves to it. And as the mind unfolds, we present not only fuller details of the same truth, but we present them in a way by which we operate on the powers of comparison, of generalization and classification. And rising to a higher platform, we can present the identical truth in a way in which our hearers shall be constrained to draw certain conclusions from certain data, and thereby to exercise their reasoning powers. Thus it is clear in conducting oral lessons we may employ the very same doctrine, or precept, or narrative, with all the different stages of mental development, adapting ourselves to each stage by the mode in which we treat it. In the meantime different books are being read, and collateral subjects are being handled, all in adaptation to the stage of intellectual and moral development. Here is displayed the whole philosophy of the expedient of questioning and ellipses. Not only are the questions put, more difficult as the trainer advances to a higher platform, to minds more fully developed, but the ellipses are still more suitable. It is by them, especially, that the skilful trainer adapts himself to every pecu-

liarity of faculty, and to every grade or stage of advancement. He works the class up to the very point, in which they are shut in and compelled to trace the similarities or the differences, to see as with the naked eye the analogy, and thereby to strengthen both the powers of imagination and abstraction.

4. The historical facts of the Bible should be so blended with its doctrines and precepts that they shall mutually illustrate and confirm one another. "The Bible," says Bishop Butler, "is the history of the world as God's world." It does not reason out the truths and duties of religion, but manifests and exemplifies them. The great proportion of the Old and New Testament is historical, and what is not, is the exposition or the spirit of its facts.

In pursuing this course, in adopting this mode of revealing His will, in preferring biographical and historical to abstract, didactic, logical statements, the Almighty has wisely adapted Himself to a great principle in our sensible and imitative nature, and thereby rendered its intimations all the more powerful, all the more persuasive. Bible doctrines are not abstractions, not the creatures of logical but historical, practical realities. Each doctrine brings its own evidence in its own class of facts, and points its own spiritual lesson. Whatever confirms the history confirms the doctrine, so that our faith rests not only on the sayings of God's word but on its facts, some of which have left their traces in all past history, and in all the world. You may kill men, said one, but you cannot kill things. These address themselves equally to the imagination, the understanding and the heart; and how powerful, how influential are they in reanimating our faith, in inflaming our love, and in exciting our zeal. And this style or method is better adapted to, is more constraining with the young. They are more under the influence of their senses, of the principle of imitation than the adult of the population, and by consequence these biographical and historical sketches produce upon the youthful mind a far deeper and more lasting impression. The argumentation may be powerful or the didactic statements most logical, but they will not produce one-half the effect of the pathetic and melting biographical sketch, or of the daring and ennobling act of magnanimity detailed on the page of authentic history.

And now is it asked, how is this method of revelation to be rendered most extensively beneficial, most largely available to the rising generation? We just say, in reply, follow the course which the Bible itself plainly indicates. First, familiarize the minds of the young with the biographical or historical fact or facts, paint these in their fullest

embodiment, their most embellished form, their liveliest portraiture. 2. Insist upon the class deducing themselves the lesson or doctrine plainly and unequivocally conveyed by these facts. If they cannot do this, they have not yet seen with their mental eye the living picture; and whatever may be the toil or cost, it must again be presented in more vivid colours, aye, and until the doctrine taught is distinctly apprehended and fully enunciated. 3. Apply the truth taught to the circumstances of the class, both generically and specifically.

5. These doctrines, that they may stand forth in all their intrinsic and relative worth and glory, should be arranged and considered both analytically and synthetically.

Though, as we have just stated, these doctrines are not presented to us in abstract consecutive form, they are nevertheless clearly deducible and distinctly couched. These doctrines are apparently without order and system, and yet there reigns throughout the most perfect order, the most beautiful system, only requiring the wielding hand of the methodizer to render them so. There are two ways by which this may be effected. They may be arranged either analytically or synthetically. When arranged analytically, they take man as he is, a sinner by nature and by practice—and then the salvation provided; in other words, they discuss first the disease and then the remedy. When arranged synthetically, they discuss the person, the character, the perfections and the decrees of Deity, and under the execution of the last of these they disclose all the operations of His hand, in creation, providence and grace. The former is the more natural arrangement, the more simple and direct. The latter is the more logical and scientific. Here, as elsewhere, the analytical should go before the synthetical; man must first realize his position as a sinner before he make any movement for deliverance therefrom; he must first feel his wants before he sue for supply; his need of the gospel salvation before he beg for an interest therein. And what is necessary here but to appeal to the experience of the young as illustrated by the findings of the divine testimony, to ply them with declaration upon declaration, with line upon line, showing that all are by nature in a state of guilt, of corruption, of proneness to that which is evil, and aversion to that which is good; and along with this class of appliances to present passage upon passage, saying upon saying, all for the purpose of discovering the adaptation of the gospel salvation to their state of misery and condemnation, the suitability of the balm that is in Gilead to the disease that is rankling and rioting throughout their whole nature. In all this they are profoundly interested, and that just because it is more than an empty speculation,

or an idle notion floating in the brain, and therefore it comes home to them as a something with which they have to do, directly involving their present and everlasting welfare. And this, accordingly, is the form in which systematic theology should be first presented to the youthful mind. We take for granted that system here as elsewhere is highly beneficial, that looking at any subject, not individually merely, but relatively, impresses it more powerfully on the mind, and sends it home with tenfold force. Having gone through such a course, they are prepared to proceed to a more advanced style of systematizing that which is synthetical, the style usually pursued in all systems of divinity, such as we have in the thirty-nine articles of the Church of England, or the Confession of Faith of the Westminster Assembly, or the Larger and Shorter Catechisms, and other similar writings.

6. But the grand point in all these religious exercises is the practical application. It is in every way proper that we use means to impress the understanding, the heart and conscience with the truth or doctrine taught, that we present it, not in itself merely, but relatively, to the minds of those we seek to influence. But this is not enough; it is but a means leading to a certain end, and that end is the reducing of the whole to practice, the exemplification of the doctrine in our every day walk, the manifestation of it in the words we utter and the acts we perform; and this end must be held up to the gaze and admiration of the young, it must be realized by the teacher, and felt to be as binding upon him, as coming with more weighty obligations upon him than even upon his scholars. This is the culminating point, the crowning glory of our system. This is the aim and end in every department, whether we regard man physically, intellectually or morally; and here, pre-eminently, the teacher must be the archetype, the model.

We subjoin a few exemplifications of the various exercises under stage first. From the directions given, the intelligent trainer can, with a little study, follow out and give examples under the different stages. Should life be prolonged, these exercises will be fully elaborated in the Sabbath School teacher's text-book. The printing in italics, as usual, contains the answers of the pupils after the mark of interrogation, and the supplying of the ellipses after the dots; when not in italics all is done by the trainer.

Stage 1. Lesson 1. Bible Story. The preservation of Noah and his household amid the waters of the deluge.

You have all seen or heard of a freshet or . . . *flood*, or . . . *deluge*. Who will describe some of its effects? *It sweeps along with it trees, and fences, and barns, and houses.* Sometimes it is far more destructive and ruinous, it carries

away into the ocean . . . *the whole crop of the farmer, sometimes . . . all his cattle, and sometimes . . . the members of his family.* Yes, it is as merciless as fire when it has got . . . *the upper hand, or . . . the mastery.* But there was once a flood that God sent upon the earth that did far more hurt and damage than any that happened either before or since. It swept away everything, every living creature, all except one family were drowned. Must that not have been a terrible flood, which swept away every living creature? It must have spread . . . *all over the earth, and gone up above the . . . highest mountains.* Long after the creation and fall of Adam and Eve, the people became awfully bad . . . *dreadfully wicked . . . and God was very angry with them.* Indeed he was sorry that He had made man at all, and he determines . . . *to sweep them all away and to send them to one watery grave.* But God is merciful and long-suffering, and resolves to wait one hundred and twenty years to see whether they would repent and forsake their sin. But instead of getting better, the more they grew . . . *the worse they became.* The good and the bad mingled more and more, the sons of Seth married the daughters of the wicked man that slew his brother. You have heard who killed Abel . . . *Cain.* His children were as wicked as himself, and by marriage . . . *they corrupted the others*—they almost all became idolators. You remember the saying, '*Evil communications corrupt good manners.*' But God has ever had some who loved and feared Him, even in the worst times. Were there any such, think you, among the hundreds and thousands that now lived . . . *Yes, Noah. My uncle made me a present of a Noah's ark, with a great many birds and beasts that were saved along with Noah.* Yes, Alexander is quite right, Noah was preserved amid . . . *the waters of the deluge, and the whole of his household for his sake.* Any why do you think was Noah saved? *Because he was a good man.* The Bible says that Noah . . . *was a just man, he lived by faith and walked with God, and accordingly Noah found grace in the eyes of the Lord.* Would you like to know how Noah was preserved? *Yes, very much.* Well, when God revealed his purpose of destroying the world by a deluge, he entered into covenant with Noah, that is, he made an agreement with him by which he appointed him as the second head of the human family, gave instructions for the building of a house or ark, a large floating fabric, as big as forty men-of-war, a hundred and fifty feet long, twenty-five broad and fifteen deep. Noah believed God . . . *and did as he was commanded.* There were no clouds apparently loaded with rain . . . *but Noah believed God, and acted just as if he had seen it. Did Noah begin at once to build?* Yes, little children, at once, and continued the whole time that God had given space to the wicked to repent, that was . . . *120 years.* At length the time arrived and God could wait no longer. He gave Noah seven days to get ready, to put all the necessary food and all the creatures . . . *safely into the ark.* This was an extraordinary week with Noah. He did not lose a moment . . . in getting all stored away. And what do you think were the wicked doing and saying? *They were eating and drinking, buying and selling, marrying and giving in marriage as usual, and passing their jokes, and taking a loud laugh at the old dreamer.* At last the seventh, or Sabbath day came, and God shut in Noah. And now the fountains of the great deep gushed forth, the windows of heaven were opened. It was no ordinary rain, it came . . . *in torrents, or as we should say, in a manner as though heaven and earth had come together.* All met together at God's command to execute his wrath . . . *upon guilty man.* For six weeks, all but two days, it rained incessantly, during which time the ark began to float on the surface . . . *like a ship on the sea.* For five months the waters prevailed, at the end of which time the ark . . . *rested on one of the mountains of the East.* Three months after, the tops of the mountains . . . *were seen, and four months and ten days after that, they are commanded to go forth out of the ark, and to begin . . . a new world.* They were thus in the

ark altogether . . . *just one year and ten days*. And what do you think was the first thing that Noah did after he went out of the ark? Had he been a worldly man, he would have erected . . . *a house for himself, or given himself* . . . to rejoicing and revelry. Instead of this he built an altar unto God, and offered burnt-offerings thereon of every clean beast and of every clean fowl. And now tell me the lessons you should learn from this story.

1. God will fulfil all his threats upon the wicked and bestow his rewards on the good.

2. We ought to take God at His word, believe what He says.

3. Show our faith by doing whatever God bids us.

Stage 1. Lesson 2. Picturing out words or terms. The glory of the Lord, "For great is the glory of the Lord," Ps. cxxxviii. 5.

You all know in what the glory of a watchmaker consists . . . In making his watches so that they shall keep correct time. The object of the watch is . . . *to tell what o'clock it is*. If it fail in doing this, sometimes too fast and sometimes . . . *too slow*, it is . . . *of little use*, and the man that made it is entitled . . . *to no credit, or to no honour, or to no glory*. If, on the contrary, the machinery is of such a character, so well arranged and adjusted that it keeps correct time, then just because there is no gift so valuable . . . *as time*, so there is . . . *no mechanic so worthy of merit, or of honour and praise as the skilful watchmaker*. And you can tell me in what lies the glory of a soldier? *In being brave and courageous*. But this is very general. How am I to find out that he is brave? *When he never flies before the enemy*. And the evidence of this is . . . *when he falls with his face to the foe*. This, then, is the highest praise or . . . *encomium* you can give a soldier. This is his . . . *glory*, his great glory. You would say regarding him . . . *great is the glory of this soldier*. And now can any of you show me what constitutes the glory of the sun? It is when he shines . . . *most brightly*. And this is . . . *at noon*. The sun is then said to be . . . *perfect*, or . . . *full of glory*; or, in other words, that is the fullest manifestation or revelation . . . *he gives of himself*. Is the sun then different in his real or essential glory from what he was when in the morning he first gilded the horizon? *No, he is really or essentially the same, he only stands . . . in a different relation to us*. His rays fell upon us . . . *slantingly in the morning*, and now they fall upon us . . . *more directly*.

And now you can tell me, I dare say, the meaning of the expression so frequently used—the glory of God. Just as we see the glory of the watchmaker, his wisdom, and ingenuity, and skill by the watch he has fabricated . . . *serving the end in view*, so do we see . . . *the glory of God by the works of his hands*. His works proclaim Him to be all He pretends . . . *the infinitely perfect One*. Yes, possessed . . . *of all perfection*. Again, as the soldier displays his glory by acting worthy of himself . . . *so does the Almighty display His glory by acting in all His works becoming His character*; His thoughts being higher than our thoughts, and His ways than our ways, just as much as heaven . . . *is higher than our earth*, these being only an . . . *image*, a transcript, a reflection of Himself. And yet again, just as the sun shines more brightly at one time than at another, so does God display . . . *more of His glory in some works than in others*. Can you mention the works of the Almighty with which we are acquainted? *Creation, Providence and Grace*. In which of these does His glory shine most brightly? *In grace*. Here the apparently clashing or conflicting qualities not only harmonize with, but illustrate one another. What are the lessons we should learn from all this?

1. We should study and admire the work of grace . . . *more than any other work of God*. 2. We should strive to give God the honour to which He is entitled . . . *by acting worthy of our vocation—of our calling*.

Stage 1. Lesson 3. Emblem. "All we, like sheep, have gone astray," Isa. liii. 6.

Who says this? *The prophet Isaiah.* The prophet Isaiah here tells us . . . *that all have gone astray . . . gone out of the right way . . . that we have wandered away . . . from God, and, therefore . . . from happiness.* And does the prophet speak thus of himself and of those who were alive in his day? Of himself, and not only of those who were then alive, but of the whole human family . . . *of every clime and of every age.* All mankind, without exception, have forsaken God and gone . . . *into the ways of error and sin, and shame.* 'All we like sheep have gone astray.' All of you have seen and often read about this animal. It is employed in almost all countries . . . *as the emblem of innocence and patience.* You remember who is compared to a sheep dumb before her shearers . . . *the Lord Jesus Christ.* Just as the sheep quietly submits to those who are about to kill it . . . *so the Lord Jesus Christ calmly gives himself up into the hands of his enemies, though he knew they were bent on his death, saying with wondrous pity, "If, therefore, you seek me, let these go their way."* You can tell me something else for which this animal was then remarkable. It was used in sacrifice, and therefore it is so frequently spoken of . . . *in sacred scripture.* And the reason why it was so much employed in sacrifice was because . . . *it was the principal animal reared in patriarchal and primitive times.* And none . . . more suitable because of the property just referred to. Can you tell me where the sheep reaches its highest perfection? In temperate climates; and yet it is found both in a wild and domesticated state in all climes and countries. And now you must tell me something else for which the sheep is noted, and is the reason why spoken of here . . . *Of all animals it is most notorious for leaving the best pasturage, and for going astray.* And needs on this account . . . *to be constantly watched . . . by . . . the faithful shepherds.* But there is one thing belonging to this wandering habit of the sheep more remarkable perhaps than the habit itself. Do you know what that is? You have seen an individual ox, or cow, or horse leave a good luxuriant pasture when all the others remained; but did you ever witness the same thing with the sheep when one left . . . *No, then the whole leave.* The sheep viewed collectively may therefore be well called . . . *a flock,* or, to use the term derived from the Latin . . . gregarious. Go where they will, when one sheep goes . . . *all the rest follow; down . . . a precipice, or into . . . a pool, or some perilous situation.* But there is something stranger still in connection with this wandering habit, what is that? Almost all animals possess what may be called an instinctive power of returning to the place . . . *where they were kindly treated, and especially where they were well fed.* Do the sheep possess that instinct? *No, they may wander about in the very neighbourhood, but they possess no instinct to return to the good pasture they have abandoned.* (Now, apply the simile here employed for confirmation and enforcement.) As the sheep are very prone to go away from good pastures, where they can find everything their nature desires to make them happy, or serve the end for which they were made . . . *so we are all prone to go away from God, who alone can satisfy . . . the longings of the human mind.* As the whole flock of sheep follow one leader . . . *so man follows his great progenitor, his natural root, his moral head, his wicked companion.* As the sheep, after they leave the best pasturage, show no desire to return . . . *so we have no disposition to return to God, even after he makes known a way honouring to himself and beneficial to us—every sin from its nature increases the distance.* And now what are the lessons or doctrines here taught? 1. We may learn that the sin of apostacy or departure from God . . . *lies at the root of all sin.* 2. That in Adam . . . *all die.* 3. Need of heavenly grace or aid of Holy Spirit . . . *for the application of the benefits of redemption.* What the application of subject? *All, from the youngest to the oldest, should*

seek to be reconciled to God, and this . . . through Jesus Christ. 2. All should ask the aid of the Holy Spirit.

Stage 1. Lesson 4. Precept. "And be ye kind one to another," Eph. iv. 32.

You have often seen the old robin carrying the worm in its mouth to give to its young. Very likely this mother had not tasted . . . *anything itself that mornning.* It saw a fine big worm that would be such a good mouthful to its young, and though hungry itself, it willingly gave it . . . *to its offspring.* What would you say of the robin? *It was very, very kind.* Look at that sick infant lying in the cradle. It has been apparently in a dying state for five or six days; the mother has been watching over it by night and day, supplying all its wants, and labouring in every possible way . . . *to lessen or alleviate its sufferings.* But her strength is exhausted, and she throws herself down on the couch beside the dying infant. She cannot sleep, and every movement given by the child, she springs to her feet and looks with wistful eyes to find out what it wants. What would you say of this mother? You would say . . . *she is exceedingly kind and affectionate.* I once knew a family of ten, brothers four and sisters six, deprived when all young of both father and mother, they were thus . . . *orphans.* The oldest of the family was a girl, and of course the great burden of the care of the other children . . . *devolved upon her.* She watched them with all a mother's tenderness and with all a father's care; she exerted herself to the uttermost to provide . . . *for all their wants,* but she was particularly desirous to keep them from danger, and there was no danger to her like the danger of temptation—their falling . . . *into sin.* One of the boys had been a cripple from his birth, and she carried him about . . . *from place to place;* her very heart strings were entwined around him; another of the boys was bent on every species of mischief, and this was to her a source . . . *of deepest sorrow and anxiety.* She pleaded with him, faithfully admonished him, and shed many a silent tear over him. This little fellow was proof against everything but her tears. Sometimes he saw her trying to hide them, and this went to his heart with greater power than all . . . *her upbraidings or threatenings.* What would you say about this sister? *She was kind indeed.* And what reigned within the precincts of that household? Happiness all over, whatever the quarrels without, . . . *all were happy within.* And what made them so? *They all loved one another, and particularly their eldest sister.* They would not stop out at night when they could help it . . . *all being so happy at home.* Now, how should all little boys and girls behave towards one another at school? *They should be kind one to another.* If there is one child infirm, or lame, or cripple . . . *they are to be specially kind to him, and help along in every way they can.* If any are stupid or doltish in learning their lessons, what are you to do to such? *Urge them to be diligent, help them out of difficulties, and assist them in every possible way.* And if they are thus all kind to one another, what kind of a school will it be? *All the scholars will be happy and loving—the hours they spend in school . . . will be the most delightful of the whole day.* And what is the source of all this happiness? *It is because they are obedient to God.* As God commands in his word . . . *"And be ye kind one to another."* Do all the divine commands promote the real happiness of those that obey them? *Yes,* and therefore we should not listen . . . *to our own wicked hearts,* or . . . *to any bad school fellow,* or . . . *to worldly pleasure or amusement,* that would all fain persuade us . . . *that it is silly or weak to keep God's laws.* Is this command just as binding upon us as the command 'Thou shalt not kill, or steal'? *Yes, just as binding.* What then should we all strive to be doing from this precept? *To be kind one to another.* But I will tell you something that ought to make us tie this command around our neck and lay it upon our heart? It is this, that if we are not kind to one another, we cannot love one another. And then we are destitute of the principle . . . *of all obedience.*

What, says Christ, *Thou shalt love the Lord thy God with all thy heart, &c., and thy neighbour as thyself.* On these two . . . hang all the law and the prophets. What then is the sum of all our duty. *We should strive to be kind to one another, and pray that the love of God and of man be shed abroad in our hearts by the Holy Ghost given unto us.*

Trainer's Preparations for Oral Lessons. With the general qualifications and experience even of the most skilful teacher, there ought to be a direct preparation of every lesson, and specially of every oral lesson. As soon then as the subject of the next lesson, whether secular or sacred, is decided upon, the first duty of the trainer is to ruminare upon it, to bring all his powers and energies to bear upon it; and, having weighed it in all its aspects, to commit to writing the leading thoughts or ideas that may, at the first blush of consideration, present themselves to his mind, and to hold these as a kind of reference book in all his subsequent investigations, and concoctings, and arrangements.

At this stage, in the prosecution of the study of his subject, he should avail himself of all the sources of information within his reach. For this purpose he ought to be provided with a well selected library of books, upon professional topics, with whose general contents he should be familiar, so that he may be able to bend his steps at once to the proper quarter, to those very discussions that are most pertinent. that convey the needed intelligence and instruction.

Having obtained the requisite information, and being supplied with the necessary materials, he is now in a position to proceed to digest, arrange, and put the whole into something like systematic shape. He should here consult his original notanda, recast, modify, and recombine by a generalizing process, until he has succeeded in presenting the whole in leading outline and logical consecutive order with a definite aim and end in view. He should now insert on the margin of his note book the more prominent, salient points in this outline, and proceed to fill in the details, making jottings of the various illustrations and anecdotes he intends to employ.

The whole being now sketched, the important enquiry here arises, What use is the trainer to make of all these preparations? This is a point of the utmost moment, as it not unfrequently happens, even after the most laborious preparation, that a misapplication here terminates in a partial, if not thorough failure. Some write out in finished composition a full discussion of the subject, commit it to memory, in the hope of being able to deliver very nearly as thus composed. Others again write out a series of questions and answers, in the expectation of abiding pretty closely by the prescribed course, and labour most

assiduously in getting that course deposited in the memory. Whether the one plan or the other is pursued, it will all but invariably end in discomfiture. The true and successful plan to pursue here is thoroughly to master the subject as sketched in notes without attempting in any shape or form to acquire the language, to have the points presented in marginal reference so embedded in the understanding and memory as no ordinary obstruction shall be able to obliterate. With such a possession of these marginal notes, the details and the illustrations will cluster around and present themselves at the very time, and in the very place, most serviceable to the trainer.

TRAINER'S NOTES OF PREPARATION ON THE POTATO.

<i>Outline.</i>	<i>Illustrations.</i>
1. The potato a tuber or an underground stalk.	1. A most valuable esculent—native of South America—introduced into Europe by Sir Walter Raleigh—the most precious gift of the New World to the Old—wider range of soils and temperature than most other cultivated plants.
2. The botanical or vegetable composition	2. Natural order solanaceæ or the night-shade tribe, possesses narcotic and stimulating properties, which in excess are poisonous—branched and succulent stem—white or purplish flowers—fruit size of small plum, green at first, black when ripe—numerous small seeds—root has many tubers attached to it of a round or oblong form—varieties first from seeds and continued by sets exceedingly numerous, and constantly varying varieties early and late.
3. Its chemical composition. Contents.	3. Roots and tubers same watery condition as fruits. Potato contains 75 parts water and 25 of dry food in 100. Carrot “ 83 “ 17 “ “ Turnip “ 90 “ 10 “ “ The potato contains a small proportion of gluten, most nutritious of all vegetable substances. In 100 there are 8 parts of gluten and 92 of starch.
4. Growth and management.	4. The soils best adapted for the potato are of the drier and lighter class—cultivated by the plough, spade and hoe. Before disease, any kind of manure sufficed,—now must be well prepared—quantity from 16 to 20 tons per acre—common farm yard dung is most suitable. Should be ploughed into the soil in autumn. Potato sets some ten days before planting—placed 8 or 10 inches from each other—planted beginning of May—fortnight after planting harrowed—when plants above ground, the horse hoe first goes over, then the hand hoes—fortnight after, same repeated. This generally cleans the land. The last operation is raising the earth to the stems of the plant, done by a double mould-board plough. Taken up generally in the month of October.
5. The uses of potato.	5. a. It is more important as an article of food than any other root we cultivate. b. It improves wheaten bread in lightness and general appearance.

c. The fecula or starch may be obtained separately by simple means, and applied to various purposes of domestic economy.

d. It yields a large quantity of ardent spirits by distillation.

e. It may be given in a raw state to nearly all domestic animals.

f. Steamed potatoes may be given to horses, dairy cows, or to any kind of cattle, for the purpose of feeding and fattening.

6. Lessons taught.

6. Wisdom and goodness of Creator in adapting potato to almost all climates.

Geography. There is, perhaps, no branch of education where the skill and power of the teacher can be brought more extensively or efficiently into operation than the one before us. As already stated, it embraces the widest possible range, with every variety of topic, capable of being taught in the most interesting, attractive and fascinating manner. Here there is no lack of objects. The whole world of nature and of art is spread out before us, and in no one branch have we the same copious supply of pictorial representations, from the planet on which we tread to the county in which we dwell, or even to the school section, or, lower still, to the patrimonial homestead. And, then, what an array of educational principles can be brought into play—principles by which we can adapt ourselves to all stages and varieties of character—principles by which we can arrest and interest the little prattling child, as well as the most advanced and accomplished scholar. Moreover, what is the organ, or faculty, or sensibility it does not address, arouse, expand, regale, enliven and ennoble.

And yet despite of all these advantages to the teacher, few branches have, till of late, been more imperfectly or miserably taught. The hackneyed system of beginning with the book and carrying straight onward till the end was reached, all but universally prevailed. As almost every treatise on the subject of geography commences with the evolution of principles and the exposition of definitions, this necessarily plunged, at once, the children of nine or ten years of age into all the technicalities and abstractions of a science. Without anything in the shape of preparatory exercises, or the least effort to connect the visible around with the study on which they entered, they were transported, as in a balloon, into the region of the clouds, and having roamed, for a season, amongst the sun, moon and stars, they alighted on *terra firma*, proceeded to the study of the surface configuration, thence to the hemispheres and continents, oceans and seas, and thence to the individual countries, and at length arrived at the long wished for spot, the spot endeared to them by the frolics and gambols of their more

infantine and childish years. Surely, if ever there were an exemplification of the most initiatory and established educational principle being violated, it is here. This is to proceed from the unknown to the known with a witness. Then, again, there was the complete destitution of everything in the shape of classification or of consecutive arrangement; or, if anything of the kind was attempted with any one continent or country, it was reversed with the succeeding. And as to the cultivation of the analytical or synthetical powers for which this branch furnished such ample materials, and as to the appreciation of those fine illustrations of the laws of association and generalization herein presented, neither the one nor the other of these was even aimed at. The knowledge attained by this style of teaching was purely topographical, and the faculty exercised was that of the merest verbal memory, a whole catalogue of capes, rivers, capitals, towns, &c., being carefully committed, and thereafter their position pointed out on the globe or map.

A brighter day has dawned upon the teaching of this as of other branches of education. It is now, in some measure, at least, regarded and treated with a reference to the powers it calls most prominently into operation, the ennobling educational principles it involves, the other branches of education with which it is most directly associated, and, more especially, with a reference to the appliances and illustrations, by which it may be brought within the comprehension and grasp of every phase of endowment, of every degree of attainment. Much, it is true, both theoretical and practical, remains to be done. In the meantime, it behooves us to rejoice that the incrustations and rust, which obscured the glory of this branch of education, have been partially removed, that men of enlightenment and refinement are expending their energies in unfolding the displays here given of the workmanship of divinity on the one hand and of humanity on the other; and that men of lofty talent, of ripe scholarship, and of commanding, educational experience, are devising every scheme, and calling into requisition every appliance, by which the science of geography may assume its real position, and yield the benefit with which we believe it to be laden. Let us press on to higher achievements;—let each throw in his mite of contribution, and ere long will the coperstone of perfectibility be laid upon it.

With a view of carrying out the great law of gradation, both in the arrangement of the subject and the mode of teaching,—the law by which our system is peculiarly characterized, we would first divide geography into two great sections or divisions, Elementary and Systematic, the

former being carried on orally according to the usual process of questioning and ellipses, and the latter partly orally and partly by text-book. In the treatment of one or other of these, there are three prominent points, which it behooves us steadily to hold up to view :—

1. The educational principle or principles involved, dependent upon and modified by the stage of development and attainment of the recipients ; 2. the appliances or instruments employed ; and 3. the order or the arrangement to be pursued in the discussion of the subject matter itself. Each of these points in its application to the elementary and systematic, we shall consider briefly in order.

Elementary Geography. 1. *The educational principle or principles involved.*

The elementary department, we need scarcely say, is designed entirely for the most initiatory or introductory stages of geography. This may be commenced about the eighth or ninth year, when the young are able to read any common book with tolerable fluency, incidentally in the primary, and more formally in the juvenile or intermediate department. Both in and out of school they have learned and seen much, fitted to prepare them to enter upon this branch with interest and profit. By means of oral lessons, they have had their senses exercised upon objects about and around them, and especially, by the objects of the external world. By this means, their analytical powers have been considerably exercised, and their conceptive faculty cultivated by oral lessons and otherwise.

In entering upon the more formal study of geography, all they have to do is just to fix, extend and enlarge their observational powers upon the various objects in the external world, to analyze and note more narrowly their parts and qualities ; and thus proceed from the known to the unknown, from the visible to the invisible. In one word, their first step is to connect themselves more completely with the exterior world, and the exterior world with that branch of knowledge now under their immediate consideration. The second step plainly is to direct their observational powers to the same objects, and to view them in their relations or affections, in their dependencies, influences and tendencies. And all this again will lay the foundation for classification and for the order of procedure, according to their associative links or the mutual dependencies of these objects.

2. The second point to be attended to in this elementary department, is *the instruments or appliances by which the work is carried on*, in reference to which a certain amount of instruction and training must be given. It has just been stated that the first thing the pupil

in geography has to do is to observe and describe the objects in the external world. The first part in that description plainly is the position or place which these objects occupy; but how can he give this description without some common standard of appeal, and for this purpose he must acquire the knowledge of certain points in the horizon by which he is bounded, called cardinal points or points in the compass, with all the intermediate spaces. This knowledge he can easily get by an observation of the sun in the morning, or at noon, or in the evening. He affixes technical terms to each of these points, viz., East, South, West and North; he has now obtained a formula to which he can refer the position of places, and by which much needless repetition is saved. The children, at a very early period, and altogether independent of geography, should have an oral lesson on this subject, and be required to reduce it to practice with all the objects around, day after day, and week after week, until they are completely at home with it, and can at once tell the position of any object or place. This should be done, at first, with the objects themselves, and, then, with their representation on the black-board, changing the objects in every possible direction, and requiring the pupils to tell the direction or position. This exercise they should be required to repeat, often and again, on the slates at their seats. This is sometimes called the mapping of objects.

Again, it has just been stated, that, at this stage, the children require to regard objects relatively. One object is higher than all the surrounding, and another is removed to a greater distance than all the rest. You may inform them that the rising ground in the distance is a thousand feet in height, or that the prominent object pointed out, is about five miles away, but this knowledge conveys no true idea of the height of the one, and of the distance of the other, to their minds. Here, again, they must have some standard of reference. Already they are familiar with such a standard. In the application of number to weights and measures, their attention has been called to the length of an inch, a foot, a yard, a rod, &c. A great variety of objects has been examined by this measurement, and the children of this stage can now tell, with considerable accuracy and precision, the heights or the distances of surrounding objects. All they have now to do is to compare the rising ground with the highest object in neighbourhood, with whose measurement they are well acquainted; and comparing the one with the other, they obtain a correct estimate of the distant mountain, whether 500, or 1,000, or 2,000 feet in height. The next thing to which their attention should be called, and respecting which a great

variety of exercises should be given, is the relative heights and distances, and the necessity of preserving these properties when they represent them on the black-board, or draw them on slates, that is, that everything should appear in its due proportion. On this principle they can be easily trained to have a correct idea of the map. Let a plan of the school be drawn on the floor below their eyes. Take a line of a certain given length, representing one of the sides of the building, the master should train out from the pupils how the lines representing the other sides should be drawn. Here they will at once see that these lines must be proportional, that is, they must be of a fixed length in reference to the first. The position of the master's desk should then be determined, and thereafter the various articles of school furniture will fall into their appropriate places. And here there is presented a bird's eye view of the school. A map should now be stretched out on the floor and the children told that this represents a portion of the earth's surface, as it would appear to a spectator, looking upon it from above. And now the whole symbology of chartology or mapping will have a meaning it never possessed before, and will assume the nearest approximation to the reality—the mountains, the rivers, towns, &c., all standing out in bold relief. After a time the plan may be projected on the black-board and compared with a map suspended before the children. Then the same process should be gone through with an irregular figure, such as the field around the school-house, or the garden in front, and the children required to make the same on their slates, drawn on different scales. Their work may at first be rude and unfinished, but it will be invaluable in giving them accurate conceptions of a map. These are the principal appliances required in Elementary Geography. If the pupils have received no previous training upon these points, they should do so before commencing the study of geography.

3. *Subjects in Elementary Geography.* Though the instruction here is carried on entirely orally, and much, as a matter of course, left to the option of the teacher, still it is desirable that a certain order be pursued, and that that order shall be such as shall secure the consideration first of the more prominent features, and then of those that are dependent upon or that flow therefrom, that is, the order of cause and effect. Mountains, it is well known, form the most prominent and the most important features, physically, of every country, inasmuch that they have been appropriately designated its backbone. These should be first considered. The nearest rising ground, or hill, or mountain visible from the school-room is taken up, and its height, direction,

slope, covering, structure, productions growing at its foot and on its side, &c., are all considered, and this lays the foundation for all future unfolding of hills or mountains. The rivers come next, and the little stream that flows in front of the school, forms the typical illustration. Why its unceasing motion, and in a particular direction—whence its origin and its course—what the cause of these pools and rapids—what the nature of its bed and the pebbles at the bottom—why the luxuriance of the herbage on its banks, &c.? These and similar questions answered at this stage will pave the way for the geography of river systems. Then will come the subject of lakes, the idea of which may be developed from some pond or pool in the vicinity of the school. But we need not continue this strain of observation. We have sufficiently indicated the nature and design of these lessons. The following list will supply abundant material to the intelligent trainer, and prepare the youthful mind for the highest possible appreciation of the subject when presented in more systematic form:—1. Mountains. 2. Valleys and plains. 3. Streams. 4. Lakes. 5. Climate. 6. Day and night; the seasons,—spring, summer, autumn, winter, &c. 7. The productions of the locality, whether agricultural or mineral. 8. The inhabitants and their occupations. 9. The products of industry, whether in the shape of farm produce or manufactured goods. 10. The modes of transit from one country to another. 11. The stones, the plants, the animals of the locality, with their structure, their habits and uses, interesting and profitable anecdotes, (no technical language, nothing beyond the individual biography). 12. Civil divisions beginning with school sections or district—township, county. 13. Villages, towns, cities. 14. If inland, seas, bays, gulfs, straits, or, if country be insular or peninsular, oceans, seas, &c.

Systematic Geography. By this we understand geography as discussed and elaborated in the best text-books. Though in practical importance it occupies a foremost place amongst the physical sciences, it is only in more recent times that geography has received the attention which is its due. Some progress has accordingly been made, but much still remains to be done, in systematizing and simplifying for school purposes, specially in adaptation to the different stages of mental development.

Here we pursue the very same order as in the elementary department. 1. The educational principle or principles involved. 2. The appliances. 3. The arrangement or the order of the different parts of the subject. Vastly would it facilitate the whole matter of the teaching of these branches were text-books, even on the last of these

topics, pursuing a regular systematic course with every country beginning with the causes and proceeding onwards throughout all the diverse effects, and inserting the heads even when there is no exemplification. The text-books that make the nearest approximation to this consecutive order, are, in our opinion, those in the course of publication by Scribner and Co., New York, under the auspices of Mr. Guyot and Mrs. Smith.

1. *The educational principles mainly involved*, with the intellectual powers on which founded.

Here we still maintain the old land marks or stand points, proceeding from the known to the unknown, from the visible to the invisible. The facts stored up in the elementary department, whether deposited in the understanding and memory by a more formal or incidental instruction, will now, of course, constitute the region of the known, will bring out very forcibly and impressively its benefits. The second important educational principle here employed is the outline, that is teaching by outlines. The theory and the practice of this principle have been referred to and illustrated again and again. Its importance here cannot be over-estimated. As it were altogether Utopian to attempt to deposit the facts of geography in the understanding and memory without classification, it were equally so to attempt the classification process without the application of the principle referred to. But we need not farther enlarge, save simply to notice that the principle of teaching by outlines is based upon and directly flows from the faculty of abstraction, and specially of that department known by the designation of generalization. The next important educational principle here called into play is the associative, and especially that link which connects causes and their effects. This principle may, with all justice and appropriateness, be applied to the combination of geography and history, of topography with the events that have transpired in different localities, or in the tracing of resemblances and contrasts—another development of the law of original suggestion. But the most important of all these bonds is that of cause and effect; tracing, for example, the connexion between the physical features of a country and the pursuits, or even the intellectual calibre, of its inhabitants, between the character of the mountain and the river basins, and the employments of the people, with the nature of their towns and villages. Tracing such connexions, and learning the lessons deducible, is to teach geography with effect, with genuine gain. But we cannot follow farther this train of thought. This principle, need we say, is entirely dependent on the intuitive faculty.

2. *Appliances.* As the principles involved in this higher department are more intricate and complicated, so the appliances are more numerous and diversified. Indeed, every picture that can be given of the earth as a whole, or of any portion of it, can be here called into requisition, and used with every possible advantage. This introduces us at once to the whole subject of globes and of chartography. The nearest illustration we can get of the earth as a planet in its form, size, motions and surface configuration, is a globe, and of course the first thing to be done to the pupil entering upon the study of systematic geography is to submit the globe to his consideration, to give him an explanation of the various parts, and train him to use it and observe for himself. The teacher may also show him here how to work a few simple problems on the globe. The next best representation of the earth as a whole is the hemispheres, which introduces the whole subject of chartography. The eastern and western hemispheres form an admirable intermediate link between the terrestrial globes and the continents, and with a diligent observation of the globe, the pupil will be in every way qualified to take up the hemisphere and obtain a more particular knowledge of the surface configuration, and thence to proceed to the continents, and to the particular countries. We have no intention here of discussing the subject of chartography, or even of attempting an outline of the efforts made to reach proficiency in this art, or the race of competition on the part of authors, publishers, and chartographers. It is more to our purpose, that we congratulate all at the progress, the rapid strides that have recently been made in this art, and to look forward in joyous anticipation to the time, when the whole subject of mapping shall have reached that degree of perfection, that nothing shall be felt to be wanting but the actuality itself, the living being.

But it may not be unreasonable did we here briefly advert to a distinction that, in our estimation, ought to obtain and bear great sway in the matter of chartography,—we refer to that which should be drawn between maps and atlas, intended for the communication of information in general, and for the school-room in particular. In reference to the former, too much attention cannot be given to the accuracy and minuteness of topography and of letter pressing; every object or thing should be inserted, whether it flow from natural or political causes, and the nearer the copy to the original the better and more useful. In reference to maps for school-room purposes, however, whilst all accuracy ought to be attended to in the localizing process alike of natural and political features, as well as of mathematical and

other lines, there is no need of letter press. The utility of maps in the school-room is to give the scholars an idea of the actual continent or country as correct and as full as possible, such an idea in fact that will produce an impression, and be easily recalled at any future period, and the best way of securing such an impression is to fix the attention and furrow the name in the memory. This is not done by affixing the name or names to the objects or things, but by finding it out, and working it into the understanding and memory. Accordingly, when geography is learned by the text-book and maps alone, it is generally admitted that by far the best maps are those designated blank, or entirely destitute of letter press. Of course these may be of any shape and form, embossed, pictorially ornamented in the highest possible degree, and descriptive of every physical, or climatal, or organic phenomenon.

But maps can be rendered still more serviceable in the teaching of geography, and that is by what are usually designated outlines. By this description of maps we usually understand the construction of the boundary line, of the continent or country without any other guide but that of the parallels and meridians. Some now resort to the triangulation system, as it is called, on the ground, we presume, that all figures, of whatever shape or form, are most conveniently measured by triangles. But the very locating of the triangles presupposes a knowledge of the latitudes and meridians; and that being the case, we can see no important end served by triangles. Let the pupil accustom himself to form an idea of the space required by the degrees of latitude and longitude, and the scale or size intended, and let him proceed at once to the construction, and the map will be as correct and serviceable as made by the help of triangles. But what it may still be asked, what is the purpose served by these outline maps, whether constructed with or without the aid of triangles? They are intended to act as an appliance in the teaching of the geography of a particular continent or country. The trainer is supposed to possess a thorough mastery over his pencil, and with the outline or boundary line drawn on the black-board, he proceeds with his class before him to fill in details, drawing the physical features first and then the political, and naming every feature as he goes along, as well as pointing out the scene of any important event or events. A powerful enhancement will be given to the whole by the use of crayon chalk with diversity of colours. This we hold to be pre-eminently and emphatically the way of teaching geography, and particularly when, in addition to this, every continent or country is drawn by the class. Whether the

teacher is able to teach geography in the way just described by outlines, no individual should be allowed to train a class in this branch without requiring his pupils to draw upon the slates or black-board the maps on which he is exercised, beginning with boundary line and filling in the details. This will impart a minuteness and a thoroughness of the knowledge of the country before him that can be acquired in no other way.

3. *Subject-matter of Systematic Geography.* With this equipment the class is now prepared to proceed to the second stage, which is again subdivided into two parts—Systematic Initiatory and Systematic Advanced.

1. *Systematic Initiatory.* This, as well as the elementary, is conducted orally, and, if it were possible, in consequence of the larger supply of apparatus, more is left to the pupils, that is, the ellipses are still more abundant. The first oral lesson should be on the shape of the earth, assisted by the artificial globe; the second, on its size; the third, on its motions with their effects; the fourth, on the greater and lesser lines—several lessons; the fifth, several lessons on the surface aspects of our earth, the divisions, relations, proportions of land and water, with a few of their general effects; the sixth, the hemispheres should then be taken up and half-a-dozen of oral lessons made out of them. 1. Trace connexion between globes and hemispheres. 2. Taking the equator as stand-point, describe the relative positions of land and water. 3. Point out the origin and the appropriateness of the technical terms employed in geography books, and accustom the pupils to their use. 4. Describe the relative topography of the continents, shape, size, position in reference to the equator, &c.

The hemispheres may now be left and the continents examined one by one. 1. The great outlines of all the continents pointed out and a comparison instituted between the eastern and western. 2. Comparison of the coast lines of the different continents. 3. Comparison of the interior of each. 4. The continents should then be taken up individually, and the various countries, or states, or empires pointed out, with the characteristics, natural and artificial, of each country. On this, however, there may be half-a-dozen oral lessons and more.

At this stage it may be of advantage to accustom the pupils to draw maps of hemispheres, and continents, and individual countries, either on their slates or black-boards from memory, with the parallels and meridians only given. This requires the ideal of the whole map in its leading features, in the mind's eye of the scholars, and the very

attempt to reduce it to actual shape will give a familiarity with the general contour which nothing else could.

Geography Systematic. 2. Advanced. Now, the whole subject is to be proceeded with systematically, under the direction of the best text-books that can be procured on the subject. The generality of text-books on geography, divide the whole subject into Mathematical Physical, Political and Historical. This division is evidently lacking in precision, inasmuch as both the Mathematical and Physical enter into the Political and Historical. And, indeed, in almost all geographies this is the case. A much better and more correct division, in our apprehension, would be—1. Geography in its general principles, and 2. Geography in its details—the former embracing all, and even more than is usually done under Mathematical and Physical, and the latter, Political and Historical.

1. *Geography in its general principles.* Mathematical geography, as is well known, if fully discussed, enters into the very essence of the science, viewing, as it does, our earth as a planet, first in its relation to the solar system, then the solar system in its relation to the universe, and then in itself—its form, size and motions. This department properly associates our subject with Astronomy. Then comes the second grand department of general principles, namely, the drawing of certain imaginary lines round the earth, called great and small circles, for the purpose of marking with precision the position of places on the earth's surface, and the effects resulting from its orbital and diurnal motions. This again links geography with mathematics. Both these departments ought to be taught in connexion with the globe, and after all the preparations given, the teaching of the outlines of the globe might be here introduced with great effect. We mean, of course, the designation of the various parts and the working of a few general questions, without at all going into the details, which might be more advantageously taken up at a subsequent stage. Then comes the third class of subjects, natural or physical geography. Here the following will fall to be taken in order. 1. The materials, density and attractive power of the earth. 2. Surface configuration, comprehending. 1. Proportion and distribution of land and water. 2. Land—*a.* Continents; *b.* Mountains; *c.* Plateaus or table lands; *d.* Plains; *e.* Valleys, &c. 3. Waters, salt—*a.* The oceans—their size, form, peculiarities and principal branches; *b.* Basin of ocean; *c.* Saltness and temperature; *d.* Tidal waves; *e.* Winds, waves, currents; *f.* Mean level of sea; *g.* Estuaries. Water, fresh—*a.* Rivers—their basin, channel, quantity of water, velocity, mode of juncture of rivers with

rivers, temperature of rivers, uses in the economy of nature ; *b.* Lakes, their basins, supply of water, removal of water, contents of water, temperature of lakes, obliteration ; *c.* Springs—their direction, temperature, contents ; *d.* Water—from atmosphere, dew, hoar frost, mist, rain, rain gauges, economical uses of rain water. 4. Atmosphere—limits and pressure, contents, temperature, currents. 5. Mineralogy, with principles of chemistry. 6. Botany. 7. Zoology. 8. Ethnology. 9. Geology.

3. *Geography advanced in its details.* This, usually called political or artificial geography, is the only department or branch of the science which has received adequate attention in schools till of late years. It takes up country after country, and in detail discusses the mathematical, physical or natural, political or artificial, historical, &c. And the question now is, 'How should this branch be taught?' This is the most practical and important, and yet how defective is the arrangement of the great majority of text-books, and equally so the teaching. Not only is there generally no order, but no consecutiveness or dependence, thereby violating one of the laws of the association of ideas, that of cause and effect, perhaps the most valuable of the whole. It is clear that a certain order ought to be fixed upon by every author and teacher. That order should be founded upon the nature of things, and most rigorously pursued in respect to every country. The order, which, after a good deal of consideration, we would recommend, is the following :—

1. The name of the country, its origin and meaning, then the outline history of the country, previous and subsequent to the designation. This will put the pupils on highest vantage ground in connection with any particular locality associated with any great event or events, whether the scene of some battle or the birth-place of some great genius, &c. In every text-book, every state should be preceded by a short history of its principal events, which ought, if possible, to be supplemented by more elaborate statements on the part of the teacher.

The geographical features are arranged under the two leading divisions of the exterior and the interior. The former comprehends the following :—

2. Its position and dimensions.
3. Its boundaries.
4. And how much of boundary line for every square mile of area.
5. The relations of land and water—all bays, gulfs, or straits.
The islands, capes or promontories.

The interior embraces :—

7. The mountains and table lands or watersheds.‡
8. Rivers and river basins.
9. Lakes.
10. Surface—area, with political divisions and population, and the number thus given to every square mile.
11. Inland and maritime towns, or on rivers course, or mouth, or tabular view of rivers and towns with inclinations to sea.
12. Mineralogy.
13. Phytology.
14. Zoology.
15. Geology.
16. Ethnography. People, language, religion and education. Industrial resources. Form of government. Army and Navy. Exports and Imports. Revenue and expenditure, &c.

In every one of the foregoing lessons always begin with the north and terminate with the west.

Use of Globes. From incidental notices our readers will observe the views we entertain relative to the time and way in which instruction should be imparted in the globes, that it is to be introduced gradually as the pupils advance in systematic geography. At the commencement of this department, the names and uses of all the parts should be given, and a few simple problems worked. At the opening up of the systematic advanced, when a more specific examination of the form, size and motions of the earth as a planet takes place, more formal instruction should be given. This will prove of advantage in various ways, not merely in aiding the scholar to a correct knowledge of these topics, but in imparting more enlarged and philosophical views of the whole subject. Thereafter, an hour once a fortnight or so might be judiciously expended on the use of the globes, on which occasions these lessons would naturally take the place of geography, systematic and advanced.

History. Allusion has already been made to the teaching of history in connection with geography, and an admirable way this is of impressing historical facts or events on the minds of the rising generation. At best, however, this method of teaching history is very diffuse. Its importance plainly demands that it be studied more systematically and as a distinct branch of education, and not only so, but that a position of highest prominence in the English department be assigned to it. The teaching includes two important ideas,—1. The order in

which it should be presented to the youthful mind, and 2. The method in which it should be taught.

Order. Here, as in every other department, we begin with those places and things with which the young should be most familiar, and in which they feel the deepest interest, that is, the first country whose history should be studied, is the native country of the scholars. If that country happens to be a province or colony, the next in order is, as a matter of course, the parent country, with whose leading events in the past, every child should be rendered perfectly familiar.

After the history of the country in which the school is located is thoroughly mastered, both in its leading outlines and in its more minute details, the whole subject of universal history will then fall to be considered;—a subject, be it remembered, which can scarcely be outstripped in importance, and which demands the highest skill on the part of the teacher, and the closest application on the part of the student. This, of course, should be consecutively studied, according to the division of ancient and modern, or ancient, mediæval and modern.

Mode of prosecuting this study. We need scarcely say that, generally speaking, this branch is very defectively taught. Whatever is the history, the book is opened at its commencement and read right through to the end, chapter by chapter, with the principal and minute events or facts all blended together in one heterogenous mass. Now, whilst we are staunch advocates for every subject being studied by outlines, it is in the study of history mainly that we would insist upon this course being pursued, and no other. We say nothing here about the general advantages of teaching by outlines. This has been done in another place. But we do maintain that the very nature of the study itself demands the pursuance of this method. The history of any country, whether it be of greater or less importance, is not made up of an invariable chain of links, or of an aggregate of events, rising in height and breadth, until it reach one grand culminating point. It is something like the waves of old ocean, when both the tidal and windy influences unite in the formation of the surge which dashes headlong, for a period, every opposing barrier. Every now and again, perhaps, within the range of a century, comes one fell, sweeping convulsion or revolution, bearing all before it with terrible fury. This has its harbingers or precursors, perhaps, for a quarter or half a century. It has also its results, civilly, and ecclesiastically, and morally, and some of these may be palpably conspicuous far in the distant future. And what, we ask, more natural or more opposite than that these leading epochs or eras in the history of the nation under consideration be first

taken up, and in their dates and leading features written as with an iron pen on the tablets of the memory. Suppose the history is that of England, we should first of all strive to master the eight periods. 1. The Aboriginal; 2. The Roman; 3. The Saxon; 4. The Norman; 5. The Plantagenet; 6. The Tudor; 7. The Stewart, and 8. The Guelph, with their dates and distinguishing characteristics. The next stage we should devote to the kings or monarchs, with date of commencement and close of reign. The third and last stage we should devote to the leading events in each reign, with the more illustrious persons, &c. All this should be done orally by the teacher, and reiterated day after day until the whole is stereotyped in the memory. Then the text-book may be perused; and with what avidity, and industry, and perseverance will it be so! The whole nation is in panoramic view stretched out before them, and that as made up of so many dramas with their entrances and exits, their conquering heroes, their sagacious statesmen or their erudite savans. Every new particular they acquire is inserted in a convenient place in the archives of their memory, put into a suitable drawer where they can go and fetch it forth with the utmost ease and promptness. And all are grouped or clustered around the leading epoch.

But another principle in the teaching of history, is, synchronology or contemporaneous chronology, or the condition of other nations at the time in the nation's history we may happen to be studying. Chronology is of vast importance in the whole matter of history. We are far from giving it the position that some do, making it the all in all of history, but whilst we are not at all disposed to assign it such a position, we would accord to it a very high and important place. Every student of history should, for this purpose, construct a chronological chart for himself. The mode of procedure is very plain:— Divide the blank chart into six great periods, corresponding with the 6000 years in the history of our world, that have nearly passed away. These should be subdivided into ten parallels corresponding to the ten centuries, and the leading events written upon each in contracted form. This is all well, and all that is necessary for the particular history under review, but it will not bring out with sufficient amplitude the synchronological aspects of the case. And what is necessary for this? Another chart is requisite, which may be styled the synchronological river chart, exhibiting as it does by the swellings or contractings, by the ebbings and flowings of rivers, all represented by the drawings of rivers in crayon or paints of different colours flowing north and south, and proceeding westward just as civilization and enlightenment have

done. To complete the thing there ought to be, at the least, three river charts, one for ancient, another for mediæval, and another for modern history. There should always be one empire or kingdom with which to compare others. In ancient history, perhaps, the best would be the Assyrian empire. On the left hand side draw a winding and sinuose river, with a space left on the right hand side sufficient to contain a representation of Egypt. On the left hand side draw a river representing the Assyrio-Babylonian empire, so that it may be seen exactly where Babylon swallowed up Assyria. Then to the westward draw three rivers, representing the Medo-Persian, the Grecian and Roman. Of course a comparatively small space will be required on the chart for ancient history until about a thousand years before the christian era.

The synchronous chart of mediæval history, that is, from 476 A. D. to 1517 A. D., should be constructed pretty much after the same fashion, taking France as the standard of comparison, and commencing the river representing France as arising in the time of Clovis, with the other nine kingdoms of Austria, Germany, Italy, Netherlands, Poland, Spain, Sweden, Switzerland and Turkey, foretold as arising out of the ashes of the Roman empire.

The chart representing modern history, that is, from 1517 till the present period, should have Britain for its standard of comparison. Here there must be rivers extending both eastward and westward, embracing all the territorial discoveries of modern times, and the accession of the various colonies to the different kingdoms of Europe, and especially Great Britain, with the new and independent states.

Such is a brief sketch of the synchronological charts. These ought to be in every advanced educational institution, and every teacher holding a first class common school certificate ought to be able to present to his pupils a series of oral lessons with said charts, as the visible pictorial representation. After these oral lessons the pupils should be required to draw for themselves charts after the same fashion, with perhaps not the same minutiaë. This, just like the drawing of maps, would fix the dates, &c., more lastingly on the memory than the oft-repeated *viva voce* utterances. This we hold to be the true way in connexion with the preceding principle, viz., teaching by outlines, of giving the young an enlarged and accurate view of universal history, such a view at least as will impress the leading events on the mind in a way never to be obliterated, and which will serve in all time coming as a book of reference for any details that may require to be expiscated. This is all that should be aimed at in any, even the

most advanced school. To go beyond this, is to confound and jumble the whole historic record, is to load and clog the memory with facts and dates of very little moment.

Another principle that should never be lost sight of in the teaching of history, is, the careful holding up for the imitation of the young whatever is commendable in the characters brought under our notice at every succeeding stage, as well as for their abhorrence of whatever is detestable. This is right and proper at all times, whatever may happen to be the subject-matter of the lesson. The young are much more the creatures of imitation than are those of more mature years, and, therefore, parents, teachers and others of influence should be constantly on the guard to improve every opportunity in the formation and consolidation of character, of high toned intellectual, æsthetical and moral bearing in those persons that may happen to be consigned to our care. But this is specially needful in the teaching of history. What is the nature of that branch of study? It is, as has often been defined, nought but philosophy teaching by example, or the embodiment in word and deed of the inner life of nations, or of individuals, as making up the aggregate of nations. It is, therefore, pre-eminently calculated to impress the minds of the young, to win and attract their unsophisticated hearts, and to charm and fascinate into a copying of the magnanimity and worth that may be presented to them. It exhibits great and important truths, or facts, or principles, and these not in didactic statement, or in argumentative reasoning, or in eloquent abstract or declamatory appeals, but it does so by wrapping them up in the every day life and incident of those who come forth in general upon the stage of history, or in some dramatic or tragical cases, when two or three actors are called upon to play their part, and to give complexion, and tone, and character to the whole scene. Where is there a more inviting or fascinating field to win and woo the best affections of our nature on the one hand, or to call forth their denunciations, their curses and abhorrence on the other. This is even a sphere of usefulness more captivating and alluring than that furnished by the direct teaching of morality or religion. In the latter case, the bad and corrupt principles of humanity are armed against the reception of salutary impressions and of virtuous emotions. But in the former case, there is no such formidable array of antagonists. Surely, then, it behooves every right minded teacher to be on the alert, and to seize every opportunity whereby a word in season may be dropped into the ear of the class, and by which important lessons may be inculcated.

To do this well, and also to give effect to the preceding recommen-

dations in the teaching of history, requires a mastery over the whole range of this branch of knowledge which comparatively few teachers possess. And not only so; they would require to be no vacillators or equivocators. They would require not only a full knowledge of the historical events themselves, but to have their minds thoroughly settled on one side or another; and this involves no ordinary discretion on the one hand, and manliness and intrepidity on the other. A certain conclusion must be arrived at, and that conclusion fortified and defended by arguments convincing and sound. Ah, did teachers but thoroughly comprehend how much they might influence and imbue the minds committed to them, how much more deep their responsibility! how much more exalted their privilege!

Natural Science. This branch of knowledge, so interesting and inviting in its objects to the young at all periods of mental development, may be divided into three distinct stages, all conducted by oral lessons. 1. This stage furnishes a never-ending magazine of material for object lessons. Whilst it is very proper that the teacher in the primary keep a memorandum of all the objects he has presented to his class, there is no necessity of his observing any order, such as beginning with minerals and going on till he arrive at man. It is intended at this stage that these objects be taken up promiscuously, one day a stone; another, an animal; another, a bird; another, a plant, &c. The teacher should be well acquainted with every part of these objects, and with the correct name of every part. If it happens to be a new object, that the class has never seen, it should be introduced by a comparison with some one bearing a resemblance, and with which the children are familiar. The general appearance of the object or thing should first be noticed, whether ugly or graceful, sombre or sprightly, as the case may be. Then the parts may be taken in detail and carefully gone over in order. After this will come the properties or qualities, and last of all the habits and uses. In some cases this order might be conveniently reversed. The habits might be taken first, and from these we may proceed to the structure or constitution of the object, and point out the adaptation of the one to the other. This latter plan may be better fitted for very young children, and in connexion with objects about which they know but little. But the grand thing to be attended to in this exercise is to see that the class is really trained to use the powers intended to be strengthened. Whatever are the senses appealed to, these senses should have free and full scope for operation. The teacher has merely to guide and train or help when they cannot help themselves, not to substitute or supersede. At

the end of every lesson there should be a recapitulation, every new fact or truth elicited should be recited, briefly, of course, and this should be done by the whole class, so that evidence may be furnished as to whether the lesson has been received.

Stage 2. Here the whole subject of comparison is introduced. There is no need for a change of object, a change of treatment is all that is required, and that consists in the legitimate application of the principle referred to. There must, first, be a comparison instituted between the various parts and properties of the object under review, that is, between the whole and its parts, between the size of body and the legs, between the head and the neck, between the skin and the habits, between the length of the neck and way in which it gets its food, &c. Another class of comparisons may be instituted between stones and metals, metals and plants, shrubs and trees, plants and animals, ducks and hens, &c. And the teacher must endeavour, above all, to draw from the children themselves the grounds or reasons of these differences. This is the special province of the children, and the teacher should spare no pains in securing their answer. These exercises will be enhanced and rendered more useful when accompanied with preserved or real specimens, or pictures, or diagrams on black-board. But the greatest enhancement of all would be the accompaniment of verbal pictures.

Stage 3. This stage should also be carried on by oral lessons, though these should be much more systematic and consecutive. In these lessons science should be taught, but without the vestige of technical terms or erudite phraseology. First of all an oral lesson should be given on the twofold division of all the objects of nature—*things without life and things with life*. The second lesson should discuss the properties, the condition and composition of dead matter. The third, the laws of attraction in its various modes of development in natural science. The fourth, the attraction of combination or chemical affinity. Here several lessons may be given on the science of chemistry. The fifth lesson should be on the attraction of cohesion, as laying the foundation of the science of mineralogy. Then pass on to things with life, and give a series of oral object lessons on the science of Botany, and from that pass to Zoology, and from that again to Geology. With intelligent children in common schools well trained, or in high schools or academies, a skeleton outline of these sciences might be presented, and some of the technical terms employed that are unavoidable. Such lessons would be of great utility in cultivating the faculty of generalization.

Natural Philosophy. Though there are heights and depths in this branch of knowledge sufficient to give employment and to call forth the energies of the most towering genius, there is, at the same time, much that is level to the understanding of the young of all ages and all grades of intellect. One great recommendation of almost all its departments, and which renders it all the more susceptible of popularization, is the instruments or apparatus for illustration and experiment. It matters not what branch we take up, the properties of bodies, or the laws of motion, or the mechanical powers, or whether it be water at rest or in motion, hydrostatics or hydraulics, or the science of æriform bodies, or of sound, or of caloric, or of optics, astronomy, electricity, galvanism, magnetism, of one and all of these there are innumerable illustrations, both in the shape of diagrams and instruments, sufficient, some of them, to excite the interest of the young, and others of them, to call forth the study of the most profound mathematician. And how should this branch of knowledge be taught? Unhesitatingly, we say, by oral lessons and by outlines. It were altogether preposterous to attempt to teach Natural Philosophy in any one of its compartments through the medium of a text-book. Almost all such treatises, except those which deal with the very elements, are drawn up in a way sufficient to command the study and application of the most ripe and cultivated minds. Besides there is much in them all, and especially when mathematical calculations are applied, that would not awaken any interest on the part of the rising generation. By oral lessons, however, we have it in our power to select the subjects invested with deepest interest, and to present those views regarding them that we apprehend, in the course of our observations, to be within the reach of the understandings of those whom we address. And when these lessons are sent home by the help of diagrams and experiments, they seldom fail to interest. And the way best fitted to keep alive this interest, and to awaken an avidity for more, is not to dwell too long upon any one point, but to hasten over the more popular subjects, and to seize only the more salient points in the first outline. In the second outline, a few more details are taken, and specially some more of its applications and uses. And so continuously until the whole subject is pretty well wrought out and exhausted. By the time the skilful teacher has gone through the course thrice, the pupils in the more advanced section are pretty familiar with the whole subject.

And what a fund of valuable and practical information does this branch pour into the mind. Indeed we know not one field more

prolific, or one which will more amply repay the most diligent cultivation. There is scarcely an object to which our attention can be called, scarcely a mechanical pursuit, scarcely a piece of manufacture, scarcely the most common mechanical power, scarcely one of the elements of nature, scarcely a modern improvement in economics, scarcely a triumph in the application of science to the advancement and happiness of the human species, where, in some one shape or another, it does not come in to our aid and succour. It is in this department, pre-eminently, where in every step we are furnished with the most glorious opportunity of expounding the rationale or the science of common things. Wherever we direct our eyes, we may discover the phenomena, the laws and operations of the natural world at work in adding to the gain and aggrandizement, as well as to the benefit and happiness of the human species, and thus we are presented with golden opportunities of securing the attention, and of winning the interest of those, who, in other respects and in other circumstances, would have remained utterly indifferent and passive. Just as there is no object in which heat does not exist, so is there no object but yields material that may be turned to the most advantageous account under this branch of knowledge.

Psychology. This, like the preceding, is also a branch of knowledge that should be taught by outlines. It is of greatest consequence, as soon as a youth can look inward, to accustom him to fix his attention on the operations of his own mind. It is altogether unnecessary, at first, to go beyond the difference subsisting between matter and mind, in what they are like, and in what they differ. Then, the three-fold division, into thinking, feeling, and willing, should be plainly pointed out, and abundant examples given of each.

The next stage should embrace the simplest subdivision of the intellect into faculties, with their appropriate definitions, also of the emotions and will. Here, a list of the faculties of the intellect, and of the sensibilities of the emotions, ought to be given of the simplest character with numerous exemplifications.

The third and last stage should consist of a more minute analysis of the whole subject of mind. The nature of each faculty should be clearly and fully delineated, and the knowledge of the pupils well tested by the writing of essays upon the same. In connection with all this, a selection should be made from the writings of the best authors, these writings carefully perused, and the leading features of the author's mind from the said writings singled out and discussed.

Political Economy. This is another branch that should be taught

by outlines. A few oral lessons should first be given on the subject of civil government, showing its origin, its benefits, and specially its forms. The last should be singled out and the difference carefully drawn between the constitutional and despotical; the varieties of the former and of the latter, with the best exemplifications both extinct and living. This should be followed by another series of lessons on the rights and duties of the governor and governed. Then, by another, on the advantages of civil liberty, and the restraints and curtailments which these necessarily impose on natural liberty. After these great general principles are discussed and understood, the details of a nation's resources should be opened up, with the exports and imports, the receipts and expenditure, &c.

RECAPITULATION OF CHAPTER.

This chapter has far outgrown its original limits. This has arisen not merely from a deepened conviction of the importance of the subject, as containing the very essence or marrow of the whole, but of the necessity forced upon us, as we proceeded, of supplementing largely in the shape of illustrations or pictorial representations. The whole subject of oral lessons, for example, has been re-written, and many additional pictures given.

It is of essential moment, at the outset of all discussions on the subject of methodology, that the distinction that obtains in the application of that term to the exterior and interior of education, be drawn. In vulgar language, it is generally applied to the former, to something appertaining to the nature of the Legislative enactment on education, the provision made for the erection of school-houses, or text-books, or supervision, or mode of support, &c. In the foregoing chapter, it is used strictly in reference to the inner work of education, to all the duties arising from the relation between teacher and taught, and especially as to the mode of conducting the recitation exercises.

The first section discusses the philosophy of method, which is seen to consist in the adaptation of the subject and its treatment, to the character of the recipient, to the average degree of talent and attainment of scholars. It cannot be too frequently insisted on, that there are just two ways in which any subject, whatever is its nature, can be presented to the human mind, either in itself or in its relations, or concretely and abstractly. Generally speaking, the first is best adapted to the junior, and the last to the senior classes in school; the skill, experience and tact of the teacher are manifested in this adapta-

tion process. In tracing the history of the inner life of education as exhibited in the views entertained and propagated by the luminaries that arose on our educational horizon, we have but traced the development of mind in general, for as it has fared with the one, so has it with the other. Whatever the vicissitudes through which education has passed, whatever its ebbings and flowings, whatever its clouds and sunshine, one thing has been apparent throughout, that whenever mind, both of teacher and taught, has been brought in contact more or less directly with the Scriptures of eternal truth, so has education waxed or waned. In our attempts to reduce these historical details to distinct systems of education, we experienced no small difficulty in consequence of the blendings, the interminglings, the overriding of marches that have practically prevailed. It is of consequence here to remember the difference between method and system, the former pointing to the principle or theory, and the latter to the principle reduced to practice. We regard the division into the five systems, rote, monitorial, explanatory, objective and training, as holding a fair medium, neither too particular nor too general. Perhaps some may question the propriety of giving the rote the position of a system at all. What influenced us in doing so was its marked difference from the monitorial, and its prevalence under every system. Perhaps the term word-mongery or verbal system would have been more appropriate. From these five systems a selection must be made, and there was no difficulty in doing so. Having determined the object of education in first book, there was no difficulty in deciding which of the systems seemed to provide the means most likely to accomplish that object. If Divinity has enstamped its own impress on the training system, it must of necessity be in accordance with the soundest philosophy. Why should statesmen, and legislators, and patriots, and educationists remain any longer in dubiety on this matter? Would that enlightened and civilized nations felt that their chief duty was to outrival one another in working out the practical influence of that system in communities! The summary and brief exposition of the leading characteristics of the training system present, we think, a fair and comprehensive view of that system. It has a reference first to the recipients of education, then to the mode of imparting instruction, then to its adaptation to our social nature, and lastly, to its capability of taking every possible advantage from any other system. It might easily have been enlarged, but enough, we think, has been said to give to our readers a bird's eye view of the whole, and this was all our aim. The sixth, or last section, containing an exemplification of the training

system in the mode of teaching the different branches, is the most elaborate of the whole, and that because it is the most practically useful of the whole. As to the branches of education, we have pursued the order observed in preceding chapter respecting the nature, utility and position of these branches, enlarging more specially those that enter more at length into the staple of a popular system, such as English reading, grammar, arithmetic, oral lessons, geography. As the subject of oral lessons, whether object or word-painting, is comparatively novel, and one whose specific purpose and aim many teachers are still unacquainted with, we have considered it to be a duty incumbent upon us to give it a special share of our attention, both in the unfolding of principles and exemplification of lessons. We regard these lessons, when judiciously gone about, as introducing a new era into the matter of the inner life of education, and we felt that we would be guilty of a dereliction of duty did we not, in this way, palpably lift our testimony in their support. Whatever may be the variety of phases in the teaching of the different branches of education, arising from the peculiarity of the branch itself, we trust there is one feature which our readers will not fail to perceive, that the same grand body of principles runs through the whole, that one system reigns triumphant. We are not careful in answering charges of repetition of idea, as iteration and reiteration form part of the system.

CHAPTER III.

THE INSTRUMENTALITY.

SECT. 1. SCHOOL PREMISES—*a.* SITE; *b.* QUANTITY OF GROUND; *c.* SIZE OF THE BUILDING; *d.* FORM AND ARCHITECTURE OF THE BUILDING; *e.* INTERIOR OF THE BUILDING, FURNITURE, APPARATUS; *f.* LIGHTING OF THE SCHOOL; *g.* VENTILATION; *i.* ENCLOSED PLAY-GROUND, USES; *j.* GRADED SCHOOLS; *k.* OUTHOUSES.—SECT. 2. SCHOOL ORGANIZATION—*a.* REGISTRATION; *b.* CLASSIFICATION; *c.* DISTRIBUTION OF TIME. SECT. 3. MANAGEMENT OF SCHOOLS. THIS EMBRACES TWO THINGS—1. RECITATIONS, INCLUDING ASSIGNING OF LESSONS, RECITATION OF LESSONS, AVERAGE ATTAINMENT AT CERTAIN AGES, REVIEWS, PUBLIC EXAMINATIONS. 2. SCHOOL GOVERNMENT, INCLUDING—*a.* MEANS USED FOR SECURING GOOD GOVERNMENT; *b.* WHOLE DOCTRINE OF REWARDS AND PUNISHMENTS.

Having discussed the science and the art of education, we now proceed to the consideration of the instrumentality necessary for carrying the whole into effect. This consists of two parts—the instrument itself, or that which is used to effect the object; and the agent or the

acting power. The former comprehends everything belonging to school premises,—organization, management and discipline, and the latter everything belonging to the schoolmaster,—his office, duties, qualifications, means of obtaining the same, his difficulties and rewards. And need we say that this department, in the educational process, has been greatly undervalued. Neither the school-house nor the schoolmaster has received the attention or consideration to which they are entitled.

The position we most unhesitatingly assume is that befitting school accommodation, and suitable furniture, apparatus, text-books, &c., are just as necessary for the schoolmaster as a workshop and tools are for the mechanic, and that professional qualifications are just as much, if not more needed, in the teacher than in the minister, doctor or lawyer; and, consequently, that preparatory training is just as much wanted here as the serving of an apprenticeship is to the mechanic. But we need not enlarge on these general topics. We shall discuss the instrumentality in two separate chapters.

SCHOOL PREMISES.

Site. The first thing to be looked at in the matter of the site is the spot most readily accessible to the great bulk of the people in the school section. This, in a great measure, will depend on the way in which the population is localized. If, for example, there is a small village, or a densely peopled settlement, containing two-thirds of the whole population of the section, the school-house ought to be placed near, or in immediate proximity, to the great body of the inhabitants. If the section is purely rural, and the population pretty regularly distributed, then the school-house should be as near the centre as possible. But whatever be the character of the section or the spot selected, care should be taken to see that it be removed from the road, at least seventy yards, at a proper distance from all stagnant pools or low-lying swamps or morasses, and also from all those places where vegetable and animal decomposition is rampant, and where those malaria, so deleterious to bodily health, are generated and propagated. And now, what is the situation best fitted for the school-house? We unhesitatingly reply, a dry, airy situation, on a gentle slope, and with a southern exposure. But whether it possess all these requisites or not, one thing is indispensable, that the situation be thoroughly dry, and, if not so naturally, that it be well drained before a stone is laid or rafter put up. But not only should the ground be dry, it should, if possible, command an attractive and extensive prospect, where the eye

of the scholars can freely range over all that is beautiful in the landscape, and the mind be furnished with materials for the improvement both of its intellectual and æsthetical powers. In towns, it were advisable that the school-house be as far as possible removed from crowded, noisy thoroughfares, and especially from streets, notorious for being infested with fevers and other epidemics.

Quantity of ground necessary. If the site is in a purely rural district, there should be enclosed for school purposes at least three quarters of an acre. If, in a densely peopled locality, or in small villages, where the ground is generally more valuable, every effort should be made to secure a quarter of an acre, and if this space cannot be obtained in a suburban district, it would be in every way advantageous to remove it even the distance of half a mile, and all, that an arena for the development of the intellectual and moral powers of the young, as well as a place for physical relaxation, be provided. In towns, however, we must be content with less space. If, at all practicable, it should never be less, even here, than one-eighth of an acre. The shape of the ground is of considerable importance. When it can be obtained, the form should be oblong, and, if possible, the length twice the breadth, or even more. This plan would give room in front for the enclosed play-ground, and leave sufficient space between the school-house and the other buildings behind.

Size of the building. This will depend on the population of the section. From the last census, it appears that the average number of each family is six ; and school accommodation should be provided for at least one-fourth of the whole population. This will be sufficient, not only for the present demand, but also for the natural increase of the population for twenty-five years, the period of the ordinary duration of the school-house. Knowing, then, the number of families in any given section, it will be quite easy to calculate the number for which school accommodation should be provided. It has been shown on scientific principles that each school should possess a capacity to allow to each scholar, at least 150 cubic feet of atmospheric air. Another mode of computation, and that more practicable, is sometimes adopted. The Committee of the Lords of the Privy Council on Education in Britain, stipulate for eight square feet of superficial area for each scholar, and make grants to the erection of school buildings only on condition that this stipulation is implemented.

It is now admitted by all competent judges that the American plan of putting up the interior of the school-room is not only the best, but pre-eminently the plan, inasmuch as it completely secures the end

intended, viz., the teacher's eye upon every child and every child's eye upon the teacher. This mode of seating demands a much larger area than in Britain. According to this plan, if we allow for the length 6 feet for entrance hall, 5 feet for teacher's platform, $2\frac{1}{2}$ feet between platform and rows of desk, and 2 feet 9 inches for each desk and seat ; and for the width, allowing $2\frac{1}{2}$ feet for the aisles, 4 feet for the desks, and 2 feet for divisions between rows of desks, the following dimensions will furnish ample accommodation for the number of scholars prefixed :

24 scholars,	26×21	in clear 6 ft. hall,	3 rows of desks.
30 "	29×21	"	" "
36 "	32×21	"	" "
40 "	33×27	in clear 8 ft. hall,	4 rows of desks.
48 "	36×27	"	" "
56 "	39×27	"	" "

And so onward, adding 3 feet to the length for every additional 8 scholars. When the number of scholars amount to 50 or upwards, there should be a class-room attached to each school.

Form and architecture of building. By far the most convenient form is an oblong. The proportion between the length and the breadth will of course vary as the size of the area, though in no case should the length exceed the breadth more than a half. It is exceedingly desirable that the ceiling be high. Twelve feet is the minimum, but, if possible, it should range from 14 to 16 feet. The school-house should stand north and south. As to the style of the architecture of the building or buildings, much, if not all, depends on the means and taste of the inhabitants of the section. With the views that but too generally prevail in young settlements on the matter of education itself, it would be unreasonable to expect that the school-house should be in advance of the dwelling houses, but surely they ought to be on a footing of equality both in their external appearance and in their interior fittings, Wherever we find some taste displayed in the ornamenting of churches, we consider that we are amply entitled to expect the same in school-houses.

Interior of the building. Under the interior of the building we comprehend all the fittings of the house itself, the furniture, apparatus, and other conveniences. We lay it down, as a general principle of the greatest importance, that everything connected with the building, whatever be its character or style, ought to be in a finished condition before it is occupied. All the fittings, too, connected with the stove, the doors, the lobby or entrance hall, scrapers or mats, pegs for the hats or upper garments, wash basins, &c., should be provided, and a

full inventory handed over to the teacher at the commencement of his operations. Next to the building itself comes the furniture. The American nation has in this respect set a noble example to the whole civilized world. Here, whether we look at the health or comfort of the scholar, or the benefit of the teacher, or at the great end of education, everything is as near perfection as possible. In all their infant or primary schools, the children, when not in the gallery, are generally seated one by one in nice little armed chairs, some of the more advanced having desks before them. In juvenile or common schools while the seats are separate, the desks are constructed with all the conveniences for holding paper, pen, pencil, ink, slate, books, &c., without the least confusion or mingling of the property of one with another. These desks and seats in their mixed schools, are all graded in nicest adaptation to the different ages of the scholars.

The first thing to be attended to in the arrangement of the furniture is the teacher's platform and desk. The platform should be from seven to eight inches in height, not less than five feet in width, and should run along the whole of the north gable. The desk should vary in shape and style according to the character of the school, and be of a size sufficient to hold a full assortment of the articles needed by the teacher. The desks should never be nearer the platform than $2\frac{1}{2}$ feet; a greater space would be in every way desirable, as this is the place, if there is no separate class room, where a goodly number of the recitation exercises must be gone through. The desks and seats should rise gradually from the front to the back, and should be arranged either in three or four rows, according to the size or form of the school. It is always desirable to have the younger children in front. Under the leaf of each desk, there should run a board for the purpose of holding the children's books. Each child should have his own seat and a place for his books. In the open space in front of the raised desks there should be a few moveable seats, which, as occasion required, could be arranged in front of the master's desk, where any particular class might receive a special lesson, while the rest of the scholars are engaged in silent work at the raised desks.

It has been stated that when the school-room is large enough to contain fifty scholars or so, it would be exceedingly desirable to have a small class room. The most convenient place for such a room would be immediately behind the teacher's platform, and between the girls' and boys' entrance hall, with a small gallery, or a number of common settees for furniture.

After the furniture come the apparatus or tools, just as much

the property of the section, and as necessary to be provided out of the general funds as the building itself. Now, whilst there is a certain amount of apparatus indispensably requisite for every school, there are some required for particular schools. In reference to the former, there is perhaps none so indispensably necessary as the black-board. From the abecedarian class up to the highest branch in mathematics, this tool may at all times be called in with signal benefit. When the subject under consideration is presented to the class by a skilfully constructed diagram or picture on the black-board, it is far more clearly apprehended by the understanding, and calculated to produce a far more vivid and lasting impression. Besides what is perceived by one is perceived by the whole class, and thus a far greater power is imparted to the teacher, when he knows how to take advantage of it. There are several sorts of black-boards,—1. A very common one is painting black the wall immediately behind the teacher's desk. This very soon loses its blackness, and requires constant renewing. 2. Another way of constructing a black-board is by a composition of lamp-black and vinegar, and this mixed with plaister paris before it is put on. This is perhaps the cheapest and best mode. At a very moderate expense a stripe may be taken round the whole house. 3. Another mode is by painting a wooden board and placing it in a frame. 4. The last sort is by putting a black composition on canvas. This kind is capable of being rolled up and of being used on both sides.

The other indispensable requisites for every school are—1. A good and large map of the country. 2. The two hemispheres of large size. 3. A map of Palestine and a terrestrial globe. And in addition, there ought to be a complete set of the best editions of the authorized text-books, with the most approved dictionaries and gazetteers. These should be on the teacher's table, that they may be consulted by the pupils at certain fixed times.

And now as to the special apparatus and tools, or those required for particular descriptions of schools, we may first speak of infant or primary schools. These should all be provided with every possible variety of pictures for object lessons; an arithmetican or ball-frame for teaching number; the various linear measures, for measuring heights and distances, with small holes in the ends, so that they may be joined together by wire for the formation of the various geometrical figures; colours; the current coinage of the country; the different weights with balance scales; box of bricks, for the construction of buildings; all sorts of plants and animals preserved or in pictures.

In a juvenile school well equipped, in addition to what has been stated as indispensable for any school, there ought to be every variety of map, blank, outline, embossed, climatic, charts for history, &c.; a small laboratory or chest of chemicals; a museum of curiosities and of the natural history objects in the neighbourhood.

In more advanced schools, whether designated grammar, high school or academy, there ought to be a pretty full set of ancient maps, of physical maps, Johnstone's natural philosophy maps, the various instruments essential for surveying, navigation, &c., and in short a complete assortment of natural philosophy apparatus. A good museum containing types of the general objects of natural science, for study and illustration.

For the due care and preservation of all this property there ought to be suitable presses, properly constructed, under safe keeping with lock and key, a printed catalogue and inventory, and all carefully and periodically inspected by the trustees.

Lighting of the school. Light is of greater consequence both to the vegetable and animal kingdom than many seem to imagine. The assimilative process in the vegetable kingdom is all but inoperative without the rays of the sun. That light is essential, too, to the health and vigour of the animal kingdom, is not less manifest when we contrast those creatures which are bereft of the cheerful light of day, with those who bask under the noontide of its enjoyment. There cannot be the least doubt that light exerts a mighty influence on the physical condition of the human species, and through that on the mental. And hence the vast importance of the lighting of the school houses.

The windows should consist of large panes, with not less than two rows in lower and three rows in upper sash. They should be placed in the east and west sides of the building, or on the right and left side of the teacher and taught, and directly opposite to one another, that when they are open, there may be a free current of air. They should not be nearer the floor than four feet; it would be in every way advantageous if they were placed higher; it would be better for ventilation purposes, and better still more for the health of the inmates. They should be made to open both from the top and the bottom, but especially from the former, with curtains or blinds to prevent too great a glare or profusion of light, when the rays of the sun strike most directly.

Ventilation. In discussing the subject of physical education, the principles on which ventilation rests have been fully explained. Our

purpose at present is to point out the best mode by which this indispensable requisite may be secured. After careful study and considerable experience of the diversified methods resorted to in more modern times, and despite of the high authority with which some of these have been recommended, we have been forced to the conclusion that the good old-fashioned one of opening the windows and doors during every recess, and especially the upper sashes of the windows, is, after all, the best and cheapest. We say the upper sashes, because the foul air, the carbonic acid gas, though specifically heavier than air, being hotter and more rarified, naturally ascends and occupies the upper part of the building, and the sooner it is allowed to escape, the purer and more healthful will be the atmosphere. If, after the school-room becomes vitiated, the under sash alone is opened, the good air, which is principally in the lower part of the building, will thus make its escape while the bad will remain, and by its descent render the atmosphere still more noxious, and thus greater harm than good be done. On occasion then of every recess, the opening of the upper sash of every window should be strictly attended to; and one of the steadiest of the pupils should be charged with this duty. There should be, at least, one long recess of twenty minutes or quarter of an hour in length during every diet of three hours. Two recesses of a shorter duration, with the sashes opened each time, would even be better. This would completely prevent the air from becoming vitiated, and the time which, in the eyes of some, may appear all but lost, would really be most profitably employed in consequence of the greater energy that would be infused into the mind's of the pupils, and the life and buoyancy that would be communicated to the teacher. It would be well, too, to keep the door wide open during the continuance of these recesses. When the weather is so intensely cold, that it would lower the temperature too much to open the window, resort may be had to the ventilator in the ceiling or in the sides of the building. This, with a small gable lattice, to allow the foul air to escape, might suffice for all the time that such weather might last. For the preservation of a wholesome atmosphere much depends on the care and attention of the teacher himself. If at all competent for his situation, every teacher ought to be so cognizant with the laws of animal physiology as to make him realize the transcendent importance of diligently attending to these matters.

Heating. Next to the ventilation ranks the temperature of the building. This is especially the case in a country where the climate demands artificial coloric for at least six or seven months in the year.

and where the intense heat of summer so relaxes and enervates the animal system as to render it far more susceptible of cold in winter, requiring a temperature ranging between 63° and 65° of Fahrenheit. And how is such a temperature to be most equally and most cheaply secured? Notwithstanding all that has been said and written on the subject of the unhealthfulness of stoves in school, and notwithstanding all the ingenious plans proposed in reference to open fire places, we have no hesitation in giving a decided preference to the stove, as being both the most effectual and the cheapest mode, provided the stove is in good condition and properly attended to. In open fire places three-fourths of the heat ascend the chimney; while scarcely a fourth generated, radiates from the front into the room. Besides, from the larger consumption of fuel in open fire places, more oxygen is consumed; and this creates a rushing of cold air through every crevice from one end of the room to supply the combustion going on at the other. A stove, on the other hand, can be placed in any central convenient part of the room, whence the heat will radiate in all directions, and thus maintain a much more even and uniform temperature. This is also a cheaper method. The combustive process being much slower, does not levy such a tribute upon the oxygen, and, consequently, does not consume more than a fourth of the fuel. The only objection of any weight that can be brought against the stove is its tendency to consume the aqueous vapour and to carbonize the atmospheric air. This, when ventilation is neglected and the temperature above blood-heat, as it not unfrequently is, must be exceedingly prejudicial to health, and oftentimes sow the seed of pulmonary and other diseases, aggravated in no ordinary degree, when both teacher and taught, emerging from a vitiated, infectious atmosphere, and plunging with their system thus relaxed into one considerably below the freezing point. But what good thing is not liable to abuse, and the greater the danger resulting therefrom, all the more should we be on our guard. But after all, there is no need of the air becoming too dry, and no fear of its doing so, provided the ventilation and temperature of the room are properly attended to. To obviate all risk and supply any deficiency of aqueous vapour that may arise, surely there is no great trouble in placing on or near the stove an evaporating vessel, partially filled with pure water. If the stove and the pipes are in good order, the fuel of best description, the damper attended to, with the amount of ventilation and temperature that ought to exist in every room, there is no more danger arising from this method of heating than from an open fire-place. Nay, from the improvements recently effected upon stoves in

general, this kind of heating can be rendered still more perfect, and we know no greater improvement in the construction of stoves for large rooms, by means of which heated air is emitted and currents of cold air from the sides or ends of the building in a great measure prevented. This is done by opening up a communication with the cold air through the underpinning of the building, and inserting into the aperture a tube four or six inches in diameter. The cold air passes from this tube into flutes appended to the stove, or around the sides of the stove. Here it becomes heated, and is radiated in all directions from the stove, thereby counteracting all currents, and helping largely the preservation of an equality of temperature.

Enclosed Playground. Those who have been accustomed to regard the playground merely as a place of physical relaxation or of bodily pastime and amusement, are startled at the very mention of the epithet *enclosed*, and all the more when the school-house, to which the playground is appended, happens to be located in a purely rural district. "What," they ask, "is the use of enclosing ground for such a purpose, when the scholars may roam at will both in field and forest."

It is no doubt quite true that the playground round the school is intended to furnish an arena for physical exercises, for all sorts of games and amusements. For this purpose, when properly equipped, it is provided with a full set of gymnastic apparatus, a parapet wall for playing at ball, twenty feet in height, ground for sand holes, level places for rolling balls, and especially a covered playground both for wet and very hot weather. One sort of apparatus seems necessary in all towns or places where the playground is very limited, is a circular swing. There should be generally two of these, one for the boys, and the other for the girls. At this exercise the children never weary, and it is decidedly safe, much more so than a common swing.

The relaxation and exciting bodily exercise arising from these games, and from exposure to the fresh air, at certain intervals during the day, will produce a very salutary influence upon the intellectual vigour of the scholars in their indoor work. Frequent recesses and indoor physical exercises are oftentimes objected to, as an unprofitable encroachment on the school hours of the children, and as having little or nothing to do with their intellectual labour. Never was there a greater delusion. These exercises, instead of diminishing, will vastly augment the amount of intellectual labour. But, however important all this may be, however beneficial the playground may be both to the bodily health and intellectual vigour of the young, there are benefits far higher and more lasting—we refer, of course, to those that are

moral. This, according to the training system, forms the theatre of the display of the real tempers, and dispositions, and habits of the pupils, and by which the trainer obtains that knowledge which he can turn to the most profitable account, both in the encouraging of what is right, and in the dissuading from what is wrong; in one word, in the moulding and fashioning of moral character. Now, in the midst of all these scenes, the master, who is, according to the training system, taking the superintendence of the scholars in the playground, is quietly mingling with the whole, encouraging and animating on the one hand, and reproving and rebuking on the other, sometimes taking share in the games, and at other times explaining how they ought to proceed, watching the covetous and avaricious, taking notes of their misdemeanours, and either correcting them on the spot or waiting till they are mustered before him in gallery, &c., where an oral lesson may be given immediately on their return to school-room, or the same day when the deed is perpetrated, at some more convenient season. It is in this way that the teacher is furnished with the real knowledge of the character of his pupils, gets materials for moral and religious instruction, and, by the conduct of some, derives arguments and pleas to dissuade from evil and encourage to what is good. Here, in one word, he gets his best and most instructive lessons. He observed, for example, a boy picking up the favourite marble of another, and putting it very adroitly in his pocket, while the owner was searching for it with greatest anxiety. The master takes no notice of it; but when the children are again seated in the school gallery, as usual, he commences the process of examination, elliptically and interrogatively, in the shape of a story of a boy who stole his neighbours marble or something else. In a moment the culprits head hangs down; it is unnecessary to mark him out, as he is visible to all by his downcast and reddened countenance. In the meantime, the trainer reminds the child and all present that although he had not observed him, God assuredly had; or rather he draws out this statement from the children themselves, the criminal at the bar remaining perfectly quiescent. The question may be put, *What punishment?* Some of the more furious boys, whose energies require perhaps only to be regulated in order to make them noble characters, call out, *Beat him, cuff him*; all the rest, in the mean time, keeping silence, conceiving such punishment to be rather severe. The master, however, will ask another question or two, rather than fulfil the commands of this unmerciful jury. *Is this boy in the habit of stealing your playthings?* *No, sir.* None of you have seen him do such a thing till . . . *now.* Then you think this is

a . . . *first offence*. Ought a child to be punished as severely for a *first*, as for a second or third offence? *No, sir*. What then shall we do to this boy? Instantly the girls will naturally cry out, *Forgive him, forgive him*. Now, mark the natural effect upon all parties; the guilty is condemned by his fellows—the milder feelings are brought into play, and all have been exercised in the principles of truth and justice. For such high and important purposes an enclosed playground is indispensably necessary. In towns the playground should be walled around. In the country a wooden paling might sometimes do, and the middle area ought to be levelled, having a very gentle slope, so as to permit the water to flow off freely after a shower, and also be laid down with pit or river gravel, which binds better and is cleaner than ashes. Everything should be kept clean and neat, and such important habits will not be lost in after life; yea, the moral taste may be formed, which delights in having the front of every cottage door neat and clean, and its sides decked out with the rose, the clematis and the woodbine; and similar habits carried out into the crowded lanes of the city, would add greatly to the health, comfort and happiness of the community.

Graded Schools. All hitherto advanced, refers to individual schools, whatever their character, miscellaneous, initiatory, juvenile, high or academic. A graded school is one consisting of two, or three, or four, or more compartments under the same roof, with the scholars all classified according to age and attainments, with separate teachers in every department, and yet all acting harmoniously under one head. Wherever 150 children and upwards in any one locality within a mile and a half, or even two miles, from the centre can be collected, there ought to be such an establishment. This is a far more efficient and cheaper mode than teaching such a number in two, or three, or four miscellaneous schools, consisting of 30, 40, 50, or 70 children of all ages, from 5 to 15 and upwards. In such schools there is such an endless multiplicity of branches, and such a number of grades in these branches, that it is hard work for the teacher to go through, in the most perfunctory way, the recitation exercises every day. There is not a moment to spare for the teacher to bring home the subject to the understanding or conscience of the pupils, and far less to weave it into the texture of their minds. Indeed the teacher, however skilful and laborious, but rarely comes in contact with the minds of his pupils, except in the exercise of their memory, and to attempt to make that a memory of ideas to any one class, would be to the neglect or prejudice of others in school. This can only be obviated by resorting to graded

schools. This forms one of the finest illustrations of the division of labour. We know the huge power of this principle in every other department, how it renders articles, altogether essential for our comfort, not only one-half the price, but infinitely better executed by having certain individuals doing a part of it, and unceasingly engaged therein, than entrusting the whole to one person. Why, a pin could not be made by one person for less than $12\frac{1}{2}$ cents, whereas a hundred can be had for that cost, and all just as required, made to perfection.

For the carrying out of this principle, there ought to be two, or three, or four departments under the same roof—a primary and intermediate, or a primary, intermediate, preparatory and high school department. Each of these should be of such dimensions as would easily contain 65 children as the minimum, and the high school department, when there is such, should be ample enough to hold both the primary and intermediate, all the children attending which, should morning and evening unite together in devotional exercises, that it may be felt to be but one establishment with different departments. For this purpose a gallery should be erected at one end of the high department, sufficient to accommodate 150 children or upwards. The primary should also have a gallery, with 15 or 20 armed little chairs in front for the purely infantine department. The younger the children attend a school, the easier and more successful will the training process be. Many are quite able to attend at four years of age. To every one of these graded schools there should be separate entrance halls—separate playgrounds and separate outhouses. The boys and girls in the primary unite altogether in playground and offices, the boys in the intermediate and high school should be in the same playground, though it would be in every way advantageous that they enter by separate passages. The girls, in like manner of the high school and intermediate, should have the same playground and offices. If possible, there should never be less than two acres of ground set apart for a graded school. This is the minimum. One acre over and above might be most advantageously disposed of for the comfort and convenience of such an establishment. The boys and girls in all these departments should be exercised together in all the branches of education. This, when the establishment is pervaded by a healthful moral tone, exerts a powerful reciprocating influence both intellectually and morally. But the boys and girls of both intermediate and high school should have distinct entrance halls, distinct playgrounds and distinct offices. And, therefore, the greater the quantity

of the ground, the more easily manageable, the more serviceable in these respects.

Outhouses. A complete set of offices or outhouses are just as needful for a school-house as for any other residence or dwelling. There ought to be first a covered

Playhouse. The school arrangements cannot be carried out with anything like regularity, if the children are obliged to remain in the school-room when the weather is unpropitious, when it is such as that it would be improper for them to be exposed to it. In this country there is often weather both in the midst of winter and summer to which it would be quite dangerous to subject the children to, and which renders a playhouse indispensably necessary. It would be of great benefit, even for the ventilation of the school-house, if the children were out of it even for 8 or 10 minutes. This may be too expensive in the common schools of the country, but it ought to be an invariable accompaniment of a graded school. Indeed there ought to be two,—one for the males and another for the females.

Woodhouse. In this country, and throughout the colonies, generally, when wood forms the staple fuel, a woodhouse is indispensable. It is next to impossible to preserve an equal temperature in a school, unless there is an abundant supply of well-seasoned wood, and such an article cannot be secured without a woodhouse. Independent of the accommodation and comfort of such a provision, it would save as much every year in the quantity of the wood consumed, as well as the preservation of stoves, pipes, &c., as would pay its whole expense.

Water Closets. Every possible provision should be made in this department. Every common school ought to have three such places perfectly distinct; one for the teacher, one for the girls, and one for the boys. The teacher's ought to be constructed between the other two. These houses should be as near the boundary line as possible, behind all the other buildings. If it can be at all arranged, both the woodhouse and playhouse should intervene, and this can be easily managed, if the ground is of the form already described.

In all the departments and in all the houses, offices, &c., the strictest attention should be paid to cleanliness. Some children are exceedingly filthy and disorderly in their habits, and will require constant watchfulness, the most thorough supervision for some time till the opposite habits are contracted and established. These outhouses should be inspected every day, and every effort put forth to preserve the whole of the outer as well as the inner of the establishment in tidiness and cleanliness. It were well to put two or three of the older

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and more steady of the boys in charge of these outhouses every week or month, and render them responsible. But even with all this, the head master or teacher should faithfully inspect the whole outer premises every day.

SECTION II.—SCHOOL ORGANIZATION.

By school organization we understand all the arrangements entered into for the purpose of setting agoing the school machinery. It bears the same relation to school management that germination does to vegetation, or that regeneration, a term in theology, does to sanctification. It comprehends registration, classification and distribution of time, with all their concomitant elements and modifications. These are essential to the effective conducting of a school establishment, and show very clearly the necessity of a special education in the business of teaching. We may be good scholars ourselves, but if we are ignorant of how we ought to proceed in organizing our school, the highest attainment will stand us but little stead when overtaken with some difficulty appertaining to the exterior arrangement.

School registration. An accurate body of educational statistics is of the greatest possible utility to the teacher, to the parents of the children at school, to the trustees or committee of management, to the nation at large, and still more to the children themselves. It is of service to the teacher, because it enables him periodically to ascertain the real condition of his establishment, what pupils are attending regularly, what progress they are making, &c. Again, it is of use to the parents, who are dissatisfied with the slender progress of their children. They lodge a complaint with the teacher. An appeal is made to the register, and the irregularity of attendance but too palpably demonstrates the cause of their educational failure. Again, it is of use to the trustees or committee of management, and through them to the whole surrounding neighbourhood, leading to the discovery of the causes of epidemics, and thereby productive of the best sanitary results, as well as securing for the district a much more efficient education.

But, perhaps, it is to the nation at large that the greatest benefit flows. Discussions are continually waged respecting the state of a nation's education. All parties appeal to statistics. But before any valid conclusions can be drawn therefrom, it is needful to consider in what way these statistics have been collected. Probably not more than two-thirds of a given territorial district have been reported on. The other third is in vastly the worst condition, insomuch that the educational authorities are ashamed to expose its nakedness. And

what is done in the case? The average of the whole is applied to this one-third, and thus the matter is supposed to be assorted. And there is no way of obviating these difficulties but by a body of well planned, thoroughly digested, and carefully kept school registers. Such materials, in possession, would be worth a thousand speeches either on the one side or other, by those who are inclined to take a too flattering view of the state of matters, or by those who may feel disposed to underrate or depreciate both the matter of quantity and quality. With such a body of statistics any state or province may not only arrive at correct views of its educational condition, but also discover wherein the efficiency or defect lies. And surely this is worthy every exertion, and toil, and sacrifice, not merely to get at the seat of the disease, but still more to find out the application of the suitable remedy.

But there is another benefit of registration not yet noticed, perhaps of higher value than all, that of being employed as an incentive to the scholars, to proper behaviour on the one hand, and to diligent application to study on the other. This has been tried in some parts of the United States, and we believe with no small measure of success. A daily record is carefully kept of everything appertaining to the educational life of each child, and at the end of each term a summary is drawn out. This summary is enshrined within a richly ornamented frame suspended in a conspicuous place in the edifice, and kept there as an enduring memorial of the school life of every child that has attended the institution. To rest upon this application of registration as the grand instrument of discipline in any school establishment, is, in our opinion, to expect too much from it; is to exalt it far beyond its capabilities. It may be very well adapted in some cases, but altogether unsuitable in others; it may be effectual for a certain period, but afterwards it may become altogether nugatory. Besides to make this the only plea or argument, which, after all, unless carefully administered, partakes pretty largely of the selfish element, lessens the high mandate of moral obligation, of appeals to conscience and duty.

A thorough system of registration must necessarily have respect to three things:—The time the scholar has been at school, the regularity of his attendance, his general progress and behaviour. These three objects will necessarily require three distinct kinds of register,—1. Register of admission and withdrawal; 2. Register of attendance, and 3. Register of progress. In a large school it will be necessary to have in addition to the above, an alphabetical list numbered, so that reference can be made at once to any scholar.

REGISTER OF ATTENDANCE.

Index.	Name.	Age	From Monday 7th May, to Saturday 12th May.											
			Mon.		Tues.		Wed.		Thurs.		Fri.			
			M.	A.	M.	A.	M.	A.	M.	A.	M.	A.		
24														
6														
13														
14														
3														
1														
	No. present daily.													
	Average for week.													
	No. present any time during week.													
	Average number of days attended by each child.													
	No. on register.													

The above is a specimen of a register of attendance, containing all that is essential for the purpose. Other columns can easily be added. One, for example, showing the number of days each scholar has been in attendance; another, bringing out the principal causes of irregularity or want of punctuality. As nothing so largely affects the utility and comfort of the school establishment as the irregularity of the attendance of pupils, no pains should be spared, or sacrifice begrudged for its removal or diminution. When the school consists of several departments, when there are assistants with large sections or classes, there should be class registers, and a general summary taken every Friday afternoon by the head master. In all well ordered systems of registration there is provision made for quarterly, semi-annual and annual summaries. Every effort should be made on the part of the educational authorities in every country that these registers be regularly posted and most carefully preserved.

Classification. By this is meant the act of arranging the scholars in classes, in all the branches, according to their real attainments. This is one of the most important and difficult matters connected with the organization of a school. If justice is not done here, if the pupils are not properly classified, the teacher will expend a great deal of his energies to no purpose, and the pupils will derive little or no advan-

tage from the sympathy of numbers. At the commencement, then, of the teacher's career in any one locality, he should devote no small share of his attention and study to this subject, as one deeply affecting the whole of his future usefulness in that locality. And what is the principle that ought to guide him in the matter of classification? The fairest and the best principle in such a case undoubtedly is the capacity or the real mental calibre of the scholars. This, however, is impossible, as there is no gauge or touchstone by which to get at such a point. The nearest approximation to this is the attainment of the scholars; generally, a pretty fair criterion or index of the capacity or endowment of the mind. And how should the teacher proceed in the work of classification in accordance with this principle? He should decide on some branch as the standard, and then on the number of classes in that branch. The best standard in a common school is the English branches, embracing reading, spelling, grammar and history. As to the number of classes in this department, much depends on the age and attainments of the scholars. It is desirable that they be as few as possible, so as not to be at the expense or the detriment of the pupils. If few, the teacher will have time to develop the minds of his pupils by the exposition and appliance of the various subjects. If numerous, his whole time will be occupied in hearing the exercises prescribed, and thus little be done for the cultivation and expansion of the minds of the scholars. As much here depends on the age and general education of the scholars, it might be exceedingly desirable in every point of view, and put him in possession of valuable information for future guidance, were he, before commencing operations, formally to pay a friendly visit to the families of the section.

Having decided on the number of classes, the next thing to be done is to fix the maximum and minimum of attainment of each class, that it neither be too high for the lowest, nor too low for the highest. It will generally be found that four classes in the English department will be enough. These will embrace the following:—1. The beginners, or those in the alphabet, and reading and spelling monosyllabic words. 2. Reading easy narratives, spelling by ear and to dictation, able to give in their own language an abstract of lesson prepared, with elements of grammar and history of native country. 3. Read any common book, either poetry or prose, spell from spelling book superseded, parsing, grammatical analysis, history of Great Britain. 4. Highest English reader, principles of elocution, recitation exercises, composition, figures of speech, punctuation, history—outlines of universal history.

Arithmetic. It does not at all follow that the pupils who are as near alike as possible in the English branches are so in the others, especially in arithmetic. Some possess great aptitude and readiness in the acquisition of language, and yet betray quite the opposite tendency in number, and in all abstract sciences, and *vice versa*. Hence, it may happen, that those every way qualified for the fourth class in English, may scarcely be able for the third in arithmetic, and the reverse. This is one chief difficulty in the matter of classification. And it must be faced. Everything in the arrangements of school must be ordered in a way that will conduce most extensively to the welfare of the pupils, whatever the labour or inconvenience to the teacher. In every department each scholar should, if possible, occupy the place for which he is competent, neither too high nor too low, but as near as possible adapted to the actual attainment. The arithmeticians should be as carefully classified as possible. Generally speaking, they may be divided into four sections:—1. Those in the fundamental simple rules, and the longer they continue in these the better for their future progress. 2. Compound rules, tables and reduction. 3. Fractions, rule of three, interest, &c. 4. Decimals, and all the higher rules. N. B.—Mental arithmetic is carried on throughout all the stages.

Geography. Geography may be divided into two departments—elementary and systematic. The former is carried on orally, and the latter through the medium of a text-book. This naturally divides the classes into two, which may be subdivided into other two. In this branch, as in others, much good will be effected, by bringing all the scholars of the different sections in the same branch together, once a week, or once a fortnight, and examining them by outlines.

Penmanship. In this important branch, it is but rarely the scholars are classified. We see no reason why they should be here more isolated than in any other. On the contrary, from its being a mechanical art, we can see all the greater benefit arising from competition, or the stimulating of the emulative principle. There ought also to be three or four classes in writing.

Such is a summary of the classification in the branches of a common school education. The classes in a common school could scarcely be fewer, but they can easily be extended or subdivided, and in graded schools they are so, corresponding to their extent or subdivision. In all the advanced branches, whether in mathematics or classics, the number of classes will of course depend upon the degree of progress each group has attained. The register of progress must be regulated

entirely by the matter of classification. Whatever the plan pursued in the one, must necessarily largely affect the other. Character and progress, conduct and attainment, the cultivation of the intellect and conscience should always go hand in hand. This union will go far to neutralize the injurious influence of prizes or rewards; at all events, it will raise moral worth to an equality of value with intellectual attainment, and this, to say the least, is a step on the road to its legitimate position, to the vantage ground, which is its due. Both progress and deportment will be most easily and accurately recorded by figures. Some take 9 as the standard of the former and 5 of the latter, but this is purely optional. All depends on the minuteness and circumstantiality with which the matter is gone about.

Distribution of time in school. To begin with the younger classes and go on with the more advanced until all were finished, whatever time it might take, used to be the old fashioned style of procedure with the exercises or work of a school. Sometimes the classes were called up, as soon as they had the tasks prepared; and strange scenes were wont to take place in connection with the matter of preparation; the teacher asking class after class in rotation to come, and receiving for answer, from one and all, "not ready yet sir." By this practice not only did the utmost irregularity prevail, but the greatest injustice was inflicted alike on subjects and pupils. At all events, it could hardly be said that each subject was treated according to its relative importance. By a wise and judicious distribution of time, whether in the matter of recitation or of study, and by each class being aware of its own work, not only will more justice be done to each branch, but better order maintained, and more progress made. In the performance of this task, various elements must be taken into account. There is, first, the character of the school, whether a common or a regularly graded school, and what the external arrangements of both.

Wherever the section can command 150 schoolable children, the law should insist upon a graded school being established. Indeed where there are 100 schoolable children within the distance of two miles from school, there ought to be a gradation school—a primary and juvenile at least. In a well conditioned state of things, educationally, 80 of these children ought to be regularly at school. In a miscellaneous school it is utterly beyond the power of one teacher, however well equipped or experienced to do anything like justice to such a number; and as there must thus be a division of some shape or another, the question comes to be whether there must be two separate schools, carrying on all the branches of a common education or one

graded school. This question is answered by the settlement of another, whether the education given shall be a purely mechanical thing or an intelligent exercise, with the view of strengthening the various powers of our rational nature. As no man of common sense would calmly and deliberately prefer the former, whatever might be the cost, the question is thus fixed and sealed. And when to this is added the demonstrable fact, that it is one-third cheaper, even on the smallest possible scale, it brings along with it a power fitted to level all opposition. If, then, a graded school is decided on, the course of procedure is plain and palpable, viz., the erection of a building, with as many apartments as there are grades in the section, each apartment providing accommodation for from 40 to 65 scholars, it being understood that in proportion to the grades so are the capabilities of the teacher in the matter of number. If, on the other hand, the school-house is a fair specimen of what such a structure ought to be in a rural section or parish, such as we have described, much may and ought to be done in the internal arrangements, that will largely affect the matter of the distribution of time. If, for example, there is a separate class-room, whither the teacher can repair with a group for the special exposition of principle connected with some lesson, whilst the remainder of the pupils, or, at least, a certain portion of them, are engaged in silent preparatory studies, even this exterior advantage in the building will modify the matter now under consideration. The Tripartite division, as it is called, will do this still more. This is a comparatively novel arrangement, introduced by Mr. Oliphant of Edinburgh, and afterwards systematized by Mr. Mosely, one of Her Majesty's inspectors of schools. This plan takes its rise in the application of a wider classification of the branches of instruction than is usual, and has for its object the bringing of every child daily in direct contact with the instruction of the head master. It contemplates the erection of a building with three compartments, furnished after a different fashion, the one with desks, the other with seats arranged in squares, or rectangles, or curves, and the other with a gallery. The scholars, of which there are supposed to be from 150 to 200, are divided into three sections, which, after the religious exercises, repair into the separate apartments, the first into the desk room, where they engage in work requiring the desk, such as writing, drawing, slate arithmetic, book-keeping; the second into the seat room, where they take the more mechanical exercises, such as the working of accounts in any rule of arithmetic after the rule has been explained, spelling, acquisition of the quality of fluency in reading, &c.; and the third into the

gallery room, where they obtain the explanation of some lesson or the exposition of some principle. The whole establishment is conducted by one master and two regular assistants, one male and the other female, if there are females in attendance, or it may be by one regular assistant, and four or five monitors or pupil teachers. The assistants occupy the desk and rectangular room, and the head master is pretty steadily occupied in the gallery room. The scholars change rooms every hour, so that the head master has every one in attendance twice with him every day. This is considered the chief charm of the arrangement, and is, perhaps, the best device that could be planned for such an object. But the plan is expensive, suitable only for children in certain circumstances, and not at all likely to be speedily adopted.

Another element that must be weighed in the construction of a time table, is the teaching power at command. There are, properly speaking, but three kinds of assistants that the teacher can call in. There is, first, the regular and thoroughly trained assistant to take any department in a common school, or the complete management in any apartment in graded schools. There are pupil or apprentice teachers. This is a class of assistants that has been called into existence in more modern times by the Lords of the Committee of the Privy Council on Education in Britain. This is an arrangement by which a teacher holding a Queen's certificate, as it is called, can engage a certain number of his pupils, proportionately to the number of scholars, to act as his assistant for five years, from 13 to 18 years of age, and whom he instructs both in scholarship and professional qualifications, and for which he receives a certain amount in the shape of a bonus. These pupil teachers are examined every year by Her Majesty's inspectors on the matter of progress, so that both head master and pupil teachers are stimulated. This is an admirable arrangement, and, if judiciously gone about, cannot fail to be in every way advantageous to the teacher's calling. There are monitorial assistants, that is, a few of the best conditioned of the scholars are selected by the master to act as assistants to him in some of the more mechanical exercises. These, of course, receive all their directions from the teacher, and carry on their own studies besides. If he give any acknowledgment for their service, it is generally more in the shape of rewards than of payment. Though we have expressed ourselves in another place as strongly opposed to the monitorial system as such, we are far from saying that there are not many schools, where such assistance may be called in with great benefit to the cause of education. Whenever such materials are at

the disposal of the skilful teacher, and when the exercise is purely mechanical in its nature, he should undoubtedly lay hold upon such assistance.

Another element here is the number of hours, daily, the teacher is to be engaged in school. This subject has lately engaged the attention of educationists and philanthropists. The general feeling seems to be to contract rather than extend the time the public school is in session. Our decided conviction is, that six hours of actual work are not too long, provided there is a recess of 8 or 10 minutes at the end of every hour; if not, we consider five hours enough.

The last element for consideration in the allotment of time is the relative importance of the branches of education taught, viewed in connection with the grade or stage of progress of recipients. This is, perhaps, the most essential point of any. Generally speaking, the branches that are more mechanical in their nature, and impose a severer tax on the memory, will occupy more time in the early stages, and those that lay a heavier burden on the reflective in the more advanced classes. The principal employment of the primaries will be oral lessons, and English reading with spelling; of the middle classes, the memoriter and mechanical process of language and arithmetic; and of the senior or advanced, the higher branches of arithmetic and of composition, and those requiring the exercise of the abstract powers. We do not of course mean by mechanical, that any exercise is to be committed, or any lesson recited without a thorough knowledge of its import, or that the memory of the understanding does not uniformly precede that of words. This were in direct antagonism to the system we have been uprearing. What is meant is this, that after the lesson has been examined or the principle well understood, there oftentimes is a great amount of mechanical work to be done before arriving at accuracy and expedition in the doing. We may be familiar with the rule in spelling or in arithmetic, and yet we know that we can neither be good spellers nor arithmeticians without a large amount of practice, and this is all that is intended to be conveyed by these mechanical processes.

On the supposition that all these elements, and others, requiring certain modifications in the arrangements, have been duly weighed, we now present in tabular form, a sample of the order of procedure. We shall first show how the time should be appropriated, in accordance with the relative importance of the branches taught, having always a view to the stage of intellectual development of the class or grade. We shall suppose it to be a graded school with three apartments—

DISTRIBUTION OF TIME FOR ONE WEEK.—PRIMARY DEPARTMENT, OR, CLASS A.

Mon.	9 to 9.10.	9.10 to 9.20	9.20 to 10.	10 to 10.20.	10.20 to 11.10.	11.10 to 11.25	11.25 to 12	12 to 1.	1 to 1.40.	1.40 to 2.	2 to 3.
Tues. Wed. Thurs. Fri.	Taking seats, &c.	Praise and prayer.	Bible oral lesson.	Playground, superintended by master.	In divisions learning to read under charge of master, assistant pupil-teacher & monitor	Playground.	Gallery oral lesson on object.	Interval.	Oral lesson same as former.	Playground.	Divisions in reading, and assemble in gallery.

DISTRIBUTION OF TIME FOR ONE WEEK.—INTERMEDIATE DEPARTMENT, OR, CLASS B.

Mon.	9 to 10.	10 to 10.45	10.45 to 11	11 to 12.	12 to 1.	1 to 1½.	1½ to 2.	2 to 2½.	2½ to 2.40.	2.40 to 3.20	3.20 to 4.
Tues. Wed. Thurs. Fri.	Praise & prayer, Bible.	Writing.	Play-ground.	Reading.	Interval.	Oral lesson.	Grammar.	Geography.	Play-ground.	Arithmetic.	Drawing. Dictation. History. Drawing. History.

DISTRIBUTION OF TIME FOR ONE WEEK.—HIGH SCHOOL, OR, CLASS C.

Mon.	9 to 10.	10 to 10.45	10.45 to 11.	11 to 12.	12 to 1.	1 to 1½.	1½ to 2.10.	2.10 to 2.50	2.50 to 3.	3 to 4.
Tues. Wed. Thurs. Fri.	Praise & prayer, Bible.	Writing.	Play-ground.	Reading.	Interval.	Geography.	Grammar.	History.	Play-ground.	Arithmetic
		Dictation. Writing. Dictation. Writing.		Oral lesson. Music. Reading. Oral lesson. Music. Reading.			Composition. Grammar. Composition. Grammar.	Drawing. History. Drawing. History.		

APPROPRIATION OF TIME FOR ONE DAY.—MISCELLANEOUS OR MIXED
COMMON SCHOOL WHEN TEACHER IS WITHOUT ANY ASSISTANCE.

Time.	Min	Recitations.	Studies.
9 to 9.15	15	Devotion—Bible lesson.	
9.15 " 9.40	25	D. Reading, spelling, tables.	A. Reading. B. Arithmetic.— C. Geography.
9.40 " 9.42	2	Rest, change of class, &c.	
9.42 " 10	18	A. Reading.	B. Arithmetic. C. Geography. D. Slates.
10 " 10.5	5	Rest, singing, or answering questions.	
10.5 " 10.25	20	B. Arithmetic.	A. Grammar. C. Geography.
10.25 " 10.28	3	Rest.	D. Books or Cards.
10.28 " 10.48	20	B. and C. Geography.	A. Grammar. D. Recess.
10.48 " 11	12	Recess.	
11 " 11.15	15	D. Reading, &c.	A. Geography. B. Mental Arith- metic C. Spelling.
11.15 " 11.35	20	A. Grammar.	B. Spelling. C. Spelling. D. Slates.
11.35 " 11.50	15	B. and C. Spelling.	A. Mental Arithmetic. D. Books or Cards.
11.50 " 12	10	General exercises.	
12 " 1	60	Intermission.	
1 " 1.15	15	Oral Lesson.	
1.15 " 1.45	30	D. Reading, spelling, tables.	A. Arithmetic. B. Reading.— C. Reading.
1.45 " 2.10	25	A. B. and C. Writing.	D. Slates.
2.10 " 2.30	20	A. and B. Mental Arithmetic.	C. Mental Arithmetic. D. Re- cess.
2.30 " 2.40	10	Recess.	
2.40 " 3	20	B. Reading.	A. Arithmetic. C. Mental Arith- metic. D. Drawing.
3 " 3.5	5	Rest or singing.	
3.5 " 3.25	20	C. Mental Arithmetic.	A. Reading. B. Arithmetic or drawing. D. Slates.
3.25 " 3.55	30	A. Arithmetic.	B. Arithmetic or drawing. C. Drawing. D. Dismissal.
3.55 " 4	5	General exercises & dismissal.	

Provision may easily be made for sewing by contracting the time allotted to other branches.

SECTION III.—MANAGEMENT OF SCHOOLS.

The organization of the school is now complete, and the question here arises, What is requisite for keeping the machinery in motion—the screws, wheels and various equipments in best working order? What means ought to be employed that the end may be most extensively served?

The matter of the management of schools may be summarily comprehended under two heads,—1. Recitation work, and 2. School government. By recitation work, as here used, we understand all the practical details of the instruction-processes, such as,—1. The assignment of lessons; 2. Hearing them when learned; 3. A standard of

attainment according to age; 4. Reviews; 5. Public examinations. We take the word school-government in an equally extensive signification, as embracing all belonging to school order, such as,—1. General means; 2. Incentives to diligence; and 3. The whole doctrine of rewards and punishments. On each of these points we would now make a few observations.

1. *Recitation work.* 1. *Assignment of lessons.* This scarcely receives the attention to which it is entitled. In too many instances, it is neglected altogether, till just on the eve of dismissal, when all is huddled together in one heterogeneous mass, and such is the confusion at the time that the scholars scarcely ever remember the lessons prescribed. And such as do, and conscientiously prepare themselves, are obliged to acknowledge that, in too many respects, their preparations are entirely a mechanical process, and that so far from developing or enlightening the intellectual powers, they possess no true or abiding apprehension of the import of these exercises. Whether the lesson is to be learned at home or in school, it is clear that the most convenient time of fixing the work, of prescribing the exercises, is immediately after the preceding one has been recited. For this purpose, the teacher should always be a lesson in advance with his preparation, ready at once to give a pictorial illustration of the general scope of the passage, if need be, or the exposition of any difficult term or phrase, so that, in five or eight minutes, the pupils shall have a clear apprehension of its general import, and not only derive benefit, but real satisfaction from the exercise. The quantity prescribed should depend mainly upon the two elements—the age and stage of progress of the pupils, and the time, in ordinary circumstances, for its acquirement. Here, as elsewhere, everything should be sacrificed to superiority in quality; and, to secure this object, the quantity prescribed, at the outset, at least, should be rather under than beyond the average capability of the class. If the scholars are steadily and thoroughly worked for six hours during the day, we have no hesitation in expressing it as our decided opinion that the lessons prescribed for home-work should be, generally speaking, short, and of such a nature as, without the most culpable neglect, they can neither be overlooked nor superficially got, and such as the parents generally can sympathize with or aid. Nothing so largely facilitates or speeds on the work of the school as the sympathy and co-operation of parents, and hence the extreme desirableness of taking them along with us—of securing their support.

2. *Reciting lessons.* This, in Britain, is called the hearing of

the lessons; on this continent, the recitation exercises, inclusive of the oral instruction. This is the most important work the teacher has to perform—to this everything else converges, or from it diverges. Failure here, therefore, necessarily affects the whole of his position, professionally. Need it be said that much, very much of his success in this matter depends upon his own thorough mastery of the subject under review. It is sometimes remarked, that no teacher should engage in recitation work without knowing ten times more on the subject before him than it is necessary to convey to his pupils. Whether this is a sound or legitimate degree of superiority, we do not undertake to decide. It certainly, with one fell sweep, scatters to the winds those notions which some pseudo-teachers would fain maintain, that they teach certain branches of knowledge with no other intention but to render themselves more proficient therein; as well as to demonstrate the utter fallacy of the position, that great power or efficiency can at all co-exist with slender general attainments or a superficial acquaintance with the subject in hand. Neither aptitude, nor experience in teaching, nor knowledge of system, will compensate for the one or other of these. Both extensive general scholarship and diligent accurate previous preparation of the subject under consideration are indispensably necessary for continued efficiency in recitation work. And if so, if possessed of both these, the teacher will be altogether independent of text-books, except in some such exercises as reading, spelling or parsing. He will thus come to his work altogether untrammelled, with his mind full to overflowing with his subject, and prepared to personate every thought or idea, to throw the charm of his expressive features around everything he touches or handles. In these circumstances, he commences his work, and, like a good captain, he sees first that every scholar is in his right position, and that every eye is directed towards him; and this state of things, he must maintain throughout the whole exercise. Even if one child is not giving attention, the teacher should instantly stop and correct the misdemeanor; this will economize time in the long-run. Everything here, too, of a stereotyped character, or formal course of procedure, should be avoided. Occasional novelty, both in subject and mode, will enliven, and arouse, and excite an interest. The manner of the teacher, too, should be cheerful and animated, earnest and enthusiastic, if he would inspire his scholars with intelligence and vivacity. His language should be simple and correct, chaste and fluent. But nothing is so influential or so commanding as the tones of the voice of the teacher. Let these tones be modulated in accordance with his real position, with his sub-

ject, with his mode of discussion, and with the character and circumstances of his class, and his object is achieved, the battle is won, and that in the midst of difficulties and obstructions, apparently unsurmountable.

And if such are the qualities needed by the teacher in this recitation work, what are those of the pupils that will satisfy and gratify? If the exercise involves the unfolding of principle, or if it consist of the repetition of what has been prescribed to be mandated, what is the amount of accuracy on the one hand, or of promptitude and precision on the other, that will meet the acceptance and approbation of the pains-taking and skillful teacher? The pupils should be distinctly apprised of the standard of attainment on the part of the one and other of these exercises, and that not once or twice merely, but often and again, until it is thoroughly riveted or inwoven in their minds. And when brought to the touchstone, when the work is really gone through, there must be no unfaithfulness, no carelessness, no slovenliness, no compromising, no equivocating on the part of the teacher. Both kinds must be brought to the standard and abide its decision. This will require great firmness and decision combined with the most unswerving faithfulness, with the most unhesitating impartiality, with the most discriminating watchfulness. In the matter of the exposition of principle, for example, unless every pupil comprehends and grasps the general subject, or, if in the mandatory work, there are three mistakes or general hesitancy, the exercise, in neither case, should be received. Here another point must be weighed. If the failure is general, extending to almost all the scholars, or belonging only to one or two of the number, then what, in either case, is to be done? Provision must be made to meet either emergency, and the application made at once and without hesitation. Steadfast adherence to the standard at the outset, both in the administrative and executive, will soon clear away all difficulties, and tend to secure diligence and accuracy in the preparing of the exercises.

3. *Average attainment at certain ages, at 7, 9, 11, 13, 15.* If there is great diversity of endowment, there must also be an equally diversified measure of attainment. Accordingly, we often find one child of seven years of age as far advanced as others at nine, and another at nine as far as others at eleven, and so on; and all this in the case of those who have been placed in the same or similar circumstances. And yet, notwithstanding this disparity of attainment, it is possible, nay perfectly practicable, to strike a mean at certain ages, especially of those who have enjoyed the same advantages. This we regard as of

considerable utility in a national system, first, for the teacher in his aiming at a certain stipulated amount of progress within a given time, regulating and influencing in the whole matter of the prescribing of the different lessons; not that he is even for a moment to prefer quantity to quality, or to betake himself to a cramming instead of a developing process. This were a perversion of the object contemplated. The average is fixed after a careful analysis of a fair proportion of different sorts of schools in favorable, advantageous circumstances, and that for the purpose of holding up a standard to which all should aspire—that standard being founded not upon mere verbal, but intelligent attainment—quality in every department constituting an essential element. This standard will prove of great benefit not only to the practical labourer in this field, but to the various educational authorities, official and non-official, and especially to those entrusted with the work of inspection or supervision.

The subjoined average may be regarded as a fair representation of the attainments of the ages specified of those who have attended, continuously, the common schools of Nova Scotia, presided over by teachers holding first class certificates, and possessed of a mediocre amount of professional skill. The branches here given are intended to bring out, as far as practicable, the matter of quality, as well as of quantity. English reading is taken as the standard, and this includes every quality upon which expression depends, as well as the spelling. If classics are to be learned, the pupils should commence about eleven.

	Reading and Spelling.	Grammar.	Geography and History.	Mathematics.	General intelligence.	Religious knowledge
7 years.	Read well any passage in No. 2 of Nova Scotia Series.	Distinguish different sorts of words, learned orally.	Mapping objects.—Ideas of heights and distances.	Numeration and notation. Addition and subtraction. Concretely and ball frame	Object lessons on articles of food, dress, &c.	Bible stories in Genesis and Gospels.
9 years.	Read well any passage in No. 4 of Nova Scotia Series.	Distinguish words of same class. Tell simple sentences.	Mountains, rivers, lakes. Natural products. Stones, plants and animals around, &c., all oral.	Numeration and notation complete. The four fundamental rules. Good knowledge of decimal notation.	Form and colour.—Synthetical. Objects with qualities that affect different senses.	Bible stories. Simple emblems and precepts.
11 years.	Read well in No. 5 of Nova Scotia Series, and give an abstract of lesson read.	Able to point out and define the parts of speech in reading lesson. Distinguish between simple and compound sentences.	Explain what map is. Geography of native country or Province, with history of same.	The compound rules of addition, subtraction, multiplication, division, reduction.	Word-painting.—Able to compare one part with another of same and different objects. Show adaptation and design.	Scripture narratives from Old and New Testament, with dates, emblems and precepts.
13 years.	Read well in No. 6 and give abstract of lesson. Stand examination on subject.	Parse easy sentences, and analyse sentences of all sorts—simple, compound—both subordinate and co-ordinate.	Knowledge of general principles from globe and hemispheres, with map of Great Britain; with British and American History.	Decimal and vulgar fractions. Practice. Proportion. Elements of Algebra.	Same as above, continued and extended. Able to fill in ellipses with ease.	Same as above, continued with emblems. Analytically arranged.
15 years.	Read with expression any ordinary passage in prose or poetry. State principles of elocution. Point out style and character of piece.	Analyse and parse any ordinary sentence in prose or poetry. Prosody in all its parts. Write correctly on any easy subject.	Thorough knowledge of geography in its general principles, with outlines of geography of continents and countries, and history universal.	Interest, discount and other rules. Euclid, simple equations, &c., in Algebra.	Subjects, from Elements of Natural Philosophy. Science of common things. See list of subjects for reflective epoch.	Connection between Old and New Testament. Fulfilled prophecy. Emblems in fullest detail. Truths of Bible synthetically arranged.

4. *Reviews.* Perhaps, one of the best and most substantial evidences of a teacher's efficiency is, that his pupils, when they have once learned a lesson, never require to relearn it. This can only be accomplished by reiterated repetition of the lesson, and thereby incorporating it into the very framework of the mind. In order to this, no recitation lesson should be commenced without a previous review of the one going before. If the piece requires to be divided into several parts, when finished, it should be again thoroughly revised, that it may be seen in all its relations and dependencies. If the recitation exercise is purely a memoriter process, such as the grammar of any language, and especially of a foreign language, the declinable parts of speech should, in their essential characteristics, be revised every day, even until the whole is woven into the mental constitution. It is in this way alone that a language can be thoroughly acquired. To whatever extent the judgment may be embarked in tracing the structure or niceties of the language, the vocables and the laws of syntax must be stored up in the memory, and nothing will effect this but constant repetition. But in addition to all this, certain fixed days should be set apart for the regular revision of the whole work that has been gone over; and between these days not more than a fortnight should intervene. And on every such occasion, the previous review should be comprehensively re-reviewed, and a full summary presented at the end of every quarter. The value of such an exercise can hardly be over-estimated. Indeed, we regard any school establishment destitute of a regular system of reviews, as without its right arm, and the half of its time, at least, as well nigh scattered to the winds. No branch of useful knowledge can be rendered the veritable property of the scholar, unless this process is gone through again and again. Hence the very absurd clamouring after quantity, though a third of the same, and more than a third, is utterly unavailing and of no future benefit. It is by such unceasing reiteration that all education can be turned to practical utility in the future career of the individual.

5. *Public Examinations.* By a public examination is to be understood a review and inspection of the school, to which all and sundry are invited, but especially those who are more immediately concerned, such as trustees, parents and section, generally. Such an examination is held for the purpose, of testing the professional qualifications of the teacher from the progress and conduct of the scholars. It is sometimes fixed by legislative enactment, and sometimes by the committee of management, and sometimes by the teacher himself. On these occasions some examinations are conducted very quietly, and

others with an immense amount of external pomp, called exhibitions or demonstrations. In the latter case, everything is done externally that can render the examination attractive and fascinating. The compositions of some of the more prominent and advanced pupils are read, and recitings are gone through amid the plaudits of the audience. Speeches are made and replies given on occasion of the delivery of the prizes to the successful competitors, &c. Now, it is a grave question whether these exhibitions or public examinations are really beneficial, or accomplish the end in view. It is our candid conviction, after the calmest consideration of the whole subject, that, in a great majority of cases, these examinations, instead of being beneficial, are positively injurious, and instead of testing the real character of the institution, but mock and deceive the whole, or the great proportion of auditors. But whilst we thus speak, we are not to be supposed as disapproving of these examinations altogether, or even arguing for their discontinuance. A great deal here, as in many things else, depends on the way in which they are conducted. If the examination is got up with a view to a demonstration or celebration, as it is sometimes called, if certain lessons or recitations have been in course of preparation for weeks to the almost total exclusion or careless neglect of others of essential importance, if the grand motive brought to bear on the pupils has been the prospect of a prize or the applause of an admiring populace; then we have no hesitation in saying that such examinations are not only highly problematic, but positively injurious, and ought to be discontinued. Instead of furnishing criteria of the diligence, faithfulness or success of the teacher, or of the proficiency of the pupils, they are quite the reverse. Every faithful and honest teacher knows full well, if tempted into a compliance with this custom, that much is mere show of the most superficial and shallow character, and, generally speaking, of a purely mechanical nature. It is well known, too, that the pupils most showy on these occasions are just the very pupils that are most indolent and superficial, and that the most fluent and ready are the most shallow and the most imperfect students. But it is the moral of these exhibitions that renders them specially obnoxious. They oftentimes tempt the most honest teacher to the adoption of a course in diametric opposition to his conscientious convictions. Such is the pressure from without, from parents, trustees and others, that he is but too often obliged to comply with the usage of making his school appear not what it really is, but what it is not; and, accordingly, several weeks are spent in preparing the children for this public appearance. During this time they study not for improve-

ment, nor for future usefulness, but simply to make a show at the said celebration. An unworthy and unwarrantable motive actuates them during all this process; and at last, unless strangely constituted, they are conscious of holding up a false appearance to the world. If this enhance the zeal of a few parents, or increase an interest in the cause of popular education in a few visitors, it is purchased at too large a price. But whilst we thus denounce these celebrations got up for the occasion, we are far from maintaining that these examinations are wrong in principle, or that they may not be conducted in a way fitted to be eminently successful in showing the real condition of the school, and in bringing out and establishing the faithfulness and pains-taking endeavours of the teacher. In order to this, these examinations should be made fair representations of the actual condition of the school, and not the result of an exciting stimulant for a few weeks before hand. Whatever be the self-denial and honesty, this may demand on the part of the teacher, the pupils should be made to feel that the results of their exertions through the term, rather than a few special efforts near its close, should be brought into review; that no hypocrisy or management should even be tolerated in order to win the applause of the multitude; that no particular lessons should even be assigned for the occasion; and that the young are irreparably injured, when they are made, in any way, the willing instruments of false pretensions. Under such circumstances, examinations may be profitable to all concerned. If teacher and pupils have done well, they have an opportunity of showing it without doing violence to their own consciences. The employers and patrons, too, have some means of forming a correct estimate of the value of their school, and all parties may be encouraged and stimulated.

2. *School Government.* This is a part, and a most important part, of school management. It embraces all that goes to constitute good order in the school, whether in the shape of incentives to diligence, or motives to obedience, or of rewards and punishments. Good order in a school can scarcely be over-estimated. It is but a mean, no doubt, for the accomplishment of a high—a glorious end, but it is a mean, the most essential, without which, the best system, the most profound scholarship, the most skilful teaching and approved text-books would be of comparatively little avail. And now is it asked, How is good government to be secured and maintained in school? This is not only one of the weightiest, but one of the most difficult questions that can be propounded in connection with the whole subject of education, and that because it mainly depends on moral, not on natural or mechanical

causes, which, so far from being under our control, can hardly be described. Here, if any where, may it be said, 'The schoolmaster is the school.' Here, we have one of the most prominent attributes of an 'aptness to teach,' partaking far more of the natural than of the acquired—an attribute not only of signal utility in itself, but which enhances and ennobles all the others. And yet there are means which, even when judiciously used by such individuals, operate as powerful auxiliaries, and, to all others, are indispensable in securing and maintaining good order. A few of the more prominent of these means, it is now our business to enumerate, giving no other illustration than what is required for their right understanding. Thereafter, we shall open up the whole doctrine of rewards and punishments in their school application.

1. And here we may notice, first, that every teacher, at his outset in any one locality, ought to study to make a good impression. The young are much more discerning and acute in deducing inferences, and in forming estimates of character than we give them credit for. At the commencement of the teacher's career, these powers are much more on the alert than afterwards. With eagle's eye, they watch every movement, discuss his schemes and plans, compare notes with one another, and, generally speaking, form a fair and equitable judgment. The impression thus made is lasting, whether favorable or unfavorable; at all events, it will require both much time and much hard labour to alter, and far less to obliterate. With what importance, then, does all this invest the commencement of the teacher's labours in any one locality, and how anxiously should he strive to produce a decidedly favourable impression at the starting, and begrudge no means to arrive at it. For this purpose, he ought to have all his plans laid before hand; and to enable him to do this, he should visit the school section a few days, at least, before he commence operations, assume no self-important or magisterial airs, preserve as much taciturnity as he possibly can, speak, in one word, by his actions.

2. A thorough organization will greatly facilitate the matter of good order. We believe, it will generally be found, that one-half and more of the confusion and anarchy that sometimes exist in schools arises from the want of good organization. And this is not at all to be wondered at. If, for example, the scholars have nothing to do, it were contrary to the very laws of our being to expect that they would not be found indulging in frivolity, and amusement, and sport, and bringing the whole school into a state of turmoil and confusion. If, again, nothing is done to regulate their order in entering school or retiring

from it, but are allowed to come and go as they feel disposed; need we be surprised, that those given to fun and frolic should not take advantage of their circumstances and play off some of their tricks and pranks. And how could a conscientious teacher find fault with them or punish them for idleness and mischief, when no proper employment was provided? If good order is to be maintained, the organization must be complete, every moment of time must be appropriated, and every arrangement made for recesses, &c., and all understood by the scholars.

3. But along with the above there must be vigilant supervision. The teacher, to be a successful mental trainer, should be a good moral governor. These two, the teaching and the governing, must go hand in hand, no small difficulty to the enthusiastic teacher. He is an excellent supervisor so long as he is disengaged, but when at recitation work, he becomes so much in earnest and so excited that he is apt to lose sight of his office as superintendent altogether, and to think of nothing but the class before him. The scholars are not slow in discovering this, and, with greatest avidity, take advantage of it, and, in a short time the school is in an uproarious condition. It behooves the faithful and pains-taking teacher not merely to be enthusiastic in teaching them, but to be constantly on his watchtower, to be exercising a vigilant supervision.

4. A short code of regulations, carefully written and suspended in a conspicuous place in the school, under the sanction and with the approbation of the trustees or managers, will be of benefit in the matter of government. This code of regulations ought to be general, pointing to principles more than specific laws, leaving the punishment to be affixed by the teacher according to the circumstances of the case. By this arrangement, conscience will be exercised and strengthened by a constant appeal to its standard, and thus the whole moral tone of the school establishment be elevated. By this means, too, the evil of governing too much will be, in a great measure, obviated and avoided, thereby ridding the school of the character of a prison-house or a place of bondage, which would be the inevitable result of a long catalogue of regulations with a specific penalty attached to each offence.

5. The careful registration of progress and of conduct will also promote the cause of good order. In the estimation of some, this is a means of immense virtue, in itself sufficient for the government of schools. Accordingly, they spare no pains or means to give it justice. Not content with a weekly, monthly, quarterly, and annual summary of this system of merit, which they submit to the inspection of parents

or guardians, they purchase ornamental and expensive frames for their memorable enrolment. These frames they suspend in conspicuous places, that all may see, and mark, and admire; and thus is there a memorial of the school life of all preserved and handed down from one generation to another. Though we do not feel inclined to attach the same merit to this means as some, we are far from supposing that it may not exert a beneficial influence in certain localities and on some individuals.

6. The motives brought to bear upon the young occupy a prominent place in the matter of good government. There are two kinds of motives that influence human conduct, namely, fear and love. By the former principle, we do not mean that fear which springs from the purest love, and may well be designated her elder daughter, but that which springs from a purely selfish principle,—the principle of deep concern about our own prospects, our future personal interests, and which operates powerfully in the natural mind. Conscience goads and haunts the transgressor, awakes in his bosom the most terrible forebodings of the punishment his conduct merits, presses upon his mind the infallible certainty of the infliction of the divine justice and of the execution equalling the threatening. The other principle is love, or that principle of benevolence or good will, which has its outgoing in active beneficence. This principle may be regarded as flowing from our own benevolence or amiability, or from a higher source, having the principle of grace engrafted, and pervading and influencing the whole of our thoughts, and feelings, and actions. This is the most powerful of all principles. It is that by which we obtain readiest access to the human heart, and by which we are most influential with our fellow creatures. It is that principle which Christianity deposits in the human heart by the presentation of its author, as at once the heart of Deity and the very incarnation of love. Now, which of these two motives is the more beneficial in the promotion of school government? Unhesitatingly, we reply, the latter. The grand motive which the schoolmaster should bring to bear upon his pupils is love, even that love which is ever active, disinterested and self-denying, as faithful in denouncing the offence, as it is forgiving, and forbearing, and tender-hearted towards the offender. By the wise administration of this motive, the result will be marvellous indeed. It will tame and subdue the stout-hearted and obstinate. It will calm and tranquillize the swollen billows of passion and revenge. It will touch a cord that will vibrate the hearts of the young, and melt and soften the most hardened and imperious. It will captivate and attract the most sullen

and unyielding. You may, by the use of the rod, subjugate the most rebellious, and you may keep them, so long as that rod is hanging over them, in a state of perfect fear and subjection. Remove it, and all is confusion and anarchy. It is otherwise with the motive of love. Whilst under its sway all is quietness and good behaviour. Whether the teacher is absent or present, it manifests supreme delight in all the exercises of the establishment—a delight arising from the two-fold source of love to the teacher, on the one hand, and of profound interest in the work, on the other.

7. The sympathy of the school with the teacher is another powerful auxiliary in maintaining good order. We have elsewhere spoken of this force in education amongst the scholars themselves. Now we refer to the existence and exhibition of this principle between the teacher and taught. Generally speaking, the misdemeanors, confusion and anarchy that occur in school are traceable to a few ring-leaders, even, sometimes, to not more than one. And we know no more efficient way of circumventing the plotting and scheming of such, their baffling and confounding their plans even before they have been developed, than by securing the steady and devoted sympathy and support of the most intelligent and best conditioned scholars in attendance. And if they do not succeed in arresting these schemes, or in extinguishing them altogether, they will neutralize their influence, and keep in abeyance their outbursts and follies. And what should the teacher do, that at all times, and still more in special emergencies, he may secure the support of such? He ought to act a fair, an honourable, an impartial and manly part; in one word, so comport himself at all times as will commend him to their sympathy and approbation.

8. The general awakening of mind throughout school section will also aid in the promotion of good government. By the awakening of mind is meant the stirring up of all to think and feel, the constraining of all to undertake nothing and to engage in nothing, mechanically, without a thorough knowledge of what they are about, the begetting in all a spirit of deep and earnest enquiry, never to rest satisfied until they have discovered the rationale or principle of a thing. For this purpose the object, or thing, or business they are pursuing must be invested with interest, and this necessarily involves the whole matter of method. To awake such a spirit in the school involves the whole subject of manner of teaching, implies an adept in the art, a far higher achievement than that on which good government depends, nay, it is a powerful auxiliary in securing it. And how is it so? For the plain reason that when the scholars are deeply interested they must neces-

sarily be attentive and diligent in their work. And who does not see that this constitutes the very charm and glory of good order? It may not be the sullen stillness,—the product of the tyrant's rod, but it is the busy, the ever-active hum of the bee; and what is this but the very quintessence, the perfection of good order. And all this will be greatly enhanced and strengthened, when the same spirit,—a spirit of intelligent inquiry,—is diffused amongst the parents of the children, propagated all over the section or locality, the young stimulating the more mature in years, and the latter again reacting upon the former. This will render the securing and preserving of good order an easy task.

9. The last, and, perhaps, the most important mean, is the example of the teacher in every thing. Man is essentially an imitative being, and hence the force of the saying, "Example is more powerful than precept." But the young are pre-eminently so, and consequently the application of all this to the schoolmaster, in so far as the matter of government is concerned, is that whatever he wishes his pupils to be or do, he must be and do himself. It is well when the teacher understands his business, it is better, when he happens to possess great aptitude in the art of teaching, it is better still, when he possesses the proper qualifications of government. But all this is not enough. His pupils will be watching, and that with keenest eye, to see whether he is sincere and in earnest, whether he verifies by his conduct the utterances of his lips. If his school is to be without boisterousness and disorder, he must himself be unusually reticent while he speaks expressively by his acts, he must be the very perfection of order in person and habits, in all his arrangements and operations. If he is anxious that all rudeness and everything savouring of a domineering spirit be banished, that all envious, or resentful, or malicious feelings be hushed and suppressed, he must himself be a pattern of courteousness, of amiability, of gentleness, of a forgiving and forbearing spirit. If he is determined to secure regularity and punctuality of attendance at school, he must himself be regular, except when Providence interferes, and be present, at least, half-an-hour before the work commences. But above all, if he is desirous to give a potential existence to duty, if he wish his pupils to hearken to the dictates of conscience, and to use all legitimate means for its enlightenment and sensitiveness, then he must evince that he is himself unmistakeably under the influence of high-toned Christian principle, that he has a Master in Heaven to whom he is amenable for every word and act. Such a teacher will, in a week or two, reduce the most uproarious school establishment into

one of good order, will bring one of comparatively good order up to the highest pinnacle of improvement.

School Incentives and School Punishments. We have spoken of certain means, which the teacher may call in to his succour in the securing of good order. We now take up another department, that of incentives and of punishments; one of the most difficult, and yet one of the most important points connected with government. The former, that of incentives to diligence and duty, has, perhaps, scarcely received the attention to which it is entitled. We regard it as vastly the more important, and when properly dispensed, as diminishing, to a large extent, the trouble and the difficulty connected with the latter.

Incentives. It has already been stated that the whole matter of encouragements or incentives is founded on the principle of emulation, a principle which has shared in the general catastrophe that has befallen the species, and is accordingly used in scripture both in a bad and good sense. In the latter it plainly means, 'an ardor kindled by the praiseworthy examples of others inciting to imitate them, or to equal, or even excel them without the desire of depressing them.' This is self-emulation. In the former, it means a desire of surpassing others for the sake of surpassing them, a disposition that will cause an individual to be as well satisfied with the highest place, whether he has risen above his fellows by his intrinsic well-doing, or they have fallen below him by their neglect—a principle that prompts the secret wish in the child that others may miss their lessons, in order to give him an opportunity to gain applause by a contrast with their abasement. This, clearly, is an unworthy and unholy principle, and should never be encouraged or appealed to by the teacher. And here the question arises, whether the incentives, usually resorted to in school, are such as are fitted to operate upon emulation as taken in its good or bad sense? Our decided conviction is, that the incentives generally employed are, in many respects, calculated to operate upon emulation more in a bad than in a good sense, and consequently that they ought to be discontinued, or largely remodelled or modified. This is a serious charge, and ought not to be advanced without the most satisfactory and substantial evidence in its support.

The incentives generally resorted to are place-taking and prizes, or, at least, these may be taken as the type of the whole. Let us briefly examine them in order, state our objections, and then show the modifications necessary in order to render them, in our opinion, unexceptional. All are aware that there is scarcely a school, that does not observe the practice of 'trapping,' as it is called in Scotland, or of

place-taking,—a practice all but coeval with the public school. The scholars are generally classified according to their stage of progress, a head and foot are set apart or assigned, a competition is at once instituted, and, in a short time, the position of each is pretty well understood. The teacher, in the recitation exercises, usually begins at the top or the dux of the class, and proceeds downwards till he comes to the bottom. All get their turn when the question cannot be answered. A good deal, both in the extent and mode of the observance of this practice, depends on the views and feelings of the teacher. But whatever may be the variety of ways in which it is observed, the end in view is the same in all, namely, the calling into exercise the emulative principle of our being, and thereby the stirring up of the activities of the mental faculties. And the question meeting us here, is, whether it really accomplishes the object in view? We have not the slightest hesitation in saying that it does not. There may be some excitement through the class at first, some jostling of mind with mind, so long as there is any uncertainty hanging over the rightful position of each scholar, but whenever this point is settled,—and it is generally done in a few days,—it is all over; or, if it last any time, it is always with a few at the top pretty nearly balanced, and to whom, as a matter of course, the dux position is regarded as an object of ambition. And even real mental conflict here is only occasional. One youth may possess the acquirement, the talent and the readiness of application, that he experiences no difficulty in taking and maintaining his position at the head, and in that case, all competition is at an end. Farther down the class whatever disparity may exist among the scholars, even after the sixth or the seventh from the head, and especially in a large class of twenty or thirty, as there is little or no object to be gained whether it be the thirteenth or fourteenth place that is occupied, so there is but seldom any real hard competition. But not only does this practice fail in accomplishing the end in view, exciting the principle of emulation, it puts an obstruction in the way of the development of the finest and noblest intellectual endowments. Every one who has closely watched the working of this system, must have observed that the kind of talent conducting to class eminence or distinction is memory, and especially that description of it, known by the name of promptitude, or a certain quickness of apprehension, a ready smartness in rejoinder, and a bold forwardness in the expression of view or feeling. This is the kind of talent, if it is worthy of the name, which shines and attains to eminence in the class; whilst all the finer and higher powers and excellencies of mind, the powers of imagination, of

reflection and of reasoning are kept in abeyance, if they are not actually buried amid the rubbish and incrustations of mere external excitements, of mere mechanical appliances. Is it then at all to be wondered at, that those men who guide, and direct, and control their fellow-creatures by the soarings of their genius, the profundity of their discoveries, the usefulness of their inventions, and the stores of their literary and scientific erudition, should oftentimes have been accounted dunces when boys, and not unfrequently hold a position nearer the bottom than the top of their class at school? But this is not all. The whole tendency of this system is to produce on the part of the great majority in the class, a spirit of dependence on their schoolmates, of those below on those above; and the natural result of all this is the lessening, if not the actual destruction of their self-reliance, of their own exertion, and who, when left to themselves, will be found utterly unable to do their part, or to act worthy the dignity of their nature or the ennobling destiny awaiting them. If such a practice is to be discontinued because of its utter incompetency, how, it may be asked, are we to find a substitute;—if the taking of places is done away with, how are we to stimulate the emulative principle? This question has already been answered when discussing the diversity of endowment in the science of education, even by presenting the subject indiscriminately to all. Suffice it here simply to state, that this practice will incline all to lean upon their own resources, to exert their own powers to the uttermost, to do justice to the endowments and capabilities which they possess, to suppress pride and envy, and to render the peculiarities of each mind subservient to the benefit of all.

Prizes. This may be considered *the* incentive. All is consummated in this,—place-taking, censor-ships, &c., whatever is the nature of the rewards, all are summed up in prizes. These prizes are, no doubt, very diversified both in themselves and in the way in which they are bestowed. In some cases, they are of considerable value, but this value is uniformly enhanced by the circumstances under which they are given. But the value of these prizes, whether viewed intrinsically or relatively, is, as the feather in the balance, compared with the method or grounds of their bestowment. It is this last point that tests their real character, and by which we are to decide whether they stimulate the principle of emulation in a good or bad sense. Now it is a matter notorious to all, that, in nine cases out of ten, prizes are distributed at school after the following fashion:—An essay on a subject is prescribed to a certain class of scholars; at a stipulated period that essay is handed in, all the competitors having a motto and

a sealed letter corresponding, containing the name of the author, when the teacher or professor proceeds to the adjudication and the awarding of the prizes. The decision is thus made without any reference to the position, or circumstances, or character of the competitors; the merits of the essay or production constitute the criterion upon which the judgment rests, and with greater or less formality and pomp the prizes are dispensed. It is necessary that we state as briefly and comprehensively as our space will admit, why we object to this system. We do so.

1. Because it cherishes and foment all that is bad, calling forth the worse features in the emulative principle. It engenders a spirit of rivalry amongst the different competitors. The usual practice is to give one or a few prizes to the one subject, for which there may be 15, or 20, or 40, or 60 or more competitors. In such a case, there are generally the highest joys, the most jubilant exultations on the part of the successful candidates, whilst there are disappointments, and envy, and ill will on the part of the unsuccessful.

2. We object to this system because of the difficulty of coming to a fair and equitable judgment, of deciding on the comparative merit of each production. Every one who has had any experience in the work of adjudication, knows the difficulty connected therewith, how hard it is to balance the respective merits of each competitor, whether by a *viva voce* or a written trial, the only settlement at which he can arrive being that of placing two or three of the candidates on a footing of equality. Such is the variety of conclusion to which a jury separately come, arising from the difference of view and taste, as well from the character and style of the essayists, that they are compelled to make a compromise, altogether irrespective of the merits of the productions themselves. But the difficulty is far greater and more formidable when the different situation and circumstances of the competitors themselves are taken into account, some having every possible assistance, and others totally destitute of it, and entirely dependent on their own resources. If, then, it is beyond the power of the wisest adjudicators to come to an equitable or righteous decision, the system must itself be wrong.

3. Another objection to this system is the presentation to the youthful mind of an inadequate or unworthy motive. It holds out, as its prize, a book, or a medal, or a piece of money; this is its grand stimulating motive, placing in the back ground, if it does not utterly supplant those ennobling motives which spring from the consciousness of an approving conscience, or of our own future usefulness.

4. We object still farther to the prize system, because it rewards success not industry, talent not character. From the diversity of intellectual endowment, it is apparent to all that the exercises of the various competitors for prizes are got up with various degrees of facility; some possessing the very phase of mind befitting the work, and preparing their exercises with little or no difficulty; others being exactly the reverse, having neither taste nor aptitude for that particular branch of study, require a large amount of diligent and persevering application, before they can present the exercise in anything like a finished condition. The former easily carries off the prize, thereby violating the plain principle, "To whom much is given, of them also much shall be required." While much has been given to the successful competitor, more is not required than from him who is not possessed even of one-half the natural element. But there is a worse feature than this. This successful competitor is the worst, the most immoral boy in the whole school establishment, the cleverest and most talented being not unfrequently the foremost in every species of mischief. By giving a prize to such, lessening the influence of character and depreciating the whole moral tone of the school establishment, we are literally setting a premium upon thoughtlessness, and folly, and crime. And what is all this but the exaltation of intellect above conscience, the calm and deliberate preference of knowledge to virtue.

5. We object to this system still farther, because it, too, as well as the taking of places, utterly fails in accomplishing the end in view. We have no doubt that those who manifest such a warm interest in this system, whether in the way of dispensing prizes or bequeathing money for such an object, are actuated by high and noble motives towards the rising generation, and imagine that they are using the best means within their reach for stimulating them to diligence, developing their powers and augmenting their usefulness. But they labour under a grievous delusion. They see or hear only of the result of some able and elaborate production that has succeeded in carrying off the palm, and the high eulogium pronounced on two or three of the successful; and they never imagine but that the whole of a certain stage embraced within the stipulated range have been competing, or at least the majority; whereas there are not more than half-a-dozen out of 15 or 20, the whole of the remainder contenting themselves with the reflection, that it was altogether a hopeless undertaking for them to attempt it.

Such is a brief statement of our objections to the prize system as it generally prevails. We are aware of the strong feeling in its favour,

as well as of the defences set up by those who are perfectly ready to acknowledge its imperfections and its faults. They say, and with an air of feasibility, that when the young enter on the great arena of life, they will be compelled to compete with those who are bent upon their own selfish, worldly aggrandizement, irrespective of the interests or welfare of their fellows; and if so, why prohibit them from conflicting at school? In reply, we state, that it is indeed but too true, that this rivalry exists to an alarming extent in the world, and that it is the cause of much of the strife, and contention, and war that exist; but will any one calmly maintain that this is right or Christian, or fitted to promote the true happiness of man? Is it not the bounden duty, should it not be the high aim of every well-conditioned person, of every one who would see the principle of Christianity obtain free scope, its principles bodied forth in all their vitality and extent, to use every means to check the manifestation of this spirit or passion in the bud, to do what is possible for the eradication of that selfishness so deeply rooted in our being, and for the implantation of that love which prefers the happiness of others to our own?

But, again, the upholders of this system maintain that in pursuing it, they are but imitating the conduct of the infinitely wise and good in the whole doctrine of rewards, a doctrine clearly and distinctly laid down in the scriptures. That this doctrine is unfolded in the divine testimony, is there emblazoned in all its beauty and glory, as one grand animating motive to all acceptable obedience, no one will call in question. But what is the principle on which the Almighty proceeds in the adjudication and distribution of these rewards? Does He not give to all who contend with all their heart, to all according to the talents and acquirements He hath Himself bestowed on them, with all the munificence of a monarch, according to the use they have made of these endowments; and all this to proclaim the righteousness of his decisions, whether they refer to His own government or law, or to the recipients themselves? These rewards, therefore, are conferred on perfectly distinct principles, and cannot at all be brought into comparison with the general prize system of school. These defences, then, do not, in the least degree, invalidate the objections advanced. What then, it will be asked, are the incentives that ought to be employed? If the prize system, as now carried on, is to be abolished, what is to be substituted in its room? Here there is no lack of motives, or inducements, or incentives. 1. May we not appeal to the emotion of love or affection, to that desire we all have to stand high in the estimation of our fellows, to secure and live under the smile of their approbation at

whatever cost, to live in the good will and approbation of parents, teachers and friends? Is not this an admirable incentive wherewith to ply the minds of the young in the prosecution of their studies?

2. Again, may not the teacher appeal to the love of power as another incentive? And there are other desires which act as powerful auxiliaries, such as the desire of knowledge, of liberty, of superiority, manifested in a great variety of forms. And what a powerful motive this, wherewith to urge the young to diligent application to study. Here the teacher may describe in glowing colours to the youthful mind, the achievements of literature and science in all the varied spheres and relations of life; the triumphs they have wrought by sea and land, in the field and cabinet; the felicities and luxuries they have secured to man both in an individual and collective capacity,—how these have not only put under tribute the resources and elements of nature for the gratification and enjoyment of humanity, but wielded an all but omnipotent charm and spell over the minds of thousands upon thousands of the most enlightened and refined of the species, conferred untold amaranthine blessings on generations unborn? Who can contemplate these triumphs of mind over matter, of mind over mind, all the result of high cultivation and education, without perceiving the immense field of motive and stimuli over which the faithful teacher has to tread in plying his pupils to diligence and perseverance in the prosecution of their studies? This is power indeed, a power which all may arrive at, less or more, that only by one royal road, that of high mental cultivation. What laurels are here! What chivalrous hearted boy will not thrill under and respond to, such motives!

3. Again, has not the teacher the emulative principle, in its highest and best acceptation, at his command, as another influential incentive? There is, perhaps, no principle so admirably fitted to rouse all the energies of the mind, and to call forth the most determined exertions to excel, as this. All that is necessary, is to see that this principle is stimulated in a way that no envious or rancorous emotions, or ambitious uncharitableness towards those who are competing with us, be generated or fostered. And how, it may be asked, is the emulative principle to be operated on so as to obtain the highest possible benefit? Two things, in our estimation, are indispensable. The first is, that the character or conduct of the pupil be taken into account as well as the talent—the moral fairly weighed, as well as the intellectual. The second is, that real progress must be looked at as well as success, diligent application to study being held in higher repute even than talent or natural endowment. To come to a righteous decision on this

point, two things must be attended to, first, the particular phase of intellect with the opportunities of culture enjoyed, and, secondly, an accurate register kept of daily progress and behaviour. With these two essential elements of judgment, there will be no difficulty in arriving at a righteous conclusion.

4. But the highest appeal is that made to conscience or duty. It may be well to present to the aspiring youth the doctrine of rewards, the indissoluble connection between these rewards and education, or mental culture; but it is better, far better, by direct appeals to naked conscience, to stimulate to diligence and perseverance in study, because of the very nature of their constitution, because the Almighty Creator demands it at their hands, because without it they fail in accomplishing the benevolent and beneficent purposes of their creation, because without it they tarnish that which constitutes the very glory of their being. This is the highest of all motives that can be brought to bear upon the young—diligence in mental culture, because it is in harmony with the fundamental laws of their being—diligence in study, because it is their duty. This, this is what makes the man or the woman. If trained into a habit, when young, to do that which we ought, that which arises from the various relations or spheres in which we are placed, simply to do a thing because it is our duty, what a force, what an impetus will this exert in every situation in which we may be placed? It is this, that not only makes the man, but the state, aye, and, in a subordinate sense, the church.

Punishments. If it is right and proper for the maintenance of school government, that rules or laws, with penalties affixed to their violation, be made, it is equally right and proper, that when guilt is brought home to any individual, the threatened penalty be inflicted. This is as essential for the preservation of the authority of the teacher as it is for the ordering of the whole school. And this implies that the teacher is invested with power to inflict punishment; such a punishment as may be deemed requisite for the end in view. This power and right he holds by virtue of his office, as the substitute or proxy of the parent. Every parent is the natural instructor of his offspring, just as he is the natural guardian and provider. In handing over his functions to a proxy for so many hours a day, he hands over his authority to punish. The teacher then holds his power to punish, by delegation, from the parent, because he stands *in loco parentis*, and, in a national system, *in loco magistratūs*. His right, then, to punish is indefeasible; and, when used with discrimination, discretion and judgment, may be productive of the most beneficial results. Before pro-

ceeding to the different sorts of punishments, it may be well that we advert to two or three general principles, which ought to enter into and regulate the whole.

1. And we would notice in the first place, that the punishment should, as far as it is possible, be in accordance with the nature of the offence. This is a principle that should be well and carefully weighed, as a mistake here not unfrequently conducts to the disorder and anarchy of the whole establishment. Let the teacher evince a spirit of caprice, punishing all and sundry, indiscriminately; let him deal out an equal punishment to all, whatever be the character of the offence, and the whole school will evince a spirit of dissatisfaction, seize the earliest opportunity of throwing off the yoke, and account the teacher nothing short of a tyrant and despot. The benefit of the punishment will thus be, in a great measure, frustrated.

2. Another element, worthy of consideration in awarding punishment, is the character of the offender. Two individuals may be act and part in the same crime or misdemeanor, and yet it were the very height of injustice to award to each exactly the same punishment or the same amount of punishment. One of them may be habit-and-repute guilty of the crime, and the other has never had any similar accusation brought against him; whatever his share in this transaction, it is the first time that any charge has been laid against him; one may be the ringleader in the plot and the other a mere dupe; one may be open, and frank, and manly, and withal bold and resolute, and the other may be full of guile, duplicity and stratagem. Now, on the supposition that all these had been guilty of the same crime or outrage, it were the height of injustice to visit them with similar punishment. To inflict upon each culprit the very measure of punishment which his criminality merits, and to make this palpable to all the scholars, requires the nicest discrimination and the most disinterested uprightness, combined with the most imperturbable calmness and the most determined fixedness of purpose.

3. Another general element in the awarding of punishments is the position and circumstances of the culprits. It may happen that they were placed in circumstances which rendered it both physically and morally impossible for them to carry out the instructions of the teacher; or, it may be, they were pressed by a series of difficulties from which they could not make their escape. Now, it were the very height of cruelty to inflict upon those individuals the very same punishment as upon those who perpetrated the same act, but who were not subjected to the same external pressure.

4. Again, a distinction ought to be made between acts that are palpably and flagrantly immoral and those that are not. Exemplifications of this distinction are of every day occurrence in the school-room. One of the scholars has stolen a piece of money, and when charged with it, coolly tells the most barefaced falsehood. Another of the scholars has time after time refused to prepare his lessons, resisted all the appeals that have been addressed to him, and has consequently subjected himself to the punishment due the violation of some scholastic rule. But these two can never be compared in criminality. And this must be kept in view in the awarding of punishments. With these remarks on the general principles, we now proceed to indicate the different kinds of punishments—the proper and improper.

As to the latter we shall say but little. There is no department in which there has been, during the last century, a greater revolution than in this. The octogeuarian of the present day can tell many an interesting tale in reference to the punishments inflicted in his juvenile days, the acts of cruelty, if not of savage barbarity, on the one hand, and those of ridicule, amounting, oftentimes, to buffoonery, on the other. It were little short of an affront upon humanity to attempt even an enumeration of these punishments. Surely it is unnecessary to dwell on the great impropriety of these and similar modes of punishments—modes which were principally resorted to some fifty or sixty years ago, and which are now happily on the wane, falling fast into desuetude. It is more profitable that we now direct attention to those kinds of punishments which are proper, accordant with reason and revelation, and have received the approbation of the most enlightened and experienced educationists.

Deprivation of privilege. This is, perhaps, the most universal in its application. When any gift or blessing, whether in providence or grace, is perverted or abused by the possessor, the Almighty, in righteous retribution, deprives him of it. This feature in the divine government is universal, and must be patent to all. And the same principle may and ought to be applied in a hundred forms in the school-room. Whenever a child cannot keep possession of any boon without his either abusing it, or doing injury by it, the speediest and most effectual punishment is to deprive him of it. If, for example, he cannot keep a knife without damaging the desks, or sit beside a bosom school-fellow without either whispering or misspending time, if he cannot retire at a recess without doing mischief or creating disturbances; he should be at once, and without ceremony, bereft of the means

or opportunities of such an abuse of privilege. Deprivation in a great number of cases will of itself prove effectual.

Private reproof. This punishment, to be salutary, must be conducted in the most private way, even without the knowledge of the rest of the scholars. Let the teacher administer his censure in a calm and tender, and yet in a firm and faithful tone. Let him present the most urgent, and melting, and subduing appeals to conscience, and the highest sensibilities of humanity. Let him bring the culprit into direct contact with the Lord of conscience, all sent home and ratified by an array of circumstances or incidents of the most aggravating and thrilling nature. We have often seen most marvellous results flowing from such censure judiciously administered; the most hardened and defiant relenting, the stoutest and most obstinate softened and subdued, and the coldest and most indifferent manifesting the deepest concern, if not actually shedding tears. The power of the teacher here is immense, if he only knew how to use it.

Confinement in school. This is for palpable and culpable negligence in reference to recitation exercises. Whilst we repudiate the practice of giving long and difficult tasks as a *pæna* for moral delinquency, such as committing to memory or writing out so many hundred lines of poetry, inasmuch as such tasks but too frequently generate a loathing or abhorrence of those very pursuits or studies, which it is the grand object of the school to cherish and foster. But it is otherwise with the nature of the confinement here referred to. This, no doubt, involves study, but it is the study of what the scholar was quite competent to get at the time and in the way assigned; and having failed therein, it is but just and right that he should make some compensation for the time he has squandered away. Besides, this punishment, which is a species of deprivation of privilege, when properly administered, may incite to future diligence and application.

Corporal punishment. Few, if any subject, within the whole range of paediatrics, have been, within the last quarter of a century, more elaborately discussed than this, and it was but right and proper that it should be so. That the most fearful abuses, the most barbarous cruelties were perpetrated by the use, or, rather the abuse, of the rod, and that, to a limited extent, these abuses still exist, no one will hesitate to admit. Nor is it at all to be wondered at, that in the discussions connected with this subject, not a few should have gone into the opposite extreme, and unflinchingly taken up the ground that corporal punishment is altogether unwarrantable in a public school, that it is opposed to the Bible and the whole genius of Christianity, that the

rod should be suspended in the museum as the relic of a barbarous age, &c. Now, though we have hailed the discussions connected with the subject as eminently calculated to diffuse sound views on the whole matter of school discipline, we see no warrant for drawing such a sweeping conclusion in reference to this mode of punishment—or that the abuse of a thing, however flagrant or monstrous, is any argument against its legitimate use. That this mode of punishment is lawful, perfectly lawful, must, we think, appear palpable to all acquainted with the sacred record. There it is exemplified over and over again that the Almighty, in the exercise of discipline, inflicts physical suffering, and that for the twofold purpose of making the patient feel that the way of transgressors is hard, and of preventing others from committing the same or a similar offence. Not only have we the example of the infinitely wise and good, but we have his own express command, “He that spareth the rod hateth the son; but he that loveth him, chasteneth him betimes.” “The rod and reproof give wisdom, but a child left to himself bringeth his mother to shame,” &c. But this species of punishment is not only lawful, it is in some cases necessary, indispensably necessary. There are oftentimes boys in our public schools so thoroughly given up to frivolity and wickedness, so seared in conscience, and so callous to all appeals to honour and the higher feelings of humanity, that nothing but a sense of superior power, nothing but the motive of fear seems to keep in anything like proper check or subordination from the perpetration of the most flagrant outrages, from the pouring of every species of contempt on order and good government. In such cases, the rod, when judiciously administered, has proved not only indispensably necessary, but highly salutary, productive of the most beneficial results. It has not merely arrested the criminal in his progress to rebellion, but it has proved instrumental in softening his disposition and in moderating his passion, and all this has been effectual in proportion to his juvenility; the tenderer the shoot, it is the more easily bent.

But whilst we thus plead for the lawfulness, the necessity and the efficacy of corporal punishment in certain cases, it must not, for a moment, be supposed that we argue for its daily use, or for the infliction of those cruelties to which it has sometimes, and, to a limited extent, is still sometimes applied. On the contrary, it is our decided conviction that it should very rarely be resorted to, and never employed without the most guarded restrictions, without certain conditions, and these most rigorously adhered to. We can only touch on a few of the more prominent of these conditions. And, first, the

teacher should never call in the use of the rod without a previous consultation with the parents of the child. It is not enough that the parent generally delegate his authority to the teacher, there must be a special consultation and co-operation in the infliction of corporal punishment. It may happen that there are peculiarities in the child or in the teacher that the parent may prefer to administer the corporal punishment himself, and, in this way, it may prove even more beneficial. In nine cases out of ten, the parent will grant full and unrestrained liberty to the faithful and painstaking teacher, but it is well that there exist a distinct understanding between them. Another restriction of corporal punishment is, that it never be resorted to except as a last expedient. When Stow formed the resolve never to use the rod or to expel a child,—which resolve, we believe, he carried out, first in Sabbath-school and then in week-day schools,—he had a specific end in view. He believed that in every child there was a cord, by getting hold of which the whole child's being could be moved, directed and controlled, and that it is the bounden duty of the teacher to strive to discover that latent point or cord. He believed, moreover, that nothing so much contributed to prevent the discovery of said cord as a thundering denunciation, and a good sound flagellation; that this necessarily precluded all appeals to conscience or the higher sensibilities of our nature, or, at all events, that it interfered with the training process. This was his aim; and this resolution he carried out to the letter, just that he might be compelled to try other experiments, and to devise other moral expedients for the improvement of the delinquent, and not that he disapproved of corporal punishment, or considered it to be opposed to Bible principle or the genius of Christianity. Hence the propriety of putting off this punishment to the last, of trying everything else beforehand, and all the more because it is at best but an experiment, and still more, because of the advantage of having some punishment that stands pre-eminent in disgrace.

Another condition in the use of the rod, is, that it never be applied at the time the offence is committed. There are some kinds of school punishments that require to be put into force at the very time the evil is perpetrated, or else they will not serve their end. There are others that had better be allowed to lie over for a short time at least. Corporal punishment is pre-eminently one of these. The offence that demands corporal punishment is of course highly aggravated and heinous; and seldom fails to rouse the indignation and ire of the teacher, and that not unfrequently to such a height, that he finds it no easy task to withhold his hands from the infliction of the punishment

at the very moment the offence is committed. And what is the result of his doing so? The muscular effort thus called forth increases the violence of his temper and rouses him oftentimes to such a towering passion that he loses all control of himself; and thus, instead of doing good, he inflicts positive injury. It is infinitely better then, both for parents and teachers, not to run the risk, but to allow the interval of a few hours, and, if possible, one night to intervene ere the punishment is administered. Ah! it is then, when either the parent or the teacher, under a high sense of duty, proceeds with unswerving faithfulness, with imperturbable calmness and sobriety, with deep thought engraven on every feature, and the big tear gathering in the eye, that every stroke of the rod goes to the heart of the child like a dagger; and except in those who are case-hardened in iniquity, but seldom fails to be productive of the most salutary results. And not only to the culprit himself, but to the whole school will this castigation be of service in deterring others from the perpetration of the same offence. And hence it is that we are decidedly of opinion that corporal punishment should be dispensed in public, and dispensed thoroughly, provided it is with a proper instrument and in a proper quarter.

We have thus briefly stated our views on the subject of corporal punishment, and if these views are practically and faithfully carried out, we have not the slightest fear of the result. On the contrary, we believe that this species of punishment will in some instances prove of great benefit, and instead of lessening the bond of affection and attachment between parent and child, or between teacher and taught, will strengthen and enhance it; whilst it extirpates that fear which hath torment, it will establish that which springs from genuine respect and love.

Expulsion. This is by some ranked as the highest of all punishments, and evidently implies that even corporal punishment, in some notorious cases, has failed in accomplishing the desired end; and for the general benefit of the school establishment, it is considered desirable, if not indispensable, that this punishment be imposed. Every form of publicity is given to this step. The parents, trustees or committee of management are all apprized of it before hand, and it may be some admonitory remarks are delivered on the occasion. Though we have long been in a state of dubiety in reference to the expediency or propriety of this species of punishment, both for the sake of the culprit himself,—his being thereby placed, as it were, beyond the pale of all correcting, and hallowing, and subduing influences,—and for the sake of the other scholars, many of whom are more exposed than ever

to his pestilential breath. Yet there was a mode of expulsion, practised by Arnold of Rugby, that might, we think, be resorted to in certain cases and circumstances without any deleterious effects. The method referred to was this :—Whenever he discovered a child doing little or no good, and poisoning not a few of his schoolmates, he took immediate steps to get him removed, not in an open and public, but in a private way, through friendly and faithful correspondence with the parent or guardian of the child. And all this on the principle that a child might succeed and prosper in a private, though he did not, at a public institution, or at one public institution while not at another, recommending, in one word, removal by way of experiment, and, in several cases, we believe, the experiment was highly successful. This, as far as it goes is a sound principle, and may be resorted to with safety. In reference to the common method of expulsion, all we would say is,—Let teachers and trustees ponder well every such case, and be fully persuaded in their own minds that when they do expel, they are pursuing the most judicious course.

RECAPITULATION OF CHAPTER.

In this chapter we have discussed the means themselves, leaving the schoolmaster or the living agent for the succeeding. Properly speaking, these are both means by which the work of education is accomplished, and yet they seem so distinct as to entitle each to a separate chapter. This chapter is divided into three parts—school premises, organization and management.

1. *School Premises.* This comprehends everything belonging to the exterior and interior of buildings. Full directions have been given on every matter pertaining to the dimensions, and commodiousness, and furniture of school premises. It would, no doubt, have improved both the appearance and usefulness of this chapter had we furnished a few diagrams both of the inner and outer of the school-house, with some tasteful selections of elevations. All this we intended, but found the difficulty and expense so great, that, after a good deal of hesitation, we reluctantly abandoned our original intention. Much here depends on the general taste of the section, and still more of influential master tradesmen in the locality. Barnard's 'School Architecture' is the authority on this matter over the whole of this continent, and it is vastly superior to any similar publication in Europe. The result is actually embodied in all the school fabrics in the New England States, and British America is making rapid strides

towards the attainment of the same object. The whole of this subject is far more intimately associated with the higher aims and objects of education than, at first sight, may appear, or men are generally inclined to admit. We are persuaded, that the more the subject is examined, the more clearly will the best-conditioned in every community perceive, that neat and commodious school fabrics and their meet equipments, deeply involve the whole of our social, æsthetical, intellectual and moral prosperity. The matter of apparatus and text-books, however great the improvements within the last fifteen or twenty years, is yet in its infancy. The more education is stripped of its technicalities and brought down to the level of the every day pursuits and avocations of life, the greater will be the completeness and taste of the former; and the more that system in the inner life of education is regarded, the more thoroughly graded and consecutive will our text-book on all subjects become. In the discussion of almost every branch there should be, at least, three stages, if not three separate books—the analytical, the transitional, and the synthetical. Much diversity of view still obtains in the organization of schools, and here, as elsewhere, matters are far from being in a state of perfection. Experiments are being made by progressive teachers and philanthropists, testing the present arrangements, supplementing what is deficient, and correcting what is wrong or imperfect, which will, we have no doubt, ere long terminate in the furtherance of the best interests of education. The organization of schools is treated under the threefold heads of registration, classification and distribution of time. These can scarcely be over-estimated, both as respects their present influence and future destiny. We hesitate not to aver that the teacher, who is ignorant of the principles on which these three constituents rest, who possesses no adequate appreciation of their importance, and who does not ply his every energy to see them carried into practical operation, is incompetent for the position he occupies. We know not a better touchstone or criterion which the educational authorities in every country can apply to test the real capabilities of their staff of teachers, than their knowledge and practical working out of these three points. The management of schools includes their actual working, or the routine business of every day, and the whole matter of school government. Want of space alone prevented us from enlarging on these topics as we could have wished. The matter of routine in its more minute details, can be easily gathered from the discussion of the principles on which they rest scattered throughout the work. Under the head of means there is

not, perhaps, a more interesting or important subject than that of government or discipline, taken in the wide acceptation we have given it. Some teachers, as has been stated, feel here not the slightest difficulty, and govern their dominion with consummate tact; there are others whose experience is quite the reverse. This evidently arises from an inherent moral power possessed by some, which is altogether wanting in others. All that can be done in this case is the recommendation of certain helps or auxiliaries, by the sedulous use of which good government and order may be promoted and maintained. These helps, both generically and specifically, whether in inciting to diligence or in propelling to obedience, we have discussed as largely as possible. Much good, we believe, will flow from their close and faithful application.

CHAPTER IV.

THE LIVING AGENT, OR SCHOOLMASTER.

SECT. 1.—DUTIES OF TEACHER—(a) TO HIMSELF, (b) HIS SCHOLARS, (c) THEIR PARENTS, (d) TRUSTEES OR COMMITTEE OF MANAGEMENT, (e) COMMUNITY AROUND, (f) HIS PROFESSION. SECT. 2.—QUALIFICATIONS OF TEACHER, (a) PERSONAL, (b) LITERARY, (c) PROFESSIONAL. SECT. 3.—MEANS OF OBTAINING PROFESSIONAL QUALIFICATIONS; NORMAL SCHOOLS, HOW CONDUCTED, OFFICERS, AND SPECIAL FUNCTIONS; BENEFITS OF NORMAL SCHOOLS; HISTORY; TEACHER'S INSTITUTES; TEACHER'S ASSOCIATIONS. SECT. 4.—FEMALE TEACHING. SECT. 5.—DIFFICULTIES OF TEACHER. SECT. 6.—REWARDS OF TEACHER.

Did our space admit, we might here enlarge on the office of the teacher. We might, for example, sketch its history, importance, dignity, and, lastly, the position which the office ought to hold in all civilized communities. But we must economize our space, as we have many important matters still to consider. And we, therefore, at once proceed to the duties of the teacher.

SECTION. I.—THE DUTIES OF THE TEACHER.

These are many and onerous, arising of course from the relations in which he is placed. 1. *The duties he owes to himself as a teacher,—to his body and to his mind.* He must attend to his food, which ought to be plain and simple, taken regularly at sufficient intervals, and in moderate quantity, avoiding all indigestible articles, all unripe fruit, all tobacco and intoxicating drinks. He must give the needed seasonable time to nature's sweet restorer—balmy sleep. He must

take regular exercise, depending on the tastes and habits of the teacher himself. He should also study cleanliness of body, neatness of dress, and orderliness of habit. But it is his bounden duty to attend to his mental, as well as to his physical welfare. Ever and anon should he be laying up stores of useful knowledge, for in proportion to the extent and accuracy of that knowledge will be his competency to discharge the functions of his calling. He ought not less strenuously to advance morally and religiously. He is to be an example to all under his charge; and, therefore, he ought to be unceasingly progressing in all that pertains to personal character and official usefulness.

2. *His duties to his scholars.* The author of our being has devolved upon the parent the entire responsibility of the upbringing of his children. But the parent may be incompetent to carry on the mental and moral education of his offspring, and though he have the ability, he may not be in circumstances favorable for the performance. He is, therefore, at liberty to delegate his authority and the whole of his trust to another,—to the teacher. The teacher thus stands, for the time being, in the room of the parent, and voluntarily undertakes the discharge of his duties.

The teacher is responsible, to a great extent, for the bodily health of his pupils. It cannot be denied that the seeds of many serious and fatal diseases are sown in the school-room. These diseases sometimes spring from the neglect of proper exercise, from too long confinement in one position, or at one kind of study, or from inhaling a contaminated, noxious air, or from an improper temperature, or from over-excitement in study. Now, the teacher ought to be an intelligent physiologist, and from a knowledge of what the human system can bear and what it cannot, he should be ever on the alert, employing the means within his reach to ward off these and similar evils, from which the young so frequently suffer. But we go a step farther, and maintain that the teacher ought not only to master the laws of animal physiology, but to make himself acquainted with the various diseases to which the young are liable, and the best methods of their treatment. This will fit and qualify him for the application of all preventive measures, and thereby render him usefully instrumental in arresting the progress of contagious, and, oftentimes, disastrously fatal epidemics. But he should go further still, and not merely act on the preventive, but encourage the use of all proper means for the symmetrical growth, and carriage, and gracefulness of the body; and, for this purpose, he should make himself acquainted with the whole subject of gymnastics,

calisthenics, military drill, design, &c. These he should strive to know speculatively and experimentally, that he may be able, if need be, to give direction and exemplification. Let no teacher imagine these are subjects beneath his notice or regard. They are most intimately connected with his profession, and that, with every enthusiastic educationist, is enough.

But the preservation of the health and gait of the body is but a means leading to a certain end—the culture and growth of the minds of the pupils. For this purpose, he ought to impart every kind of knowledge—not the technical or conventional knowledge of the school-room merely, but that of the world of nature and of art around; those topics with which the young are coming daily and hourly in contact, viewed in all their relations and applications, in all their adaptations and tendencies. But this is not all; he ought studiously to labour to put into the hands of his pupils those means or instruments, by the help of which they may acquire knowledge themselves, not only during the seasons of youth, but throughout their whole future career. But more still, the teacher is bound to use every legitimate means for the development and growth of all the intellectual and emotional powers of his pupils, yea, to make this his chief concern, and that for the sake of the pupils themselves, of the human family at large, of their Creator and Saviour-God. And in all this, the teacher must be a model. Whether he teaches, or develops, or rules, he must remember that his pupils are creatures of imitation—far more under the influence of his example than of his precepts. In one word, the teacher must be an encyclopædia of knowledge, a master in methodology, and in government a pattern alike of tenderness and firmness.

3. *His duties to the parents of the children under his care.* Again and again, has it been observed that parents are the natural instructors and guardians of their offspring,—an arrangement this confirmed and sealed by all the provision of the Christian salvation. Not less frequently and unequivocally hath it been declared, that the teacher is the proxy of the parent, that his duties and authority are all delegated. He has a great and important trust committed to him, for whose right and faithful discharge he is amenable to the all-wise disposer, and yet withal, he must never forget that he is acting entirely in the capacity of a substitute, and bound, both from the nature of his office and for the due execution of its duties, to secure the sympathy, the support and co-operation of the parent. But to be more particular,—1. The teacher ought to be well acquainted with the views and feelings of parents regarding the education of their children, and for this purpose,

he ought regularly and steadily to visit them in rotation ; and this he should do, in addition to any special visits he may require to make, in consequence of misdemeanors, or any change that he may think necessary, or any case of discipline which it behooves him to submit to their consideration. In these visits, the teacher should strive to act out his official character, maintain the dignity of his position, and, instead of indulging in gossip or in unprofitable conversation, direct attention to school work, and especially to those topics that bear more directly on the progress and improvement of the children of the household. 2. The teacher should take every pains to unfold his educational views, his designs and operations to the parents of the children. He may not be any time in the district till he discover the ignorance, the prejudice, and the errors that prevail on the whole subject of education, and be satisfied that he has the old as well as the young, the parent as well as the child, to instruct. Let not this state of things discourage. Let him boldly and unflinchingly betake himself to the work of educational excavation, and marvellous will be the exploits achieved. Whilst he uses all means for the enlightenment of the minds of such, and perseveres in the midst of all obstruction, let it be a main concern with him to explain his plans and modes of procedure to the parents, and try to get them enlisted in the preparation of the home tasks. The assistance either of the father or mother in this work would be a triumph indeed, and, because of its reflex influence, worth ten times more than all the direct benefit to the young. 3. The teacher should use every means to persuade the parents to visit the school, not on formal, or on fete and gala days merely, but occasionally. By such visits, the parent will see the school in its every day attire, and thus be enabled to form a fair estimate of its trials and difficulties, on the one hand, and of its successes and encouragements, on the other. These visits cannot fail to be productive of the most beneficial results. 4. The teacher ought to make conscience in giving to the parent a faithful and candid representation of the state and character of each of his children. Here as in everything else, the importance of the saying is apparent, " honesty is the best policy." In all his representations, then, the teacher should be frank and faithful ; and he will, thereby, not only maintain his own respectability and influence, but subserve the interests of education.

4. *The Teacher's duty to the Trustees of schools.* Provision is generally made under every system, that the parents of the school section, or the denomination or corporation select a few of their more intelligent to act for the whole, and no one can calculate how much

the real success of the scholastic undertaking depends on the character of these officers. Their duties are exceedingly onerous and responsible, and, to be faithfully discharged, demand no ordinary measure of sagacity, zeal, skill and tact. The duties that teachers owe to such officials are special and important. 1. They ought to show them every possible respect and attention, to evince, in the most substantial forms, their appreciation of their labour of love, and to do everything in their power for their enlightenment and encouragement, for their counsel, instruction and support. 2. It is the province of teachers, with all due deference, to submit their plans and modes of procedure to these lawfully appointed trustees, as well as any regulations bearing on management and government, or matters of detail, and all for the purpose of obtaining their sympathy, sanction and support. 3. Teachers ought to consult these trustees on every pressing emergency. Occurrences are every now and again taking place in every school establishment, which create difficulties even to experienced teachers; and, on these occasions, teachers ought to consult with the trustees, explain the circumstances, come to a certain judgment, and agree as to the course to be pursued. This will rid teachers of an immense amount of responsibility. It will exert a wholesome influence on the whole school community. 4. The teacher ought to lend every assistance in his power to the trustees. He should never forget that he is their paid agent in the whole movement, and that it is alike his duty and interest to see that everything is gone about with exactitude, that the legislative enactment under which they are acting is carried out in all its provisions. If teachers in general would pursue such a course, there would not be so many complaints respecting the inefficiency of school trustees or school managers.

5. *Duties of teachers to the inhabitants of section or school territory.* Every teacher has duties, which he owes to the community around, and through it to the nation of which he is a member. It may happen, that, oftentimes, in young countries, the schoolmaster may be the principal public functionary in the settlement. But whether he be or not, the schoolmaster, if at all worthy of his position, will always exert a powerful influence in the locality. And, therefore, he should be prepared to throw his energies steadily and judiciously into all those measures that have for their object the social, the intellectual, the moral and religious welfare of the young in the section generally, not merely of those at school, but of those also that have gone to trades and other secular employments. But he must not content himself with the encouraging and stimulating of the more youthful

part of the population, he should make it his study and business to wake up mind generally throughout the section, by commending the various schemes or measures which the situation or circumstances of the locality may seem to demand, as the formation of public libraries, &c., if it is in a farming district, by the establishment of agricultural societies, or, in a mining, of mechanics' institutes of some form or another. All this and similar work will operate beneficially upon his usefulness in his school work, and aid him largely in the furtherance of all his professional projects.

6. *The duties which the teacher owes to his profession.* Every man owes certain duties to his profession or his calling. That profession or calling has its rights and privileges in the social compact, and, when these are invaded, he must be a hireling indeed, utterly unworthy of his position, if he does not lend his aid, with the men of like craft to turn back the assailants from their gates. 1. He does this when he takes heed to himself, to his own progressive advancement in every one department, thereby imparting greater force and power in his school establishment, as well as extending his influence in the eye of all intelligent and reflective minds. 2. The teacher ought to identify himself, in every respect, with his profession. "If I were to leave my office as a preacher," said the immortal Luther, "I would next choose that of schoolmaster or teacher of boys; for I know that next to preaching, this is the greatest, best and most useful vocation, and I am not quite sure which of the two is the better." And if these noble sentiments had leavened and pervaded the public mind, the office of the teacher would have occupied, long before this time, a far more commanding position, would have been exalted to the rank of one of the learned professions. Though much is yet to be done to bring it to this elevation, we ought to rejoice at the advances made during the last twenty-five years, and to labour on till this honoured employment reach its grand consummation, and be ranked as one of the learned professions. 3. Teachers ought to make conscience in attending all teacher's institutes and associations, all those societies which have for their object either the improvement of the teacher or the assertion and maintenance of his rights. These associations exist in every country and under every variety of auspices, and with every modification of form. Attendance on these should be enforced by compulsory enactment; but, in the meantime, every faithful teacher should make a sacred duty of attending, when at all practicable. 4. Still farther, teachers ought to avail themselves of the public press for the diffusion of intelligence regarding their operations, their educational movements, the

influence which these exert upon the country, and the claim they thus possess on the public support. All papers will thankfully receive such intelligence, and all teachers should be in a position to contribute such communications to the newspapers. Nor is this enough. They should sow, broadcast, all tracts, reviews, journals, &c., on the subject, that the public mind may be thoroughly saturated. And farther still, means should be employed to see that these papers are read, canvassed and pronounced upon.

7. *The spirit in which these duties ought to be discharged.* Enough has surely been said respecting the duties of the teacher to satisfy every reflective mind, that these exercises are both numerous and onerous, involving responsibilities of overwhelming magnitude, such as must draw from the lips, even of the best equipped, the enquiry, "Who is sufficient for these things?" It is they, and they only, who are imbued with a right spirit, who are competent to answer the question, to cope with the difficulties. Ere we dismiss the subject, it may be well that we say a few words in reference to the spirit in which these duties should be discharged. And what is that spirit? Perhaps we cannot give a better answer to this question than that contained in Page's Theory and Practice:—"But the true spirit of the teacher, that seeks not alone pecuniary emolument, but desires to be in the highest degree useful to those who are to be taught; a spirit that elevates, above everything else, the nature and capabilities of the human soul, and that trembles under the responsibility of attempting to be its educator; a spirit that looks upon gold as the contemptible dross of earth when compared with the imperishable gem, which is to be polished and brought into heaven's light to shine for ever; a spirit that scorns alike the rewards of earth and seeks that highest of all rewards, an approving conscience, and an approving God; a spirit that earnestly enquires what is right, and that dreads to do what is wrong; a spirit that can reverence the handiwork of God in any child, and that burns with the desire to be instrumental in training it to the highest attainment of which it is capable. Such a spirit is the first thing to be sought by the teacher, and without it the highest talent cannot make him truly excellent in his profession." Such is the spirit of the teacher as described by Page, and every one who reflects calmly upon these duties with their momentous responsibilities, both in time and eternity, cannot fail, we think, to give his cordial assent to this description, and to express his earnest desire that this spirit were generally diffused amongst the labourers in this field.

SECTION II.—THE QUALIFICATIONS OF THE TEACHER.

From what has already been advanced relative to the duties of the teacher, we can easily perceive that the qualifications requisite for their right discharge are both varied and profound, and that, as in every other sphere, the higher the qualifications, the more efficient will be the discharge of these duties. These qualifications may be all classified under the threefold division of personal, literary and professional.

1. *Personal Qualifications.* By this class we of course understand all those qualifications, which, as an individual, he ought to possess, so as efficiently to discharge the functions of his office. And we would notice.

1. That there is, perhaps, no employment requiring a larger amount of physical energy than that of the teacher. If he is to maintain good government and exercise a thorough *surveillance* over his establishment, he should maintain a standing posture, and be constantly moving about amongst his pupils. And who but those who are athletic and in full possession of all their physical energies are competent for this work? And if his physical energies should be unimpaired, not less should his mental. For a long period, it was supposed that any kind of mind, intellectually and morally, would do for a teacher. A great revolution has been effected in this department. It is now pretty generally admitted, that to do the work of the teacher efficiently demands not only a certain amount of scholarship, but an energy and a vigor of high mould and standing, and whose character is out and out unimpeachable.

2. The teacher ought to be a thorough gentleman in all his bearing. If he is so, not only will he spurn from him everything mean and despicable, but maintain a true dignity of demeanour in every position or situation. There will be a frankness, a simplicity, and a transparency in all he says and does that will inspire with confidence. He will be courteous without being frivolous, affable without being familiar, amiable without being unfaithful.

3. The teacher ought to be a decided and devoted Christian. There are two things that the teacher has to do with his scholars, as religious and moral beings. He has to fit and qualify them for doing aright their part in life, and to prepare them for heavenly glory. In order to this, he must bring them in contact with spiritual and divine things, and with these his own mind and heart must be alike leavened. But this is not enough. There may be the form of sound words with-

out the power, the shadow without the reality. And these latter the teacher should have, that he may be a living embodiment of the spiritual life, and in all his actions as well as in his words, entice the young to come to Jesus. To serve the highest end of all education, to bring the souls of his scholars to Him who is life, and who perfects praise out of the mouth of babes and sucklings, he must himself be a living and devoted Christian.

4. The teacher must be an enthusiast, a man of intense earnestness. An enthusiast in teaching is one inspired with ardent zeal, with extravagant hope, and with confiding success in the pursuit. He feels assured that he has a great work to accomplish, and is determined to accomplish it. He has scanned it in all its length and breadth, and, realizing its glory, both in reference to the present and future generations, he gives himself wholly to it. And yet what have we in all this but the soberest reality, but the office of the teacher exhibited in all its natural though transcendent results.

5. The teacher should be a man of cheerfulness. Children, by the very constitution of their being, are full of mirth and hope. The present is all happy amusement, and the future is bright with the gleams of hope. With this law of life in children, the teacher ought to sympathize, to rejoice with them in their joys, and to sport in their sports. The skilful and pains-taking teacher will feel it to be a paramount duty to impose no arrestment on the full flow and tide of these joyous emotions, but rather to use means for directing and guiding the same into profitable channels.

6. The teacher must be patient and hopeful. There is, perhaps, no situation in life better fitted to test and prove patience than that of the teacher. In the government of the school, in the recitation of the lessons, and in the general management, there will be something occurring every day, almost every hour, to ruffle temper, to irritate and excite. But whatever may be the provocation, he must endeavour to keep cool and never lose command of his temper, remembering the words of Solomon:—"He that is slow to anger is better than the mighty, and he that ruleth his spirit than he that taketh a city." Verily, the teacher must let patience have her perfect work; and the more he does so, he is all the better equipped for his school life; he is all the more capable as the master mind in his little domain. But he is doomed to disappointment in the midst of all his forbearance. He must just try and try until success crowns his efforts—a success all the more satisfying, because it is achieved under unparalleled difficulties. Truly, the teacher must be both patient and hopeful.

2. *The Literary Qualifications of the Teacher.* By the literary qualifications of the teacher we understand the whole matter of scholarship, his general attainments as an educated person, or his particular knowledge of the various branches he is required to teach. On this point there is no doubt or uncertainty. Whatever may be the diversity of view in reference to the first or third class of his qualifications, all, here, are at one; all are agreed that to constitute a good or passable teacher, there must be a certain amount of literary qualifications, and the greater and more diversified, the more successful will he be, *cæteris paribus*, as a teacher. Looking at his knowledge in general, it ought to be extensive, thorough and minute, accurate and reliable. Again, it should be methodical, so built into the mind, that it can be seized upon and rendered available at any future period; and not only so, but capable of receiving continuous and progressive supplies. Turning from general knowledge to that which is particular, or that scholarship which belongs essentially to the office of the teacher, this may be subdivided into common and advanced, embracing, in the former, the branches usually taught in a common school, and, in the latter, classics and mathematics, in addition.

Every teacher of a common school ought to possess a competent knowledge of his vernacular tongue. If it is the English, for example, he ought to be thoroughly acquainted with that language in its history, elements, structure, syntax and prosody. He should not only thus know it, but be able to speak and write it with correctness and elegance. To enable him to do this with ordinary facility, he would derive much advantage from being acquainted with the grammar of another language, either dead or living—Latin or French. Besides, it would form no small enhancement to his other acquisitions, were he well acquainted with the principles and laws of logic, on the one hand, and of rhetoric, on the other. With such attainments the teacher would be capable of conducting any common mixed school, in so far as the matter of language is concerned, and this, after all, constitutes the foundation upon which every branch must be built. A competent teacher in a common school ought also to possess a fair amount of scholarship in the mathematical department. He ought to be in every sense of the term a good arithmetician, that is, he ought to have a thorough knowledge of the rules embraced in a common arithmetic, and be able to work its exercises with correctness and expedition. But, as a teacher, he must go a step further, and be able to expound the *rationale*, or the principle on which these rules depend, and, for this purpose, he ought to be both a good algebraist and geometrician.

The only other common branch of education is penmanship. The teacher of a common school should not only be able to write a plain, legible and easy hand, but he should understand the principles and elements on which script is founded, and this, again, would be in no small degree enhanced, by the teacher being both theoretically and practically acquainted with drawing, linear and perspective, as well as with the science and harmony of colours. The above amount of scholarship is indispensable for the teacher of a common school, and it should also be accounted as an essential substratum of every teacher's equipment in an advanced school, where both classics and mathematics are taught. Teachers in a grammar school or an academy should be possessed of highest scholarship, such as usually belongs to those who have gone through a regular, collegiate course in a faculty of arts. But it is needless to enlarge on this class of qualifications, as it is universally admitted; and, therefore, we pass on at once to the

3. *Professional Qualifications.* Under this class we comprehend all those qualifications that properly belong to the school-room, and that go to constitute a thoroughly equipped teacher. For a long period, this class of qualifications was ignored, if not turned into ridicule, by the most intelligent and experienced educationists. Even after the whole subject of apprenticeship in every mechanical pursuit in all civilized societies, and after the whole *curriculum* of the learned professions were established points, no one seemed to dream of the necessity of any preparatory professional qualifications on the part of the teacher. "One of the most extraordinary facts connected with the whole history of education," says the *Princeton Review*, "is, that the world, applauding the results of education, should have so long neglected the most obvious means of securing them. It is hard to be accounted for otherwise. than from the very extreme of human perversity, that of all labourers in the field of intellect, the teacher alone should have been untaught and left to pick up his professional knowledge the best way he could, at odds and ends, or to do without any. Until recently, the public seems to have depended for schoolmasters upon the probability that there would always be some persons fit for nothing else, some lame man that could not work, or lazy ones that would not; some disabled clergyman who could not obtain a living, some physician failed in physic, or lawyer waiting for a practice, some youth willing to work hard for a little help on the way to his profession, or some poor man unable, from lack of means, to reach that end until too late in life to profit from it, and, therefore, compelled to make a life's labour of what had been designed merely as a step thereto.

Among the improvements of the present century, none merit more unqualified approbation than those which have gone to enlarge, define, and give proper shape and direction to the work of the schoolmaster."

And now is it asked, What are these professional qualifications? They are, both theoretical and practical, as in every other business or profession. In reference to the former of these, the theoretic qualifications, the teacher ought to possess clear and accurate views of the end to be served. This, as hath been said, is the development of all the parts of the child's compound nature. And how can he confront such a task unless he knows something about that nature, unless he knows it well, as a whole, in its parts, in its relations, in its tendencies. Another professional qualification is the knowledge of the appliance necessary for the development of that nature, and the proper use of the same. And here it must appear palpable to all that the teacher must make a study of the whole subject of method. And after he has done so, and clearly apprehends the method best fitted for this or that mind, and for this and that subject, how is he to acquire the art of using it? In no other way than by practice. And does not all this imply a season of preparation, a service of apprenticeship? But, again, the whole subject of the organization, management and government of schools demands not only enlarged theoretical views, but time and experience thoroughly to carry into effect, ere a state of proficiency in practice is reached.

SECTION III.—MEANS OF OBTAINING THE REQUISITE QUALIFICATIONS.

And how are these qualifications to be obtained? What means are to be resorted to for the purpose of their most efficient conveyance? This question has been reiterated by successive progressive educationists, and especially by those who have discovered and put into execution some important principle in the inner life of education. And it is interesting to notice, that the great majority of these have pursued the almost identical course in the dissemination of their discovery. They have established seminaries in the shape of Model schools, for the purpose of presenting an exemplification of their views and modes of operations. These schools have, generally, been largely attended by cadets for teaching, who, when they acquired the particular method, repaired to other spheres of usefulness, and, in this way, the improvement was propagated. So was it with all the pioneers of education in the sixteenth and seventeenth centuries. It has been found, however, that when anything truly great was involved in these

new methods, they had some principle or system of principles on which they rested, and how are these to be expounded. Another kind or class of schools was thus indispensably necessary for the express purpose of imparting a knowledge both of the theory and practice of the improvement. This was done by Frankè, born in 1671, the founder of Normal schools, in the establishment of his *Seminarium preceptorum*, after he had exemplified his views and methods for years in his general schools. So was it with David Stow. He first worked out the essential features of his system in the Sabbath school. Crowds went to witness his exemplification, and numbers of enterprising young teachers were so powerfully attracted that they attended day after day and week after week, until they had imbibed its essential characteristics, and went forth with the determination of carrying it out in their own special sphere of operation. But it was soon found that these practical methods involved principles of deepest significance, and to do justice to the same, these principles must be evolved and inculcated; in other words, the theoretical must accompany the practical; and hence the establishment of the school in Glasgow in 1826 for pupil teachers. It was, with greatest appropriateness, called a Normal school, because it was erected and set agoing for the express purpose of training the future teachers of the young in a thorough acquaintance with the principles and practice of a particular system, in accordance with which everything must be conducted, after whose standard everything must aim. This Normal school soon testified its worth and usefulness by the superior qualifications of those who went forth from within its walls; and similar institutions were established, straightway, over Britain and this continent. They had obtained a thorough footing more than a century before in several parts of the continent of Europe. Like every novel undertaking, they had to encounter obstructions and prejudices. Some objected to them on the score of their expensiveness; others, on the ground of their untried character; and others, on the ground of their uselessness, on the one hand, or their inefficiency, on the other. Nevertheless, whatever their character or the opposition they met, they grew and multiplied apace, and now, in theory, at least, they are acknowledged by all civilized nations upon earth as one of the essential requisites of a national education, and provision made in every popular system for their support. Various other plans and schemes have been propounded for the imparting of professional qualifications to teachers. Some have maintained that the necessity would be met by the establishment of a professor of *paideutics* in our universities, and others that teachers institutes and

teachers associations were sufficient. These, and such like plans, may be good auxiliaries or helps, but they never will, and, we venture to say, never can prove a substitute for a properly conducted and properly equipped Normal school. But whilst we feel persuaded, and boldly avow, that Normal schools constitute the channel, the natural channel, for the qualifying of the teaching profession, we are far from imagining that these institutions have, generally speaking, reached a state of proficiency, or that they are yet out of the tentative process, the experimental crucible. Some are well equipped and conducted in a superior style. Some are miserably provided, and, as a matter of course, fail in producing any substantial or beneficial results. There is here just as great a variety, in proportion to their numbers, as we find in any one institution or seminary of learning. It may not be unprofitable now to state what constitutes, in our opinion, the *beau ideal* of a Normal school equipment.

1. In introducing this subject, we may state it as our deliberate judgment, that Normal Schools should adhere rigidly to their own proper work, the manufacture or the training of teachers. This is universally acknowledged in theory, but it is sadly neglected and forgotten in practice. Perhaps, one half of these institutions are neither more nor less than seminaries of learning, grammar schools or academies. They give some instruction on the business of teaching, exactly as they do with any other branch; and this is all. This, if the student has been attentive and diligent, is all that he has acquired, in addition to his stock of knowledge,—a thing, this, not to be despised. But, in so far as his real teaching capabilities are concerned, these are *in statu quo*, so that he might just as well have attended any other seminary of learning. Such Normal schools have entirely mistaken their object as a distinctive class of educational institutions. If such have Model or practising schools at all, they are mere appendages or exemplifications; they serve no good practical purpose. Model schools, worthy of their designation, should embody the peculiar features of the theories inculcated in the collegiate department.

2. Again, Normal schools should select and exemplify a method. The very designation of the term would lead one to expect that some standard or common principle should pervade all the operations and proceedings of the establishment, should be exhibited in every branch, in every arrangement, in every amusement. This requires a constant *surveillance* on the part of the head of the establishment, between whom and his assistants there must be thorough sympathy and co-operation, otherwise the designation is a misnomer. These institu-

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1. In introducing this subject, we may state it as our deliberate judgment, that Normal Schools should adhere rigidly to their own proper work, the manufacture or the training of teachers. This is universally acknowledged in theory, but it is sadly neglected and forgotten in practice. Perhaps, one half of these institutions are neither more nor less than seminaries of learning, grammar schools or academies. They give some instruction on the business of teaching, exactly as they do with any other branch; and this is all. This, if the student has been attentive and diligent, is all that he has acquired, in addition to his stock of knowledge,—a thing, this, not to be despised. But, in so far as his real teaching capabilities are concerned, these are *in statu quo*, so that he might just as well have attended any other seminary of learning. Such Normal schools have entirely mistaken their object as a distinctive class of educational institutions. If such have Model or practising schools at all, they are mere appendages or exemplifications; they serve no good practical purpose. Model schools, worthy of their designation, should embody the peculiar features of the theories inculcated in the collegiate department.

2. Again, Normal schools should select and exemplify a method. The very designation of the term would lead one to expect that some standard or common principle should pervade all the operations and proceedings of the establishment, should be exhibited in every branch, in every arrangement, in every amusement. This requires a constant *surveillance* on the part of the head of the establishment, between whom and his assistants there must be thorough sympathy and co-operation, otherwise the designation is a misnomer. These institu-

tions should be out and out practical. The amount of admission scholarship is generally a fixed matter in them all. This is in tenor, as follows:—1. Good readers and spellers, and ability to give a fair account of the piece read. 2. Elements of grammar and geography, history of country, Great Britain, outline of universal history. 3. Arithmetic, fundamental rules, reduction, rule of three, fractions. The first six weeks should be spent in a review of all these branches. One day every week should be set apart for practice in these branches, when the pupil-teacher takes the platform in presence of all the teachers of the institution, the lesson in each department being given out the night before. During this period, the outline of the professional course should be sketched. All the exterior work, motions, physical exercises, &c., should be conducted exactly in the same fashion as the Model school. After the expiry of that time, the new work should be begun, and provision made for practice in Model or practising schools. On the day for practice in Model school, the pupil-teachers are divided into as many groups as there are grades in the establishment, and marched into the different apartments, each group being presided over by one of the teachers in Normal school. The masters of Model school practise first hour on a kindred subject, the second hour is taken up by pupil-teachers. Two or three, or more, practise, whilst the rest are busily engaged taking notes, with the view of criticising their fellow students on their return to Normal school. After practice, the pupil-teachers return to their own hall, when the criticism commences. After the pupils of each group have expressed their views, the master, who accompanied that group, gives his opinion relative to the criticism, and the whole is wound up by a few words from the Principal. Along with this work, every day in sections, the pupils, once a week or so, after the lessons are gone over by the teacher in his own department, are required to take the platform and pursue the same course as the teacher. All this shows how completely a properly conducted Normal school is out and out practical. No first class certificate ought to be granted to Normal students except on the ground of proficiency in teaching, as well as in scholarship. This would change the whole aspect and character of these institutions, and in a short time effect a complete revolution in their management.

3. But it is now time that we describe briefly the equipment necessary to produce such effects. And it may be proper, first, that we say a few words in reference to the buildings of a Normal school institution. As to the size of such buildings all depends on the

population and extent of territory to be provided with teachers. For every hundred thousand of a population, there ought to be accommodation for at least twenty-five pupil teachers, or for every five hundred thousand, for one hundred. This is size enough for any such institution, so as to do justice in the practical operations. But, whatever be the size of the Normal College, no such building should be erected without a proportionate suite of Model and practising schools. The Model schools are supposed to furnish an exemplification of the science or theory expounded and inculcated in the Normal College, and the practising schools is the workshop for the pupil-teachers, the arena for the experimental process. The Model and the practising schools are but too frequently united. This seldom fails to detract from the efficiency of the establishment. These schools should be manned by the ablest body of teachers that can be procured, men possessed of a thorough knowledge of the system both in its theoretical and practical bearings, and animated by a noble enthusiasm to have it fully illustrated, the Principal being *facile princeps* in everything pertaining to the professional department, both theoretical and practical. But it may be of advantage that we extend our observations a little in reference to the officers of such an institution. No Normal school should, in our opinion, attempt to accommodate more than one hundred students, which would be amply sufficient to supply, with trained teachers, a population of five hundred thousand, and would awaken a deeper interest in their respective localities, as well as stimulate and encourage one another. This would impose a considerable outlay on a nation's educational expenditure, but it would be eventually the cheapest. It is impossible for one man to do justice to the practical department of a greater number. For such a school, there should not be less than three teachers—the Principal, English and Classical, and Mathematical, with one for the music and another for drawing. One or two tutors for ancient and modern languages might assist in certain localities for a few hours daily. The Principal is the lever of the whole establishment; every operation and movement must be entirely and absolutely under his control, or else the one grand end cannot be accomplished. He takes the sole active management of the professional department, and delivers lectures on the nature, the science and the practice of teaching, or else uses a text-book. The latter, when practicable, is much to be preferred. Besides, he will require to give lectures on natural science and natural philosophy, as furnishing the most fruitful source for illustrations and oral lessons. The English master's labour can scarcely be over-estimated. A great deal

of the development process, both as regards the pupils themselves and as fitting them for the carrying out of this end with the young, must necessarily devolve on this officer. The mathematical master must pursue pretty much the same course in his department, dwelling principally on the fundamentals, and eliminating the *rationalia* in all their principles, and laws, and results. As we have not room here for enlargement, we subjoin, in tabular form, a view of the work done in a Normal school of the size and equipment indicated.

Table of a week's studies in a Normal school of one hundred pupils, divided into three sections—junior, senior and academic, or a, b and c, for the period of three sessions or fifteen months—with three regular masters and a teacher of drawing and one of music—thirty hours weekly or six hours per diem for five days—with Model and practising schools.

	8 to 8½.	8½ to 9.	9 to 10.	10 to 11.	11 to 12.	12 to 1	1 to 2.	2 to 3.
			CLASSES.					
Mon.	Praise, reading scripture, and prayer.	Theory of profession, reviews	<i>a.</i> With Eng. master, reading and spelling, theory and practice. <i>b.</i> and <i>c.</i> With mathematical teacher, arithmetic, theory and practice.	<i>b.</i> and <i>c.</i> With English master, reading and spelling, theory and practice. <i>a.</i> With mathematical teacher, arithmetic, theory and practice.	Pupils altogether with English master, book-keeping.		Pupils altogether with mathematical master, penmanship, theory and practice.	Lectures on natural science, oral and experimental, by Principal.
Tues.	Do.	Practice of profession.	<i>b.</i> and <i>c.</i> Grammar, theory and practice. <i>a.</i> Arithmetic.	<i>b.</i> and <i>c.</i> Arithmetic. <i>a.</i> Grammar, theory and practice.	With mathematical mapping, use of globes, scales, &c.	INTERVAL.	Classics, junior and senior, with Principal and English master; remainder at miscellaneous work with mathematical teacher.	Music.
Wed.	Do.	Theory of profession.	<i>a.</i> Geography. <i>b.</i> and <i>c.</i> Algebra.	<i>b.</i> and <i>c.</i> Geography. <i>a.</i> Algebra.	With English master, history and cartography.		Drawing.	Same as Monday.
Thurs.	Do.	Practice of profession.	<i>a.</i> Geometry. <i>b.</i> & <i>c.</i> Composition, &c.	<i>b.</i> and <i>c.</i> Geometry. <i>a.</i> Composition, &c.	With mathematical master, practice on black-board, &c.		Same as Tuesday.	Same as Tuesday.
Fri.	Do., with emblem, orally.	First six weeks practice in Normal school, afterwards in Model or practising school.	Practice.	Practice.	Practice.		Alternate with English and mathematical masters at miscellaneous work.	Same as Monday.

Written exercises by whole school, once a week, at least. The last half of the session, the pupil-teachers, when in classess, in rotation and under the direction of the master of the department, preside. Though b. and c., when in classes, are together, they still prosecute their respective studies.

Benefits of Normal Schools. These are many and great, direct and indirect, affecting, materially and beneficially, not only all the common school education of the country, wherever they exist in efficient operation, but all the higher seminaries of learning, both academic and collegiate. These benefits we cannot now illustrate. We can only present our readers with a bare enumeration. Normal schools are beneficial—

1. Because they present to young men and women the best opportunity yet discovered of acquiring the knowledge of the business of teaching, both theoretical and practical.
2. Because they are well calculated to cherish and foster a professional spirit among teachers.
3. Because they introduce and disseminate, most extensively, improved methods of teaching.
4. Because they beget and keep alive a love for the occupation.
5. Because they are admirably fitted to bring about a uniformity of system in any country.
6. Because they send out, as a whole, the best qualified teachers.

This summary of the benefits of these institutions is ratified and sealed by their continuous increase and progress, so that it may now be said that they have become an indispensable requisite in all national systems of education. About the beginning of the eighteenth century the benevolent Frankè of Halle, established his teachers' seminary, and now Prussia possesses not less than fifty-one Normal schools. About twenty or thirty years afterwards the several States in Germany countenanced this system of popular instruction, and their Normal schools kept equal pace with their educational progress. And, now, Saxony possesses 10, Austria 11, Bavaria 9, Wirtemberg 7, Hanover 7, Baden 4, Hesse Cassel 3, Hesse Darmstadt 3. In 1817, Holland erected 2, Belgium 2, Denmark 2, Sweden 1. In 1808, France erected its first Normal school, and now it has not less than 97. In 1835, Scotland built 2, the one in Glasgow and the other in Edinburgh, though the former had been in existence on an inferior scale for several years beforehand. In 1836, Ireland erected one in Dublin of stupendous size. In 1840, England commenced its operations in this department, and now, along with Wales and Scotland, possesses

upwards of 40. In the New World, Normal schools are of more recent date. Though the subject of Normal schools was agitated in Massachusetts in 1825, it was not till 1839 that they were formally set agoing, and, now, there are three in that State, with one in Boston for the supply of that city alone with qualified teachers. In 1845, one was established at Albany for the State of New York; in 1848, another at Philadelphia for the State of Pennsylvania; in 1849, another at New Britain for the State of Connecticut; in 1850, another at Usilante for the State of Michigan. Now, there is scarcely a State in the West and North without its Normal school. In British America, too, similar movements have taken place. In 1847, the first Normal school for Ontario was opened, and in about five years they took possession of their present spacious buildings. In Quebec, there are four Normal schools; two at Montreal, one for Roman Catholics and one for Protestants; and two at Quebec, all established under Act of Parliament of 1857. In Nova Scotia in 1855. In New Brunswick in 1850. In Prince Edward's Island in 1856, &c.

We have now discussed at some length the means by which teachers may obtain their preparatory qualifications. We have said nothing as to the time requisite for such preparation. That should never be less than three sessions of five months each. If they are respectable scholars when they enrol, this period, with ordinary diligence, should put them in possession of a fair teaching equipment. This remark, of course, refers exclusively to those who have never taught. For those who have taught, provided their scholarship is at all corresponding with the position they hold, some arrangement should be made in every such institution, to lessen the period of their attendance, though here certain bounds must be fixed. And if these are the preparatory means for qualifying teachers, it may now be asked, What are the means necessary for keeping up and extending these qualifications in all the departments? Among the various stimulants that may be employed for this purpose, we know none so beneficial, so likely to prove effectual as teachers' institutes and associations; and, along with these, a thorough system of local and national inspection, with periodical examinations, &c.

SECTION IV.—FEMALE TEACHING.

Formerly, female teaching was confined to private families, or private schools, or matrons' village schools, but now it very generally prevails both in the Old and New World, especially in the more juvenile or primary departments. It is unnecessary

here to refer to the prejudices that exist in the minds of some, and especially of those reared in Scotland, against female teaching. It is more to our purpose that we say a word or two in reference to the qualifications and position of female teachers. We do not here touch the controverted point, whether the mental energies of the female mind will, as a whole, suffer comparison with those of the male. It is sufficient for us to know that, both by the law of nature and revelation, there is a position of subordination and of dependence assigned to the former, and hence there may, and there ought to be, situations in educational establishments better adapted to the one sex than the other; and, accordingly, it is generally admitted, that the infant and primary departments are best fitted for the female, whilst the head masterships, and the more advanced sections, are for the male. This does not, and ought not to impose any restraint on the studies of the former, whether literary or professional. On the contrary, they ought to receive every possible encouragement to prosecute their studies and professional attainments with unabated ardor, seeing that the perfection of teaching is simplicity, and that the most profound erudition, and the most dexterous skill are required to make the most common things plain. Neither will this general rule put any impediment in the way of individual exceptions, for higher positions to be acknowledged either in the one case or other. The advice given by Stow is, like himself, sound and solid,—“Let each sex copy the excellencies of the other, the female teacher, the firmness of the male, and the latter, the affection, kindness and entreaties of the former,” and this will produce the best teaching.

SECTION V.—DIFFICULTIES OF THE TEACHER.

There are difficulties to be encountered in every employment, but in some, these are more numerous and formidable than in others, and there is, perhaps, none more so than in that of teaching. Here, there are difficulties both from without and from within, and it were well that the youthful teacher calculated and weighed these, and prepared himself to do battle with them. Those originating externally are such as the following;—1. Want of proper school accommodation. 2. Of proper apparatus and text-books. 3. The irregularity of the attendance of too many pupils. 4. The want of sympathy on the part of the parents. 5. The want of proper arrangements for carrying on a course of regular self-improvement. Nevertheless, in all these respects, within the last twenty years or so, there has been a decided and progressive alteration going on, which augurs well for the future. Indeed, all these

difficulties will rapidly give way just as the subject of education rises in public estimation.

But there is another class of difficulties, not so easily conquered,—we refer to those that spring from internal causes. These difficulties are such as the following:—1. The great variety of natural gifts among the young. 2. Closely allied to this, is the diversity of natural temper and disposition. 3. This difficulty is all the greater and more formidable, when we take into account the fact, that the treatment and discipline of one will be of little or no benefit to another; so that the management or code of regulations that has triumphed in one case, will prove utter feebleness in another. What was effectual at first, too, in course of time loses its virtue, and we are left in the same sea of troubles, with our difficulties oftentimes increasing both in number and perplexity, and these all the more when aggravated by the various counteracting influences of home. Indeed, it is questionable if the teacher is faithful to himself, to the cause of education and to the real welfare of his scholars, if there is any one pursuit so environed with difficulties, so full of snares and temptations, or demanding a larger amount of public sympathy, support and co-operation.

SECTION VI.—REWARDS OF THE TEACHER.

We have just spoken of the difficulties of the teacher, sufficient, were there no compensatory rewards, to overwhelm and stagger the stoutest and the boldest. We would now show, in a very few words, the character of these rewards, which may be regarded in a threefold aspect,—personal, relative and official.

1. As to personal rewards, there is, perhaps, none from which we derive such an amount of benefit as that of teaching; for in teaching we must of necessity improve ourselves, and the more faithful and enthusiastic we are in our vocation, the greater must be our progress.

2. But the reflex influence of the teacher's employments is not less extensive than it is valuable in reference to the whole of his demeanor. We know not, for example, a better arena for calling into livelier exercise the grand peculiarities of Christianity. This enhances the profession, and brings along with it a present reward. Another series of benefits and of rewards springs from the relation subsisting between the teacher and taught. If the work in which he is engaged implies the obligation not only of studying mind generally, but of studying the leading peculiarities of each, what a fund of knowledge must this impart? And then, again, he is bound to mark the effect of the

various appliances, in all their modifications, upon each individual mind, and how interesting and instructive must this exercise be?—2. Another source of gratification to the teacher, springing from this relation, is the progress of his pupils;—3. The direct reward arising from their gratitude, with the acknowledgment of affectionate parents and guardians.

3. As to the official rewards of the teacher, these are such as arise from the nature of the work, viewed in all its relations, influences and destinies, such as:—1. The consciousness of being engaged in an honourable employment. 2. The satisfaction of knowing that he is toiling in the noblest field of Christian philanthropy. 3. That he is moulding and fashioning the next generation, both in the state and the church. But this is not all. From the perpetuating power of all that is great and virtuous, the following generation will tell with tremendous effect upon the next, and that again upon the succeeding, so that the potency and duration of the teacher, instrumentally, can hardly be estimated or conceived of. Nay, he is doing a work, not only for time, but for eternity. The splashing of the oar in the great ocean is obliterated and defaced by the succeeding wave, but from the very constitution of mind, no change, or vicissitude, or revolution can ever efface the impressions that are made on its tablets. Where is the office, then, more wide-spreading in its influence, where is the work more pregnant with real reward? Lastly, the teacher enjoys the smiles of heaven, the good will of Him that dwelt in the bush encompasses his every step. What instrumentality, next to the accredited ambassador of heaven, so hallowed, so influential, so perpetuating, so eternally progressive! Surely, then, the teacher stands upon high vantage ground, surely he is warranted to expect peculiar manifestations of divine approbation. What a recompense of reward is this!

RECAPITULATION OF CHAPTER.

The first thing requiring to be done in the inner work of national education, is the selection of a system, the next, is the qualifying of the living agent. What is to be done for this investiture with the suitable qualifications? is the cry, the all but universal cry, a cry that will increase in earnestness and importunity in very proportion to the enlightenment of the views that obtain on the subject-matter of education. And this cry has not been expended in vain speculative notions or desires; it has been embodied in efforts of gigantic magnitude and of wide-spreading influence, and that now for upwards of a quarter of a

century. The more the state identifies herself with the cause of education, the more liberally she expends her revenue in its support and furtherance, the more concerned will she be to secure an equivalent for this expenditure; and as this mainly depends upon the ability and skill of the schoolmaster, the more intense will be her desires to see these qualities possessed by him. No where, perhaps, in modern times, has more been done towards the securing of this object than in Great Britain. Sir J. K. Shuttleworth read, as with the light of a sunbeam, the indissoluble connexion between the qualification of the teacher and the efficiency of the school; and though he may have fallen into extremes in the matter of apprentice teachers, and though in the carrying out of his projects he may have involved the nation in the expenditure of what some may think an extravagant sum, it has ever been in the right direction, and for the accomplishment of the noblest purpose.

In the body of this chapter, we have expressed ourselves in very decided terms on the nature of professional qualification, and of the only way of obtaining the same, being through the medium of well-equipped and well-conditioned Normal schools. We yield to none in our estimate of profound scholarship, as constituting one of the essential qualities in the securing of efficiency in a teacher; we are even ready to go the length of admitting that it is the most essential, as it touches and affects every other. But it were needless to attempt to shut our eyes to the fact that this quality may be possessed, and yet the possessor may be, in many respects, a most incompetent teacher; and that not because of any inherent stupidity, but because he has never served an apprenticeship to the business. This can only be done by a continued attendance at a properly equipped Normal school, where theory and practice not only go hand in hand, but where the one is considered as but the mean and the other the end. We are free to admit, that the philosophy of method may be propounded in erudite prelections by professors in our colleges and universities, but the art never, never can be learned without personal, direct, patient, persevering practice, a practice founded upon a right basis,—a basis that never fails to produce valuable results.

When a nation has got the length of guaranteeing a certain salary to her teaching officers, and paying that salary directly out of her own resources according to certain grades of teachers, she is bound to see that there is something like uniformity in reference to these grades. This is a difficult task. It cannot be arrived at by a uniformity of queries, whether addressed to the candidates in a *viva voce* or in a

written form. Where a variety of local boards exists, there will ever be a diversity of interpretation, as well as of judgment. The nearest approximation that can possibly be reached is, by the appointment of a common board for the whole nation. All, however, that this common board can decide is the matter of scholarship, or the theoretic knowledge of the profession. They can append no testimony in their certificate to the professional power of the individual, either in organizing, managing or governing a school, or in developing mind. This can only be done, to any extent, through the instructive faculty of a Normal school, after a due season of training has been gone through. The above, in its essential elements, we are happy to say, is the plan pursued in the province of Nova Scotia, under the auspices of the present talented and energetic Superintendent of Education,—a plan which only requires time, steady application and faithful working, not only to bring about a general uniformity in the classification of teachers, but the highest literary and professional qualifications.

SUBDIVISION II.—THE EXTERIOR.

CHAPTER I.

DUTY OF THE STATE TO EDUCATION.

SECT. 1.—REASONS WHY THE STATE SHOULD ESTABLISH AND UPHOLD A NATIONAL EDUCATION—*a.* ITS ALLEGIANCE TO THE GOVERNOR OF THE NATIONS; *b.* ITS RESPONSIBILITIES; *c.* ITS SERVING THE PURPOSES FOR WHICH IT WAS INSTITUTED; *d.* NO OTHER POWER OR AGENCY CAPABLE OF OVERTAKING THE WORK. **SECT. 2.—WHAT THE STATE OUGHT TO DO—***a.* IT OUGHT TO PROVIDE AN ADEQUATE QUANTITY; *b.* COMPEL THE ATTENDANCE OF ALL; *c.* DO WHAT IN IT LIES TO SECURE THE BEST QUALITY;—**THE RELIGIOUS ELEMENT.**

In introducing the practice of education, we stated certain reasons for discussing it under the twofold aspect of the Interior and Exterior, what comprehended under each of these aspects, and why we considered the Interior first.

In passing on to the Exterior, the first subject that meets our attention is the duty the State owes to education. This is a very extensive and inviting theme; we cannot do more than present an outline of the argument.

SECTION I.

That nations, as such, have a duty to discharge to the education of the young within their border, is a truth, which few, if any, are disposed to question. There may, and there does exist no small diversity of opinion as to the nature or extent of the encouragement to be given, but, with one exception, those who hold extreme voluntary views, we know none, who are not prepared to extend towards it a certain measure of support. We here take the highest possible ground, and unflinchingly maintain that it is the paramount duty of Christian nations, in a national character, to establish and uphold national systems of education, and that for the following among other reasons:—

a. Because of their allegiance to the moral governor of the nations. That nations, as such, derive their existence from, and are under the government and control of the Almighty, both providentially and morally, is alike the dictate of nature and revelation. But whilst God maintains absolute and sovereign sway over the nations of the earth, even as he does over individuals, and whilst national society, political government, magistratical authority, all originate in the moral government of God as the God of nations and not in the mediatorial system, it must not be forgotten that God has placed the management of the whole affairs of the moral universe in the hands of His Son as Mediator. It is, therefore, not enough to say that nations owe their existence to God. This is true, but it is not the whole truth on the subject. They are to be regarded as originating in the will, authority and appointment of the Messiah. He watches over and directs all occurrences connected with them. He exacts obedience to his commands. He overrules all their rebellion for good. He executes the righteous judgment of God on wicked nations and rulers. As Prince of the kings of the earth he opens up a way for the universal dissemination and success of the Gospel among the nations. By wielding the mediatorial sceptre, He preserves His church and protects His spiritual kingdom; and will ultimately bring about an entire change in the character and constitution of the nations of the world. The period shall arrive when kings shall be nursing fathers and their queens nursing mothers of the church; and the kingdoms of the world shall become the kingdoms of our Lord and of his Christ.

If the mediator is thus invested with dominion over the nations, in virtue of which He administers their regal acts, it follows as a natural and unavoidable inference that there are duties which they owe to Him,—nations as such are His subjects, and they ought to have respect

to Him in all their institutions and transactions; to take His law as their rule, to attend to the qualifications He prescribes for their rulers, to have respect to his authority in their subjection to those who rule over them, &c., &c.

And now, we ask, in what way is the nation as such, both in its rulers and subjects, to be pervaded by right views, relative to the person, and character, and government of Him by whom kings reign and princes decree justice; how is the nation to be most extensively inspired by a due sense of the sovereign authority of Him who ruleth supreme in the armies of Heaven and amongst the inhabitants of this earth, and of whom no one can say, 'What doest thou'; how are all the inhabitants to be made acquainted with His laws, its requirements and prohibitions; how are they to obtain a knowledge and an appreciation of the blessings which He, as the almoner of Heaven, bestows upon them nationally? In no other way can this be done than by the diffusion of the universal education of the young in every nation or community. And this education none but the nation can give, and this she is bound to give in token of her loyalty to her liege lord, in acknowledgment of her dependence upon Him not only for her existence and preservation, but for all her immunities and privileges.

b. Again, nations, as such, are bound to promote the cause of national education, for in no other way can they rid themselves of their responsibilities. That civil government is an ordinance or an appointment of Heaven, is everywhere taught and believed. Whatever the nature of the government, monarchical, aristocratical or democratical, whatever is done directly by God or directly by man, the moment the appointment to office is legally constituted, all the powers of that office, whether appertaining to the legislative or executive, are derived directly from Heaven. These powers can alone be morally dispensed in accordance with certain conditions, involving duties or responsibilities of no ordinary character, but it is only in carrying out these conditions that these officers are warranted to execute the power. For example, all rulers are commanded to be a terror to evil doers, the praise of such as do well; and, in fulfilment of this injunction, they are, in certain circumstances and in the case of certain transgressors, invested with the power of life and death, but this they can only execute under certain conditions. The party must be legally tried and condemned. But over and above all this, the individual ought, in all equity, to have had the opportunity of knowing the nature of the law under which he is placed, and whose penalty of death he has incurred.

If he has resided within the bounds of that nation, and nothing has been done by it to give him a knowledge of the law which he has violated, and which dooms him to death; if he can plead, with all honesty that he neither knew the law, nor the punishment which its transgression involved, is the nation in such a case warranted, or morally justifiable in executing the sentence? It is a fearful responsibility to send a fellow creature into eternity, bearing, as he does, the natural image of his Creator. And, surely, before any executive is empowered to do so, it is bound, in very justice, to consider, whether it has discharged its own trust, whether it has acquitted itself of its own responsibility in the enlightenment of all enjoying its rights and immunities; and, especially, used the means for imparting a knowledge of the constitution, the laws and their penalties, under which they live. But there are other responsibilities devolving upon nations as such, and which they are bound to discharge both for their own safety and preservation of all free institutions; for instance, it is the duty and privilege of the people to elect their rulers and legislators. These legislators and rulers must possess certain qualifications for the discharge of their functions, and it behooves the people to know both the one and the other of these, before they can faithfully and legitimately exercise their elective franchise. Again, before the testimony of any witness in a court of justice is admitted, he must take the oath that he will tell 'the truth, the whole truth, and nothing but the truth, as he shall answer to God in the day of judgment.' And to give asseveration to this oath the scriptures of eternal truth are put into his hands. And what does all this imply? Plainly, that he ought to possess an accurate knowledge of the nature of an oath, of the Being he invokes, as a witness of the truthfulness of his statement, as well as of the character of his judge, as unfolded in his own word. Surely, we need enter into no argumentation to show that nothing short of a sound and universal education of the young, pervading any community, can possibly secure these objects. And that education, it is the bounden duty, as well as the highest privilege, of every enlightened Christian nation to impart, that she may quit herself of the varied responsibilities lying upon her.

c. But, again, nations, as such, are placed under the most solemn obligations to further the cause of national education, in every possible way, because it is to education they owe their stability and glory. We have already expatiated on the benefits which education confers upon nations. We showed, what really constitute the prosperity and happiness of every State, viz., the intelligence, the industry,

and the morality of its inhabitants. These are the essential elements of a nation's bliss, and nothing but a universal popular system of education will secure their possession and perpetuity. It is altogether unnecessary to unfold this theme anew here. It has, we apprehend, been proved to a demonstration, that these three ingredients lie at the very foundation of a nation's dignity and glory, and that sound education, and that universally diffused, can alone bestow them; and if so, the inference must appear plain and palpable to all, namely, the high, the imperative, the paramount duty of nations to further the cause of education.

d. Nations, as such, ought to bring all their influence to bear on the cause of popular education, inasmuch as it is they, and they alone, that can cope with its difficulties, furnish the adequate supplies, overtake the work. There seem to be three distinctive ways or agencies by which the education of a community or State may be accomplished. There is, first, the agency of corporations, or associations of individuals uniting their resources and energies; secondly, that of the different branches of the Christian church, either aided or not aided by the State, and, thirdly, that of nations. In reference to the first of these methods or agencies, that of individuals, associating their resources and energies in the furtherance of this object, such as the British and Foreign School Society, and such like, it were altogether unwarrantable to deny that a large amount of good, educationally, has been effected by their instrumentality. But no one, who knows anything of their history and labours, will ever pretend to claim for them the ability of supplying the educational wants of any community, or State, or nation. Such an expectation were Utopian indeed.

In reference to the second way or agency, we are here not left to our own speculations, or theoretical conjectures, or inferences, as to its competency or incompetency. It so happens, that for more than a quarter of a century, England has been the arena of a grand experiment of the denominational power or capability to supply the educational destitution of that great country, aided and abetted by the most munificent grants made by the Imperial Parliament. The whole subject of popular education in England, about thirty years ago, received an immense impulse by the appointment of a Committee of Lords of the Privy Council to preside over this department of the public service, and to supplement, by a proportional allowance, the sum raised by the different denominations of professing Christians, and especially of the Church of England, the Wesleyan Methodists, Roman Catholics, and a section of the Congregationalists. This

Committee was fortunate enough, at the commencement of its operations, to obtain the services of J. Kaye, Esq., afterwards Sir J. Kaye Shuttleworth, Bart., as Secretary, and both by the enthusiasm of that gentleman regulating the public grants, and by the inherent zeal of the denominations referred to, a stupendous effort has been put forth in providing additional school accommodation, in elevating the standard of teaching qualification, and in calling forth an apparatus of appliance unparalleled in the annals of the history of education.

During the period of seventeen years, that is, from 1839 to 1856, the following sums have been raised by the parties referred to, supplemented by grants in the building and improvement of Normal Colleges alone :—

	Amount subscribed.	Am't. supplemented
Church of England.....	£148,847 13 2½	£69,062 10 3
British and Foreign School Society....	16,433 7 9	5,000 0 0
Wesleyans	33,101 9 3	5,049 10 0
Home and Colonial.....	1,000 0 0	6,000 0 0
Roman Catholics.....	6,630 0 0	3,900 0 0

During the same period, for the erection and improvement of ordinary schools :—

	Amount subscribed.	Am't. supplemented
Church of England.....	£1,386,703 10 2½	£534,987 12 4½
British and Foreign Society.....	92,836 4 3½	48,269 1 3½
Wesleyans	34,693 4 11½	16,927 1 2
Roman Catholics.....	6,713 19 2½	15,005 3 3

And what have been the results of this twofold agency, denominational and governmental? Since 1839, there have been added not less than 2,740 new schools, and 1236 have been improved, 1492 teachers' residences have been built, and additional accommodation provided for 492,028 children, allowing at the rate of 8 square feet of superficial area for each child, 29 Normal colleges erected, 4,373 certified teachers, 225 assistants, nearly 2,000 Queen's scholars, and 10,245 pupil-teachers. And what, it may now be asked, is the actual condition of things in reference to this supply? Is the result such as to warrant the conclusion, that this agency is competent to cope with the educational difficulties, or able adequately to meet the demands? So far from this being the case, that at the expiry of the period already referred to, there were not less than 2,262,019 not at school, who are of school age. The last census tables prove that only 599,829 were at work, leaving, thereby, 1,614,413 unemployed. What an appalling

condition this! How utterly futile to talk any longer of the capabilities of the voluntary, or denominational, or separate school system. If ever there were a country in the wide world where one would have expected success to crown such combined and well directed and protracted efforts, it would be England. Surely, the most strenuous advocate of the separate system must henceforth resile from his position and confess its utter incompetency to make the adequate supply. And to what conclusion does this inevitably shut us up? Clearly to this, that nothing but the State can cope with the difficulties, even in reference to the matter of quantity. And, after the experiment just illustrated, it surely argues a temerity and presumption of no ordinary kind for any other power or agency to attempt the work.

SECTION II.

So much for the reasons of the duty of nations towards education; what they ought to do in its promotion is evidently the next point of enquiry, involving questions that have perplexed, and confounded, and staggered the wisest and ablest statesmen, ecclesiastics and philanthropists of the present day.

a. We reply that every nation should make provision for the adequate supply. By adequate quantity, is meant, that it is the nation's duty to make the necessary provision for the education of all schoolable children within its border. By schoolable children is understood all who are of school age, and who are or ought to be in attendance. As to the school age in any one nation or country, various elements and circumstances require to be taken into consideration. Climate is one of these. This has a certain effect upon mental development. In tropical and frigid zones we have the two extremes, and in temperate regions we have various modifications depending less or more on local causes. Where, for instance, there are extremes of heat and cold, there is much earlier development or precocity of mind than where the temperature is more equable. This is the case with a considerable proportion of British North America. So much so that if the school age in *Scotia Antiqua* be from 6 to 16, that of Nova Scotia may be fairly estimated to be from 5 to 15. There are various other modifying elements, such as the general employment of the inhabitants in districts where there are large mining or manufacturing operations going on, or the existence of a high aristocracy in the land, giving rise to separate classes of schools into which we do not enter. It is the duty of the nation, in providing an adequate supply, not to be measured by the number in attendance at the national schools, but to decide for

itself what really constitutes the school age; and here it should call in the aid of the most distinguished physico-psychologists, then ascertain from the last census the proportion of the children at that age, and provide accordingly. Generally speaking, and taking all the circumstances into account, such as the probable increase during the period of the duration of school houses and such like, we believe, it will be found that the State has quitted itself well of its obligation, when it has made provision for the education of one-fourth of the children of every school section. And what are we to understand by providing the adequate supply? Plainly, that the nation erect a commodious school-house in every section in accordance with the number of the population, and in a style befitting the locality; that it provide the same with proper furniture, and apparatus, and text-books; that it make the necessary arrangement for the remuneration of the living agent,—the teacher, as well as for the acquirement of his requisite qualifications; and, lastly, that it give suitable encouragement for the establishment of school and village libraries and museums. And what an ennobling position this! We praise and extol the nation, which builds its fortifications and its garrisons as a defence against the assailing foe, we admire the costly structures and the immense appliances at work for the punishing, the reclaiming, and the reforming of the transgressors of its laws, but what are all these exhibitions of a nation's providence, or prowess, or benevolence in comparison with the attitude of that nation which acts upon the preventive far more extensively than upon the curative?

b. Again, nations, as such, are bound not only to provide the means of education for all, but to compel the actual attendance of all. It is a melancholy, yet notorious fact, that in all Christian lands,—the most enlightened not excepted,—there exists an immense number of the young of school age, who, though living under a free system, or what is equivalent thereto, with abundant school accommodation in their immediate vicinity, nevertheless calmly and deliberately absent themselves, and are, in consequence, growing up in worse than heathen ignorance, cruelty and crime. By last census, there were, of school age not in school, in England and Wales alone, 2,763,318. In Scotland, the diffusion of education is more extensive than in England. The returns of the census give 318,517 day scholars in a population of 2,888,742, which makes a proportion to the population of 12.76 per cent., or 1 scholar to every 7.84 of the inhabitants. The darkness that engulms the country, and which no ordinary process can now dispel, is in the chief towns of England, Scotland and Ireland, and in

mining and manufacturing districts. In Manchester alone, it has been found that there are not less than 17,177 children between 3 and 15 years of age, neither attending school nor at work. In the city of Glasgow, Scotland, there are no fewer than 21,025 children between 5 and 10 not at school, and that only 1 in 14 of the population attend, while 1 in 7 is the proportion for all Scotland. And let it not be said that this state of things is owing to the antiquity of these countries, or the imperfections and deficiencies of their school law. It exists to an appalling extent in every country, under all external systems, whether purely national, or partly denominational and partly governmental; whether maintained by direct or indirect taxation with moderate fees; whether the educational enactment has been passed in ancient or more modern times. In Ireland, where there is a national system, and no fees charged in the case of parties unable to pay, and every possible encouragement given to attend; yet there are thousands growing up untaught around the very doors of the national schools; and even of the 560,000 on the roll, the average daily attendance is remarkably low, less than one-half, and even of that half, one-half are reported as learning the letters and words of one syllable. In England, too, there are, in densely peopled localities, large and commodious school-houses, offering a gratuitous education to all, and yet standing half empty. In the United States, with local rates, local management, free schools, and all the other appliances, which the liberality of the people devise and maintain, so many are growing up idle and uneducated, that, in addition to their truant and vagrant laws, the subject of compulsory education is now seriously talked of and discussed. Even in many of the larger towns in Canada, where the free system still possesses all the freshness and buoyancy of youth, there are large numbers growing up uneducated, and hence the efforts already put forth by the benevolent and charitable in the establishment of ragged and industrial schools. And, indeed, there is no more appalling evidence of the existence and extent of this apathy, this moral paralysis in reference to the value of a sound education, than what is furnished by the multiplication of these very institutions,—the ragged and industrial school of every sort and hue,—and the abundant materials that seem to be in store for filling them. This is a sore evil, a wide-spreading leprosy on the body politic, simmering, and seething, and diffusing its pestilential malaria throughout all ranks and grades in the community, far more extensively than is generally supposed. Various expedients have been resorted to for the purpose of mitigating, if not remedying, the evil complained of, but though these, in various ways, may have effected

much good, particularly in directing attention to the prevalence of the evil, they have left the evil in all its formidableness, the sunken masses have been unreached, and the hundreds of thousands of uneducated children are still making the streets the sphere of their training, heedless alike of the attractions of national schools and the invitations of Christian philanthropy. And why is it so? Mainly because all these pretended cures are at best but superficial in their character. They leave the root of the evil untouched. That these masses of uneducated children be effectually operated on, they must be treated preventively; in other words, they must be enforced, compelled to attend school, and that from the youngest schoolable age; such coercive measures must be resorted to as will arouse them from their moral apathy, and train into such habits as will sever them forever from the idle, and the vagrant, and the vicious.

And who or what party has the right and the power to apply such compulsion as will prove effectual in securing the object? On whom does this responsibility rest? Plainly and distinctly on the State. If parents, by tens of thousands, are neglecting their children, and if the church is completely baffled in her endeavours to bring within the range of education the hundreds of thousands now growing up in ignorance, then, we maintain, that the State has the right and power to interfere, and to devise whatever extraordinary remedies it may think fit in the emergency. 1. It has the right, because it is bound to look well after its own preservation. This is no longer believed to depend on the stolidity and ignorance of the population, but on the enlightenment and moral principle of all classes. If the prevalence of ignorance be indeed a corrosive element, separating, widely, the lower classes from the middle and higher, and facilitating the tumult and riot of revolution, then, surely, it becomes the State to see that every one is taught his duties as a citizen, and his responsibilities as a moral and accountable being. 2. It is the right of the State to use compulsory means, because of its own responsibilities. 3. It is its right, because it must govern for the welfare and benefit of all parties,—of the many. If it is bound to maintain the rights and immunities of parents, it is not less bound to maintain those of the children. "From a system of trades," says Guthrie, "which offers up our children in sacrifice to the moloch of money, and builds fortunes in many instances on the ruins of public morality and domestic happiness, from the cupidity of some parents and the culpable negligence of others, helpless childhood implores protection. We laugh at the Turk who builds hospitals for dogs, but

leaves his fellow-creatures to die uncured and uncared for, and doing so, we forget that dogs and horses enjoy, by act of parliament, a protection from cruelty among ourselves, which is denied to those whose bodies and whose souls we leave savage parents to neglect and starve. I lay it down as a principle, which cannot be controverted, and which lies, indeed, at the foundations of society, that no man shall be allowed to rear his family a burden, and a nuisance, and a danger to the community. He has no more right to rear wild men and wild women, and let them lose among us, than rear tigers and wolves and send them abroad upon our streets. What four-footed animal is so dangerous to the community as that animal which unites the uncultivated intellect of a man to the uncontrollable passions of a beast." And, if childhood thus cries, has it not a claim to be heard and answered? If the parent is thus recreant of his duty, and, by this act, commits a nuisance on the community around, surely the State has not only the right to punish the parent, but to see that the claims and rights of the young are duly attended to. And this can only be done by compulsion-

4. The State has the right to enforce the attendance of all school-able children for the promotion of its own usefulness and influence. If the nation is to serve the end for which it exists, it must have absolute control over the educational department, both in the matter of its extent and duration. There are hundreds and thousands of parents, who are willing enough that their children shall receive education up to a certain measure, such a measure as shall at least make no encroachment on their monopolizing, aggrandizing spirit, or deprive them of any personal comfort or advantage. And, hence, so irregular is the attendance of such children at school, that, to hundreds and thousands, when they grow up, the education they have received is of scarcely any benefit. And what but the State can rectify this state of things, not only to compel the attendance, but to regulate the whole period of that attendance?
5. The State has the right to enforce school attendance, because it is deeply concerned in its own stability and perpetuity. Why have nations in bygone times but waxed and waned, risen to a certain pitch and then perished? It is because they have been destitute of the preserving salt of Christian principle. It is because they have lacked intrinsic worth, inherent excellence, the seed of divine truth. If nations, then, would maintain their stability and perpetuity, they must be leavened with this salt. And there is no other way by which they can get this element than by the diffusion of a high-toned Christian education. And who or what can effect such a diffusion as the State itself?

Having thus seen that the State has the right to impose compulsory education, it surely requires little or no argumentation to show, that it has the power,—a power which no society or church possesses. Every tyro in political economy is aware that every State has the person and property of all its subjects under its control, and that it can impose upon itself whatever burdens it likes for the upholding of the public service. And what branch of the public service is ever to be compared in importance and vastness with that of the thorough and universal education of the people, lying as it does at the foundation of every other, and imparting stability and glory to every other? The State, then, has not only the power to compel the attendance of every schoolable child within its border, but it is bound by every motive that can be brought to bear on its self-preservation, its prosperity and advancement, to use that power for the object contemplated. It is bound to use it, first, for the benefit of the fallen and sunken,—of those who, if they have not been already within the walls of a prison, are all in course of training for it; and the great majority of whom will cost the nation hundreds upon hundreds of pounds, so that it were vastly more economical to build school-houses and endow teachers for every ten such persons, than to allow them to follow on in their present infatuated career. But the State is not less bound to use its power to secure the greater regularity of attendance of one-half the scholars, and to protract the general attendance at school. This is a point of paramount importance. How many individuals, for example, leave school with such vague and indefinite notions on fundamental branches, that they but rarely prosecute the study of them farther, soon forget altogether what they had learned; and thus, during the whole remainder of their days, derive little or no practical benefit from the education received. A few months steady application might have removed all these obstructions, and put them in a position that might have enhanced the happiness of thousands. But to accomplish even this requires the coercive interposition of the State; and what would it be doing in all this but acting the part of a benign parent? And why should we regard the whole subject of compulsory legislation for the furtherance of education, with such suspicion, and jealousy, and abhorrence, when the principle has been already carried into practical operation in many things and ways, imposing as decided restraints on the liberty of the subject as would be by compulsory education. Do not communities and nations impose sanitary laws, especially during the prevalence of some malignant plague, in whose violation heavy penalties are inflicted; and does this infringe in the least on the liberties of

those who have even a regard to the ordinary laws of health? Has not the British Parliament passed the Factory Act, by which the youth in the land are prohibited from labouring beyond a certain number of hours daily, thereby putting an embargo on the cupidity of parents, on the one hand, and on the aggrandizing selfishness of certain mill-owners and manufacturers, on the other? But, further still, have not the American and British nations both passed truant and vagrant laws by which the policeman is empowered to apprehend those youths who have evidently no employment, but who pass their time in idleness and in prowling about the streets, the ready prey of the more hardened in vice and crime; and to hand them over to the nearest teacher, expostulating with parents and guardians in reference to the contaminating influences to which these youths are subjected? All that is needed by these legislatures is to go a step or two farther, and work, remedially and preventively, in the spheres out of which vagrants and criminals are ever emerging. Would there not be incomparably greater consistency, justice and mercy in a compulsory enactment, which would carry all into the public school and bless them with suitable education? And what shall we say more? Have not the German race, and especially Prussia, already pioneered the way, and set the noble example to all the civilized nations of the world of passing a compulsory law, by which parents are compelled, under certain penalties, to send their offspring at a certain age to school? And it is but a few months since a great body of the people in the city of Manchester, England, imposed upon themselves, not only direct taxation for the support of education, but the other essential requisite of a free system,— compulsory attendance; parents being required to send their children to school, or else be subject to the penalty of forty shillings sterling. Would that such a spirit were universally diffused, would that enlightened and civilized nations but saw in what their real dignity, and glory, and happiness consisted!

Having thus seen that every nation has both the right and the power of rendering the education of the young strictly enforceable, and that this may be done without any encroachment upon the privileges of any party or sect, it becomes an important question, What is the best method, in adaptation to local circumstances, of carrying into effect any compulsory measure? There is no need of wrangling or contending about such a matter. Let the nation rise *en masse*, and resolve that every child shall and must be educated, and the thing is done. Observe the character of the resolution 'shall and must be educated.' It is not that the young shall be prohibited from wasting

away their physical energies and stinting their mental development, by only working half time and attending school the other half; they may do this and yet receive little or no education, as the working of the Factory Bill pretty substantially demonstrates, that there may be attendance without attainment; and as results, even in Prussian education, show, that numbers may reach manhood with almost no education. School attendance is, no doubt, indispensable as a means, but there ought to be a higher and nobler aim in all educational legislation, even an educated people, and no pains or expense spared to test and ensure success. Whatever fines may be imposed on parents or guardians of the young, the utmost care should be taken in fixing a standard of attainment before the young can be acknowledged as freemen, or entitled in any way to be engaged in any pursuit of the State, or be counted worthy to be invested with the rights of citizenship. For the accommodation of all parties, ranks and degrees, it might be of advantage to have two standards, a minimum and maximum; the former, being taken when the individual is ten years of age, who, when satisfactorily past, may be allowed to work half time, if found to be needful; the latter, for all and sundry at thirteen, who, when unable to pass, should have certain brands of degradation appended to their name, which should continue as long as they are under this cloud. Whatever may be the practical difficulties of this plan, on the one hand, or expense, on the other, neither would be so great as meets us at this moment in the reforming of criminals and reclaiming a sunken population.

3. But the State is bound also to see that the education given is the best in point of quality. After a well equipped external machinery is fairly set agoing, a long period will not elapse until the desire is felt and expressed, whether the State is receiving a requital, a due compensation for the expenditure made, and an inquiry is accordingly instituted. In justice to itself, to the interests involved, and for future guidance, the State is bound to see that the quality will stand the test, and, in some measure, at least, correspond with the immense outlay. Amid the bustle of preparation, the excitement at the commencement of such an undertaking, the public mind is completely engrossed. But when all these have calmed down to sober realities and to every day habitual operations, there is a strong wish to discover whether the fruit is at all equal to what might reasonably be expected, whether the means and ends are in fair proportion. This is confessedly a difficult subject; there being so many contingencies and casualties to weigh and balance, and even, when these are properly adjusted, the

dubieties of obtaining a correct and reliable body of statistics still remain. Nevertheless, it is right and proper that an attempt be made, even though it be at best but an approximation to the truth that is reached. In such an investigation there are two criteria for our guidance. First, whether the education given is in accordance with the physical, intellectual and moral nature of the recipients, and whether, along with the development of this nature, there is the lodgement in the understanding and in the heart of sound, wholesome, useful instruction. Whilst there may be both a minimum and maximum measure of attainment, there may be an average standard fixed, by which a class of experienced and judicious inspectors may arrive at pretty accurate conclusions. This is a universal test. The other referred to, and which, perhaps, is the most appropriate one for the State to apply, is, whether the education given in the several spheres of society is calculated to make those occupying them good and useful members of the same, if not to shed a lustre thereon? In one word, is the education, given and received, calculated to make intelligent, industrious and moral citizens? These, as we have already seen, constitute a happy and prosperous community or State. And every community or State is bound to strive for the attainment of these in all its educational processes. These, and nothing short of these, should be the returns it seeks for the expenditure of its means; and it is only when these are reached, that she has received a *quid pro quo*, a compensation for her toils and sacrifices.

Need it be stated, that in the investigation and discussion of these criteria, we are treading upon delicate ground,—ground involving the whole matter of the religious element, pre-eminently, the *questio vexatā* of the present day in all national systems of education. In the physical and intellectual departments all seem to be at one; every nation is striving to outrival the other in aiming at the highest proficiency, and in the adoption of the most promising improvements; but it is far otherwise with the moral or the religious element, as it is called. Here statesmen, ecclesiastics, educationists and Christian patriots have met and applied the mightiest efforts of their genius, the most profound fetchings of their sagacity, the most experienced strokes of diplomacy, and the highest skill in casuistry, without any decided beneficial results. It does not comport with our plan to conduct our readers even through the historic details of this controversy. All that we shall do is to present the various expedients that have been resorted to, and the attempts made with a view to the solution or extrication of this difficult problem. These may be all summarily comprehended under the

four following heads:—1. The worldly-moral scheme. 2. The compromise scheme. 3. The denominational or the separate school scheme. 4. The negative or neutral scheme.

1. *The worldly-moral scheme.* By worldly morality is understood the sense affixed by the world to what is right or wrong. It has no eye to the relation subsisting between the Creator and the creature, nor recognizes the will nor the law of the divine being as its standard. It only looks at the bond uniting man and man, and regards, as its supreme criterion of judgment, worldly honour, worldly justice, or what meets the approbation of mankind at large. Its highest authority is the human, not the divine. The will of the creature, not that of the Creator, is the only power that can be publicly acknowledged. You may teach morality as stoutly as you like, provided you say nothing about the sanctions or sayings of the Bible. You may inculcate duty and obligation with whatever earnestness or impressiveness you may, provided you derive them from no higher than natural sources. The barest-faced secularist never imagines that his boy at school, when found guilty of telling an untruth or stealing his neighbours property, is to be allowed to escape unchastized or unpunished; he earnestly desires him to be censured, to have the severest penalty inflicted, and his conduct held up to the scorn and contempt of his fellows, but not a word is to be uttered about the transaction respecting Ananias and Sapphira, no allusion is to be made to the eighth commandment of the decalogue. This is deism with a witness. By this means the difficulty is apparently got over, but in reality it is to fall into one much more serious. It is a sapping of the foundation of all morality, transferring it from an infallible standard to the ever-shifting sands of human caprice, of worldly honour. This scheme is neither more nor less than a clandestine endeavour to throw off the yoke of Christianity altogether, to cast aside the purest code of morals the world ever saw, which, like its author, is absolutely perfect, and which, whilst it binds man to his Creator, can alone bind him to his fellows.

2. *The compromise scheme.* By this scheme is to be understood certain concessions made by the British parliament, on occasion of the introduction of the national system into Ireland, in 1828. The Kildare street schools, which had existed under the sanction of parliament from 1812, had been allowed the bare reading of the Bible, either in the authorized or Douay version. This at length drew forth the most violent agitation, which led to the following concessions, made by Lord Stanley in his celebrated letter to the Duke of Leinster:—

“But it seems to have been overlooked that the principles of the Roman Catholic church were totally at variance with this principle, (that is, the principle of the bare reading of the Bible) and that the indiscriminate reading of the Holy Scriptures, without note or comment, by children, must be peculiarly obnoxious to the church, which denies even to adults the right of unaided private interpretation of the sacred volume with respect to the articles of religious belief.” To meet this difficulty and to check agitation, many schemes were proposed. At length it was recommended that a system be adopted, which should afford, if possible, a combined literary and a separate religious education; that while the interests of religion are not overlooked, the most scrupulous care should be taken not to interfere with the peculiar tenets of any description of Christian pupils. This scheme, then, consists of two things, first, an entire severance of the secular and religious branches in teaching; second, in the various literary and scientific text-books employed, there is an entire exclusion of all allusion to any one denomination of professing Christians, nothing whatever said regarding it, either doctrinal or historical. Such are the two important concessions, the plainly avowed end of which was to secure a united education, and the genial amalgamation of sects in Ireland; to raise the educational condition of the country, &c. This, which we have called the compromise scheme, has been in existence in Ireland for upwards of thirty years. Its leading feature, in so far as the religious element is concerned, has been inserted in the Ontario, and also in the New York State system of education. And the question now arises, has it, fairly and fully, met the difficulty or accomplished the object contemplated? We think not. There are serious objections to the scheme in theory, which we can only afford space to enumerate. First, it is a divorcement of what the All-wise and Almighty Creator has inseparably united, namely, the intellectual and moral nature of the child. Neither, from their very nature, can receive justice at the hand of the most skilful educator, unless they are educated together. . Second, it makes provision for the religious and moral instruction of the child, but none for his religious and moral education, and consequently puts it beyond the reach of the most competent and best disposed teacher to obey, professionally, the Bible precept, “Train up a child in the way he should go.” Third, it is a relinquishment, on the part of Protestant nations, of what constitutes their main glory, and crowns them with all their distinction, namely, the free and unfettered use of the Bible, of the word of the living God, as much the birthright of every child as

Heaven's light and Heaven's atmosphere. But our objections to the scheme are not less serious, practically regarded. We think it has failed to effect the ends intended. After a careful survey of the working of this scheme in Ireland, the conclusion has been forced upon us, that the system there pursued is out and out a denominational one. Both in the south and the north, religious instruction is imparted according to the preponderance of the denomination. But this is obviously in direct contravention of the fundamental principle of the theory, namely, a combined literary and a separate religious education. And what is the education imparted? It is exceedingly meagre, the average attendance of those on the roll being much less than one-half, and the general range of instruction reported as consisting of the learning of letters and words of one syllable; 1235 teachers of all denominations, and 5533 Roman Catholic. Every sect seems to act as it lists, and, if need be, a dispensation is at once granted by the commissioners. It is, as near as may be, a denominational system, and cannot, therefore, furnish any test of its professed distinguishing characteristic.

The national schools of Ontario are professedly non-denominational, and has that proved effectual in satisfying and amalgamating the various denominations of Christians, has that tended to the advancement of its educational system? Let the annual report of 1855-6, of the talented and ever-vigilant superintendent of education, answer this question. Let Dr. Ryerson's letters, in his reply to the attacks of foreign ecclesiastics against the schools and universities of Ontario, be carefully perused. The legislature of New York also passed laws making similar concessions, meeting the favorite theory of secular education without sectarian teaching in books. And what was the result? Soon nothing remained but the barest deism, and the common schools became the arena of the broils and disturbances of the various branches of Christianity.

3. *The denominational scheme.* Allusion has already been made to the great educational work that has been carried on in England for the last thirty years, through the medium of the more influential denominations, aided by supplementary governmental grants. The government, laying hold of the religiousness of the country,—the most powerful of all agencies,—has stimulated it to the uttermost in the erection of school-houses, in the payment of teacher's salaries, and in the supply of books, maps, and apparatus. It tenders its assistance on condition of certain principles and regulations being complied with, and whatever the amount raised by the denomination, it readily grants

an equivalent. It thus depends on denominationalism, insists on religious teaching as an indispensable pre-requisite, and refuses assistance in any form to secular schools. It has largely supplied much clamant destitution in education, roused to the highest pitch denominational zeal, and largely elevated the standard of teaching qualification.

And yet this scheme is exposed to many formidable objections both theoretical and practical, a brief enumeration of which we can only now give. First, it diffuses and perpetuates a sectarian spirit, and presents a flagrant contrast to the national system of Ireland. What inconsistencies does expediency not lead to? Second, it puts every barrier or obstruction in the way of graded schools. Every denomination must stand by and maintain its own school to entitle it to any public grant. This scheme is peculiarly inept and unsuitable in a young country. Third, it lacks the attribute of constancy and continuousness. Fourth, under the most advantageous circumstances, it has proved itself utterly inadequate to meet the educational wants of a people. (See first section.) And the saddest feature here lies in its leaving the substratum of society untouched, the very portion in every community standing most in need of education, demanding, even on economical grounds, all the toils and sacrifices of any State. But, fifth, perhaps, the most formidable of all objections to this scheme, is the expression of equal countenance it gives by the legislature to all forms of religion. The government demands, as the condition of its grant, a certificate that the children in attendance have been taught the creed or religious tenets of the patrons of the school. A bare allowance would amount only to a general toleration, whereas a requirement involves in it all the mischief and guilt of an indiscriminate endowment of truth and error.

4. *The negative or neutral scheme.* In this scheme the legislature abstains from introducing the element of religion at all, not because they deem it insignificant (the contrary might be strongly expressed in the preamble of their act) but because of the divided state of the Christian world; just as they would attempt no control over the religious views of the applicants for aid, so they take no cognizance of the same, and devolve the whole responsibility of this important matter upon the local parties, the managers or the trustees. This is substantially the scheme proposed by Dr. Chalmers. That devoted philanthropist and educationist, satisfied that just as the voluntary system could not adequately supply Christian ordinances, far less could it supply the educational wants of the rising generation, was inspired by an ardent desire that the British nation should act worthy of itself,

and devise some enlightened liberal plan for the thorough education of every child within its borders. The subject seemed to occupy no small share of his attention : and shortly before his death he wrote some of the members of the government, proposing the scheme just mentioned with certain explanations and reservations. He did not propose this scheme as the best absolutely, but only the best in present circumstances. At the same time, he expressed his despair of any great or general good in the way of christianizing a population, but through the medium of a government, themselves Christian, and endowing the true religion, which he held to be their imperative duty, not because it is the religion of the many, but because it is true. This scheme we have long maintained, as not only the best, but the only practicable one in our present position. We are aware that some object to it, because it does not go far enough, that it is purely negative, and just leaves matters as they were. It is, no doubt, true that the legislature acts a negative part, but it boldly and unflinchingly avows its reason for so doing, not because of any unwillingness, but entirely on account of the present condition of the Christian world, now broken up into sects and parties innumerable, and seemingly incapable of any effort for so healing those wretched divisions, as to give the rulers of the country such a clear and unequivocal majority in favour of what is good and true, as might at once determine them to fix upon and espouse it ; and, accordingly, it lays the blame not at the door of the present state of the legislature, as at the door of these very divisions. Others object to this scheme on the ground that it will give rise to interminable local discussions, that it is a mere shifting of the difficulty from the inner halls of legislation, and transferring it to the outer fields of society. There might be some force in this objection, were all school sections given to disputation, and controversy, and quarrelsomeness on such a subject. But we feel confident that there are comparatively few, indeed, that would object to a sound moral education, founded upon the word of God alone, without catechisms, or confessions, or creeds ; and where any disturbance might arise, that, in most cases, could be easily adjusted by the parties themselves. We have always maintained that there are three parties in every community interested in the education of the young, viz., the parent, the church, and the State. Let the legislature fix what proportion should be appointed to represent each of these parties, and how appointed, and this, we are persuaded, would dissipate still more the difficulties referred to. Another class might still object to this scheme on the same ground, that it leaves the minority in any sec-

tion without relief. The majority might determine on having a sound scriptural education, but the minority are equally opposed, and what are the latter in these circumstances to do? There must be nothing in the shape of persecution, and the educational authorities must be stringently bound in such cases only to teach every scholar in attendance the branches requested by the parents. And again, where the majority excludes the Bible and the minority is in favour of it, the parents and the church must just seek to realize a heavier responsibility, and ply all the more diligently the various substitutionary means.

We have referred to the objections, let us now say a word or two in reference to the excellencies of this scheme. 1. It opens a way for the carrying on of a national system without any violation of principle. 2. It exactly meets the views of the voluntaries, composing no small portion in every mixed community. 3. It naturally stimulates to a more wholesome rivalry on the part of the various sections of the Christian church, seeing that the families of the land have been thereby elevated to a higher platform than before, both in mental culture and in general learning. This is substantially the scheme that has been carried into effect in the province of Nova Scotia. In the enactment, which has recently received the sanction of the legislature, it is distinctly specified "that it is the duty of the teacher to inculcate, by precept and example, a respect for religion and the principles of Christian morality." Whilst it imposes this universal duty on every teacher, it gives no instructions or regulations as to how this is to be carried into effect, leaving all such matters under the control and direction of the trustees, acting on behalf of the parents, in their engagement with the teacher. This we hold to be a wise and judicious arrangement, and the main reason why the various parties and denominations are working so harmoniously and unitedly in carrying the same into effect.

RECAPITULATION OF CHAPTER.

This chapter we have divided into two sections, assigning, under the first, four reasons for the State establishing and supporting a thoroughly national system of education; and, under the second, showing three things that the State ought to do;—1. To make provision for the adequate quantity;—2. To compel the attendance of all;—3. To use all means for securing the best quality.

We regret that on a subject of such vital importance, we should

have been compelled to betake ourselves so largely to abridgement. We have only been able to indicate the line of argument, and yet, we trust, we have said enough to guide and direct the thoughts of the attentive reader into such channels as will interest and profit. We have dwelt at greater length on the second than on the first section, and that for the obvious reasons—its importance on the one hand, and its difficulties on the other. Should the voluntary in ecclesiastical matters imagine, that we have gone too far, and that we have out and out homologated the views entertained by those who uphold the establishment principle, we trust, he will find enough in the third and fourth reasons for the State's interference without any encroachment on, or violation of, the views, he holds sacred. The whole of the first section will be more advantageously studied when accompanied with a careful perusal of the third chapter in the first book, viz., The benefits of education to the State. The second section, viz., What the State may and ought to do? occupies larger space, and that simply because the subject is more difficult and complicated. The second point—the duty of the State to use coercive measures to secure the attendance of all schoolable children, when the doors are thrown open for the admission of all,—has been elaborately discussed, and that because of the very novelty and strangeness which the mention of the word, compulsion, may have in the ears of not a few colonists. We were desirous to establish our position, the right and power of the State to pass and exact such a measure in its most literal acceptation. Various modifications may, however, be made in such an enactment, which may strip it of much of its offensiveness in the estimation of some, and yet the object contemplated be accomplished. The investiture, for example, with certain rights or immunities as a citizen, on his entrance on one of the artizan trades, by his successfully passing through a certain ordeal of examination, will, of itself, operate most beneficially on the aspiring youth, and this, again, by the power of sympathy, will rouse the indolent and lethargic. Of one thing, we are persuaded, that nothing but compulsion under a free system will reach the masses, that portion of the population which it is most desirable in every community to reach, even on the low secular view of economy. The religious element, as it has been called, has, by reason of its very complexity, received a full discussion, though even that does not reach the fulness its importance demands. We pray the reader's attention to the real point at issue. It is not whether the Bible is to be used in school? This has been considered and settled in the chapter on Moral Education. If moral education is to be taught, and taught it

should, or else we act in diametric opposition to the law of nature and revelation, then it is as necessary that the Bible be used, as it is that the sun shine, if we would have natural light. The real question is—What, in a mixed community of Christian faith, and worship, and discipline, is the duty of the legislature respecting the Bible, when it legislates on the matter of national education? And what is the real import of the answer we have given to this question? In recommending the negative or neutral scheme, all that we do is to transfer the nature and extent of the moral education given from the legislature to the parents,—the natural instructors of their offspring. We do not free the legislature from its responsibility in the matter; we insist on its passing a judgment to the effect that moral education is an indispensable requisite in a national system, and we devolve on the parents the responsibility of the nature of that branch of education to be imparted. We do not say that this is the optimism of the course to be taken, but we do say that, in present circumstances, it is the best, perhaps the only practicable course; and that if it does not come up to the mark that some consider desirable, it is, at any rate, free from all unsoundness of principle.

CHAPTER II.

THE DUTY OF THE CHURCH TO EDUCATION.

SECT. 1.—PROVISION MADE BY HEAD OF THE CHURCH FOR THE EDUCATION OF THE YOUNG—*a.* HE HAS IMPOSED CERTAIN OBLIGATIONS ON THE PARENT, ACTING UNDER THE AUTHORITY AND DIRECTION OF THE CHURCH; *b.* HE HAS ENFORCED AND ILLUSTRATED THIS ARRANGEMENT BY HIS OWN EXAMPLE; *c.* IT IS THE CHURCH'S OWN INTEREST AND PRIVILEGE.

SECT. 2.—WHAT THE CHURCH MAY AND OUGHT TO DO—*a.* SHE OUGHT TO USE EVERY MORAL MEANS TO AROUSE THE STATE TO A SENSE OF ITS DUTY IN PROVIDING AN ADEQUATE AND SUITABLE QUANTITY; *b.* SHE OUGHT TO SEE THAT THE EDUCATION GIVEN IS OF THE RIGHT SORT; *c.* SHE OUGHT TO TAKE STEPS TO ASCERTAIN, THAT THIS EDUCATION, BOTH IN POINT OF QUANTITY AND QUALITY, IS ACTUALLY GIVEN.

It is almost unnecessary to observe that the term Church, is here taken in its widest and most unlimited acceptation, embracing all professing Christendom, in contradistinction to Judaism, Mahometanism and Paganism, in all its forms. In this sense there are generally considered three grand associations or churches—the Greek, the Roman Catholic and Protestant. These, again, are subdivided into a

great variety of branches, all professing adherence to one common founder, all declaring their faith in the divine origin of Christianity, and in the Bible, as a revelation from Heaven.

Every one of these branches of Christianity recognizes its obligations to the young within their respective pales, and seems perfectly satisfied, that unless something substantial is done for their uptraining, for their beliefs and their acts, there is no guarantee or security for their own preservation or extension. Of all this they are firmly persuaded, some, no doubt, to a larger extent than others, and, accordingly, they all make some provision for the secular and religious education of the young.

SECTION I.—PROVISION MADE BY HEAD OF THE CHURCH FOR THE EDUCATION OF THE YOUNG.

The divine author of Christianity hath not left the education of the young to the hap-hazard contingencies of ecclesiastical councils or decrees, or to the interested deductions of creeds and denominations, but hath committed to the church the charge and responsibility, and accompanied the trust with all needful instructions, directions and examples. It is not our province to open up any theological controversy regarding the position assigned the young by the God of Israel; but no one, even the most superficial reader of the scriptures, can fail to perceive the high estimate in which they have been held by the Almighty, and the provision made under every new development of the dispensations of His grace for their instruction and training; more particularly his proffering his willingness to Noah, to Abraham, to David and the other heads of the human family, to be not only their God, but the God of their seed for perpetual generations, and the arrangement made for conveying the intelligence of this relation through the medium of the parents. "And these words, which I command thee this day," saith Jehovah to the Hebrew parents, "shall be in thine heart, and thou shalt teach them diligently unto thy children, and shalt talk of them when thou sittest in thy house, and when thou walkest by the way, and when thou liest down and when thou risest up"; and the ratification given to all this, by establishing a testimony in Jacob, and appointing a law in Israel, "which He commanded our fathers that they should make known to their children, that the generations to come might know them, even the children which should be born, who should arise and declare them to their children." What an admirable arrangement this, how well fitted to secure the perpetuation of His cause in the earth, and of the handing

down of His glory from one generation to another! And should the parents backslide or forget their solemn obligations to the God of Israel, who or what party was to see this testimony fulfilled and this law obeyed? Who, but the church, the witnesses of His perfections, the radiators of His glory and the executors of His purposes? The precept, "Feed my lambs," is not less binding on the church than it is a test of attachment to her living Head. The words just quoted, were addressed by the Messiah to Peter, and through him to the church in all succeeding ages; and in very proportion to her obedience to this command, does she manifest not only her attachment to the young, but to Him, who has all power in heaven and in earth committed unto Him, and who still regards with ineffable complacency, this class in the population, as having received from them, when He tabernacled upon earth, the very perfection of praise. It is, no doubt, true, that the exhortations and instructions contained in the Bible respecting the relations of parent and child, and the duties springing therefrom, are addressed directly to these parties, respectively. But, surely, no one will deny that both the one and the other of these are placed under the control and management of the church. Indeed, one of the special ends of her institution is to see that all, in their several places and relations, carry out the will of their glorified Head, obtemper the instructions so plainly laid down in His own testimony.

2. The example of the teacher of Nazareth in reference to the young, ought to give enforcement and stringency to the obligations of the church. It was foretold respecting this illustrious personage, that He should gather the lambs with His arms and carry them in His bosom; that He would pour His spirit upon the seed of the faithful, and His blessing upon their offspring, so that they should spring up as among the grass, as willows by the water courses. And did he not verify, to the very letter, these and similar predictions, did He not ever manifest the deepest concern in the welfare of the young? When His disciples would fain have kept them back from His presence, did He not at once reprimand and rebuke them, whilst He took the little ones up in His arms and pronounced upon them that benediction, which alone maketh rich and addeth no sorrow? Did He not denounce the heaviest woes against those who should dare to offend one of these little ones, stating, as His reason, that their angels do always behold the face of their Father in Heaven? Did He not again and again present them to the surrounding multitude, as a type and exemplification of that humility, of that confiding dependence on God, which all must cherish before they enter into the kingdom

of Heaven? And should not the church throughout all her borders tread, in this respect, in the footsteps of her risen Lord, follow the example of her living Head? What is it that gives such emphasis, such preponderating force to all the other reasons assigned for the weekly rest? It is the example of the Almighty, first, as our creative, and, secondly, as our redeeming God. So should it be in the case before us. Did not the great teacher single out this class in the population, regard it with the benignest complacency, and receive from it the highest hosannahs of praise, for the very purpose of presenting the most powerful argument and motive to the church in all subsequent ages, to spread around the young the wings of her protection, to visit them with peculiar manifestations of her regard, and to be ready to make every possible sacrifice for their welfare and bliss? And has not the church shone forth in resplendent lustre in very proportion to the nearness of her copy of the immaculate example? How exalted the eulogium pronounced upon Abraham, because of his commanding his children and his household after him! How sad, and desolate, and calamitous, on the contrary, the fate of Eli, who, though cognizant of the crimes and the follies of his children, yet restrained them not!

3. But if it is the obligation, it is not less the interest of the church, to befriend the rising generation from the benefits directly flowing to her through their education. The benefits which the church derives from education, have been already elaborated under five or six distinct heads. We have looked at every aspect of the church's great work, and have observed the mighty advantage she derives from education in the performance of every department of that work. Comprehensively regarded, there are just two fields which the church has to occupy, viz., to defend and propagate the truth. How helpless in both these respects is she without education! True it is, that all learning, and argumentation, and zeal will be utterly unavailing unless a higher hand, a supernatural agency gives efficiency to the most suitable instrumentality; but we know right well, that we possess not the vestige of a warrant to expect the outgoings of that agency, unless we have put the instrumentality in the best possible condition, unless we have the natural implements thoroughly refurbished. Nothing will so largely enhance and elevate the church as a high-toned physical, intellectual, emotional and moral education. For her own sake, then, for her own blessedness and usefulness, for her own dignity and glory, should the church seek to promote, in every possible way, the education of the young. Then, indeed, would she go forth fully plished with the materials necessary for the execution of her heaven-born

commission, and cease not from her labour of love until she has prostrated in the dust every antagonistic power.

SECTION II.

And now, is it asked, how is she to do this, how is she to quit herself of her obligations? We answer, in a great variety of ways, both directly and indirectly. 1. She is bound, for example, to employ every moral means to arouse the State to a sense of its duty in providing an adequate and suitable quantity of education. We say moral, for she possesses no other power that she can legitimately employ in such a case. Though the State and the Church are both divinely instituted ordinances, and may co-operate with each other, and largely advance each other's welfare, yet they have each a separate jurisdiction, and may not interfere with or usurp each others functions. We have shown it to be the special duty of the State to provide the adequate quantity of education. It alone has full authority and command over the requisite materials for such an object, it alone is entitled to put the necessary machinery into operation by which such an end may be accomplished. But, if the State is not doing its duty in this matter, the church may expostulate in every lawful way, lifting a decided testimony against its supineness, its indolence, its apathy, and urging it to renewed activity. This the church is bound to do. She ought to make it her duty diligently to inquire, whether the amount of school accommodation is sufficient, and whether the furniture, apparatus, &c., are of the right description; and should she discover that there are grievous deficiencies, on the one hand, or plain and flagrant inconveniences, on the other, she should calmly and firmly expose this condition of things, remonstrate against it in the proper quarter, and continue sounding her protest till the cure is effected.

2. But, more especially, it is the duty of the church to see that the education given is of the proper sort. If it is the appropriate function of the State to attend to the matter of quantity, it is not less that of the church to attend to that of quality. This is the grand business of the church, her high and holy commission. What is she but the great teacher,—“go and disciple, that is, teach all nations.” And who or what party better qualified to judge of the nature of the education required in certain given circumstances, what party better able to decide, whether that education is actually given, what party, whose voice should be heard with equal authority? It is the special province of the church to see that the instruction given be sound—sound, intellectually, in adaptation to the circumstances of the recipi-

ents, and presented in a way that imparts knowledge, and, at the same time, disciplines the mind,—sound, morally, drawn from the unadulterated fountain of divine truth, from the law of the great legislator of the universe. It behooves her to see that the instruction given is catholic, that there is nothing denominational, that the burden of the theology imparted is not so much the dogmatic as the preceptive and hortatory; in short, the requirements of the decalogue, based on the love of God and man. Furthermore, it behooves the church to see that the education given is strictly practical, that in intellectual work, there is the thorough training, and in the moral, the actual doing—the habit-system, so expressly and unequivocally propounded in the sacred scriptures; and who will point out any system more accordant with common sense or sound philosophy, every whit as applicable to literary and scientific as to sacred subjects? What a boon would the church thus confer upon national education, how would it exalt, and dignify, and refine the nation, what lustre confer on her own estate! Not less useful might she be in representing the high qualifications requisite for the officers in this branch of the public service, and in ranking the teachers—male and female—among the benefactors and benefactresses of the realm, in selecting the most valuable text-books, calculated to diffuse a love and a taste for the true, and the good, and the beautiful.

3. But we go a step further, and maintain, that the church is bound to take steps to ascertain whether this education, both in point of quantity and quality, is actually administered. We have said that the instrumentality of the church is mainly moral, but this in her hand, if she uses it with anything like sound judgment, is all but omnipotent. She may, and she ought to do much for the cause of education through the medium of her office-bearers, and especially of the parents within her pale. If Sabbath schools are now regarded as a standing institution by various bodies of professing Christians; if, at their annual conventions or assemblies, these schools engage their investigations and deliberations, why should the week-day school be overlooked or under-estimated? Is not the latter, when properly conducted, a vastly more powerful agency for benefiting the rising generation? If, in the Sabbath school, you can only give religious instruction, and, in the week-day school, you can impart both moral instruction and moral education; if the former is oftentimes neutralized or most materially damaged by the want or inefficiency of the latter, why should not every section of the visible church take an equal interest in the week-day as in the Sabbath-day school, why should not their statistics be as

carefully examined and superintended? All this, no doubt, implies on the part of the office-bearers not only a lively interest in the common schools of the land, but regular periodical visitations, as well as pains-taking effort to aid in their improvement. And how could ministers of the gospel be more profitably employed, or be more like the master they profess to serve! How could they more extensively subserve the highest interests of their own flock, or produce a more healthful influence upon the community around? But it is mainly through the parents that the minister or church will operate upon the educational interests of the rising generation. We have oftentimes referred to the family circle, as not only the type of, but the best preparative for, the Church and State. And to whom or to what party has the All-wise disposer of the human family committed the carrying out of the domestic arrangement? Unquestionably, to the church. It is her bounden duty, her highest honour, to see that every parent quits himself of his responsibility, both personal and relative. The parent may delegate both his teaching and governing power, for so many hours a day to a proxy, but he does not, he dares not abrogate, by one whit, his obligation to his offspring. And here, again, the church may, and ought to interpose, to judge whether the delegate is a properly qualified person, whether he actually discharges his duties aright; and to confer with the parents accordingly, warning and encouraging, exhorting and entreating. This invests the church with deep responsibility, with an all-glorious privilege. Would that, throughout all her borders, she fully sympathized and co-operated with the parent and the State!

RECAPITULATION OF CHAPTER.

The theme of this chapter is as delicate as it is important. The church, whether in receipt of State endowments or not, has certain functions to discharge in connection with the education of the rising generation, more especially in the matter of quality, and yet it behoves her to exercise the utmost care, that she make no unwarrantable encroachment on the province of the State. The safety and utility of both the Church and the State, is for each faithfully to do its own work, and then there will be little fear of the one usurping or over-riding the marches of the other. The consignment to the State of the matter of quantity and to the Church that of quality, makes, we think, a sufficiently broad line of demarcation. Let each walk in its own pathway, and not only will there be no

interference, but the great cause of popular education—a cause essential to the welfare of both Church and State, will flourish and prosper. In almost all national educational enactments, there is provision made for the visitation of all the accredited clergymen of the section; all such are not only invited, but earnestly entreated to visit the schools and to offer such suggestions as they deem advisable; so that they not only go with direct authority, but with the assurance that their suggestions will be treated with becoming respect and attention. It would be well that every church availed herself of this opening and opportunity of usefulness, and urged both diligence and faithfulness upon her ministers in this matter. We believe, in not a few instances, in the neighbouring States, the ministers of religion retired from the educational department, and left the laity to legislate and administer as they thought fit, and hence the secular views, the low moral standard that but too generally prevails, and which cannot but be productive of the most deteriorating influence upon their otherwise admirable system. So will it be in every case where the church either retires from the field or is apathetic, or does not manfully and faithfully maintain the position in every State to which she is entitled, and which the State, in most cases, is ready to accord to her.

CHAPTER III.

NATIONAL SYSTEMS OF EDUCATION.

MEANING OF NATIONAL SYSTEM. 1. WHAT SHOULD A NATIONAL SYSTEM EMBRACE—*a.* DISTINCTIVE FEATURES OF SCHOOL, COLLEGE AND UNIVERSITY; *b.* DIFFERENCE BETWEEN SCHOOLMASTER AND PROFESSOR.

Meaning. By a national system of education, we understand a system that has received the legislative sanction of the nation, is under its control and administration, and intended for the benefit of all within its confines. It differs widely, as already indicated, from a system that has a reference to the mode of carrying on the teaching process, as the monitorial, or the objective, or the training system. It principally refers to the exterior arrangements, such as the division of the country into suitable school sections, the erection of school-houses, the support of the officials, and the provision requisite for the proper quality.

What embraced in a National System. It is our calm and deliber-

ate conviction that a national system of education, to be complete and productive of all the benefits of which it is capable, should embrace all the gradations, whether endowed in the same manner or not; that is, it should embrace, in so far as the educational process is concerned, the school, the college and the university. These institutions are distinct in their objects and their aims. Yet all these departments, whether regarded in their inner or corresponding outer processes, maintain an essential dependence, rise in beautiful consecutive order, from the lowest basis to the highest elevation, from the foundation to the cope-stone of the educational fabric. No State or Province can, therefore, be said to be complete in its educational apparatus, without the establishment and vigorous operation of this threefold series. This is an important thought, and did our space admit, we might, with profit, expatiate upon it at some length, taking up each, seriatim, the school, the college and the university, and discussing them in their distinctive features, their relations and their reciprocities.

a. Distinctive features of School, College and University. In reference to the School, we might show, for example, that its primary business is not so much to impart knowledge as to awaken a demand for it, and to furnish the means of meeting that demand. If there is no taste or relish for any one object, there will be no desire for it, and by consequence no exertion made for its possession. This is the case with all the initiatory stages in the acquisition of learning. Some children may, by nature, be inspired with a stronger desire than others to find out the causes or reasons of things; but the early stages in the attainment of knowledge, is, to all, accompanied with a considerable amount of toil, and but a slender share of enjoyment; and all by reason of a lack of demand, an utter indifference as to the thing itself. Let the demand be once created, and slowly, yet surely, will it become the most insatiable, and the most delightful of acquired desires. It will rise superior to every obstruction, and every succeeding difficulty bravely and manfully met, will but render this demand all the more loud and imperative. But what availeth all this thirst for knowledge, unless the young are provided with the means of gratifying it; and to impart this is another high function of the school-room. The means essential for the acquisition of knowledge are either direct or indirect. Of the former, the senses are the most important. The organs of seeing and hearing ought, therefore, to be cultivated in all the initiatory departments of learning; the latter, as a sedative in the securing and preserving of order as well as a stimu-

lant to intellectual vigour; the former, as not only of great practical utility in the whole range of æsthetics, but of paramount importance in the analytical processes of the higher exercises of mind. But our own powers of observation are, at best, exceedingly limited; and, therefore, for the augmentation of our stock of knowledge, we are greatly dependent on the observation of others. And what are the means by which we obtain access to their accumulated treasures? They are just the branches of a common school education. The letters of the alphabet, numerical figures, and algebraical symbols are the marks by which language is made visible. Facility in reading and writing, then, amounts only to the means of intelligent intercourse with other minds. They are but the tools, which science uses. We employ them as the means of getting a knowledge which otherwise would be entirely beyond our reach. But enough. The school in the educational series has its own peculiar work, which, if neglected, cannot be done elsewhere, or, at least, can be done very imperfectly. It not only constitutes the substratum upon which the whole rests, it deeply and universally affects the superstructure reared upon it. If there is a flaw or imperfection here, it will carry its baneful influence into the college and university, nay, into every pursuit and employment of life, and largely militate against the future progressive career of the parties involved. You may try to supplement their defects, by what are styled preparatory or collegiate schools, but unless these schools are conducted, not on the plan of the college, which they generally are, but on the plan of the school, they will serve no useful purpose.

Then, again, in reference to the College, we might show that this word means, in its more general acceptation, a collection, an assemblage or a society of men, invested with certain powers and rights, performing certain duties, or engaged in some common employment or pursuit. In a more restricted sense, and as a branch in the educational series, it means a high seminary of learning, either in literature, philosophy or science, in the world of matter or of mind, in things human or divine. It is generally employed to characterize what is designated a Faculty of Arts, and comprehends the following subjects with their professorial chairs, requiring four or five terms to complete the course, and covering a period of not less than three years:—

1. The higher departments of Latin and Greek, and Mathematics;
2. Logic and Metaphysics, or Intellectual Philosophy;
3. Rhetoric and Belles Lettres, with history of English literature;
4. Moral Philosophy and Political Economy;
5. Natural Philosophy.

The object of the college is to impart the highest and the best knowledge

on any one specific branch, and implies that the students in attendance become thoroughly familiar with all its facts or phenomena, their causes and laws, the methods of investigation and combination, the analytical and synthetical processes. Thus, there is a wide and radical difference between the school in its highest stage and the collegiate institution; and yet they stand in close relation, so much so that the full benefit cannot be derived from the latter, unless the former has done its part, and done it right well. The first grand aim and object of the college, is to convey to the student the accumulated stock of knowledge on any one given subject in the walks of literature, philosophy or science; but how could this be effected without our being provided, through the medium of the school, with the means of getting at that knowledge, the prelections of the professor going little beyond the great leading outlines, and merely pointing out the sources whence the minute details are to be derived? Another object of the college is to investigate phenomena in some one department of nature or of art, to seize upon their laws or principles, and to trace them through all their diversified relations, both to the world without and the world within, so as to be properly equipped for the high platform of generalization; and yet how could all this be achieved with any measure of success, save by the training in methods and arrangement, which the students have received by their passing through a course of sound elementary education at school? In one word, the college is designed, and eminently qualified, to satisfy the thirst for knowledge in any one department; the school, to awaken the thirst.

Lastly, as to the University, we might show that this term in some countries is of extensive signification, comprehending all the public schools and seminaries of learning, from the most initiatory to the highest and most distinguished college, though in Great Britain it has received a more limited application, denoting an assemblage of colleges, or an aggregate of advanced seminaries. Universities were originally intended to prepare and qualify for the learned professions, but in modern times, they have considerably extended their sphere of operation; and been made to comprehend professorial chairs or lectureships for expounding the science of the practical or economic pursuits of life. Accordingly, a well-equipped university, whether under the same roof or in separate colleges affiliated, consists of four distinct faculties—Arts, Medicine, Law and Divinity, with the additional classes just referred to, sometimes designated special courses.

The Faculty of Arts has been already noticed. The Medical Faculty is more or less complete according to circumstances. If, of

any repute, it has seldom less than six or eight distinct classes, presided over by separate professors, who, besides the general knowledge of their profession, have had their attention specially called, both by inclination and external circumstances, to some one department, and who have, in consequence, signalized themselves therein. The Medical Faculty of McGill University, Montreal, one of the most celebrated in the British colonies, if not on the whole continent, has the following distinct classes, with their professors for each:—1. Anatomy; 2. Chemistry; 3. *Materia Medica*; 4. Institutes of Medicine; 5. Practice of Medicine; 6. Surgery; 7. Midwifery; 8. Medical jurisprudence; 9. Clinical lectures; 10. Clinical surgery, with one course of Botany and Zoology. All these classes the candidates for an M. D. are required to attend.

The Law Faculty is generally composed of a staff of three or four professors; one, for public or constitutional law, another, for the law of contracts, a third, for the law of real estate, and a fourth, for civil law.

The Theological Faculty, both before and after the reformation, was considered the most important of the whole. Indeed, but for the training of a native ministry for supplying the Christian pulpits of the land, the majority of these universities never would have been originated, and it was only in so far as they served this purpose that they flourished and were perpetuated. In countries where there is no established form of religion, this faculty, as a matter of course, does not, and cannot, exist. In such circumstances, each branch of the Christian church is bound to support its own Theological seminary. In every well-furnished seminary of this description, there are, generally, five or six professors:—1. Systematic Theology; 2. Hermeneutics or Biblical Criticism; 3. Ecclesiastical History; 4. Greek, Hebrew and Oriental Literature; 5. Pastoral Theology. In addition to these faculties, which go to make up every well-equipped university, special courses, as we have just hinted, have been recently introduced, intended to impart a knowledge of the principles involved in the various economic and industrial arts, such as agriculture, engineering, navigation, surveying, commerce, and, as intimately connected with some of these, modern languages, which cannot fail to prove of great practical utility, and to render those institutions, nationally, vastly more serviceable. Such is a brief sketch of a well-equipped university, whether it consists of one building or of a number of separate colleges, all associated together for the furtherance of one great object, and, with the exception of the theological department, such a university we hold to be at once the duty and the interest of every State or

Province to found, patronize and support to the utmost of its ability; and that, for the following, among other reasons:—1. Because it will exert a beneficial influence on all the other educational institutions of the land. 2. On all the learned professions. 3. On the whole economic welfare of a country.

b. Difference between a Schoolmaster and Professor. And if this difference and dependence characterize the aims and objects of the school and college, they affect, materially, the qualifications of the living agents, respectively, who preside over them, namely, the teacher and the professor. The attainments and qualifications required, by the former, are general; those, in the latter, specific. The professor ought to be *facile princeps* in his own department, not merely because he has devoted a great portion of his time and energies to its study and the study of its cognate branches, but because he possesses a natural inclination, a decided bias for its prosecution. The schoolmaster, on the other hand, with fair general scholarship, ought to be theoretically and practically a thorough proficient in all that appertains to method, involving an extensive knowledge of psychology on the one hand, and the modes of operating on the human mind for the production of certain results, on the other. In one word, the teacher has mainly to do with the art of communicating knowledge, the professor with the amount communicated; the one has to awaken a general spirit of enquiry, to stir mind at large; the other has to beget an enthusiasm for the subject under consideration, and to put those engaged on the right road of prosecuting the investigation for themselves.

But we cannot enlarge on these topics. We have surely said enough to satisfy every unprejudiced mind as to what ought to constitute a complete national education. If the educational process itself embraces the school, the college and the university, if these all benefit one another as the members of one grand series, acting and reacting the one upon the other, and conducting to one common result, then it is clear that if nations look to their own interest, they ought to provide for more than a mere elementary system of education, even a college and university, or, if need be, a number of them. Then, and not till then, will the school receive justice at the hand of the nation.

RECAPITULATION OF CHAPTER.

We have sketched the outline of a national system. There are few, indeed, that approximate in completeness to the plan we have

just given. Many seem to consider the most elementary instruction as constituting a national system, and would regard the encouragement and endowment of grammar schools and gymnasia, and far more of colleges or universities, as little else than a waste expenditure of public revenue, for the purpose of saving the rich, who are perfectly competent to provide an advanced education for their children. Whatever be the source of the endowment of these collegiate institutions, whether it flow from the liberality of private individuals or the general revenues of the State, this does not, and ought not to affect the national character of these institutions, as the grand terminal link in the educational series. Let the endowment come from whatever quarter it may, what we plead and contend for is, the non-isolation of these colleges, their constituting part and parcel of the national system, that their power and influence may be felt in regulating and stimulating all the subordinate seminaries, from the primary schools and upwards. It is the educational relation that we mainly look at and insist upon. Colleges and universities are of inestimable value in themselves, in the benefits they bestow upon the body politic, upon the whole economic pursuits of life, upon the employments of the humblest artizan; but what is all this in comparison to their relation to, and in their influence on all the links of the educational chain, from the lowest extremity and upwards. Surely, it does not need here to be stated that the collegiate institutions, forming part of the national system, are entirely free of denominationalism, are purely catholic, are intended for the promotion of literature, of philosophy, and of science, and whilst they are all conducted upon the broad basis of our common Christianity, they repudiate out and out the introduction of anything savouring of denominationalism. The devotement of any part of the public funds of any professedly Christian nation, for the support of seminaries within its confines, that have for their object the training of a native ministry for the various branches of the Christian church, is not only latitudinarian, but infidel in essence; and if that nation upholds a national system of education is a stultification of its own course of procedure, is an act of the most egregious, the most flagrant inconsistency. It is the province of the legislature of every country to make provision for a college of the faculty of arts, and if it will, to affiliate therewith both a legal and medical faculty. It is the province of every denomination of the Christian church, to make provision for the support of a theological faculty, for the training of a native ministry for these denominations respectively.

CHAPTER IV.

SUPPORT OF NATIONAL EDUCATION.

SECT. 1.—VARIOUS MODES OF SUPPORT. SECT. 2.—DIFFERENT WAYS OF LEVYING DIRECT TAXATION.

SECTION I.

National systems of education do not at all imply a similarity in their mode of support. It is undoubtedly one of the most important functions of the State to provide for the adequate support of the system it adopts, but as to the nature, or extent, or way of raising that support, there is no fixed or definite universal arrangement. Every State has its own plan of operation in adaptation to the external circumstances in which it may be placed, or to its past history in connection with this branch of the public service. Some possess large endowments in the shape of legacies, which they hold in trust for common or specific educational objects. Other nations, again, are all but entirely dependent for the support of their educational system on the means annually provided by the legislature. The ordinary plan is to appropriate a certain amount of the general revenues of the country towards this object, and to make provision, by legislative enactment, for the supply of the deficiency, by local effort. This may be done in a great variety of ways, either by taxation, or subscription, or school fees, or rate bills. And here the question arises, which is the preferable mode? Some, perhaps, will reply, that it is a matter of absolute indifference, provided the adequate amount is realized, that it is the sum, and not the mode pursued in raising it, that is to be looked at. We happen to regard the matter in an entirely different light. Whilst we would not undervalue the amount raised, we consider the way in which it is done to be of vital moment; and, especially, as this is one of the means by which the inhabitants of any country can be aroused to just, and adequate, and interested views on the whole subject of education. It is right for the nation to concoct measures, and to pass legislative enactments for the purpose of raising the sum requisite for the support of the same; but it is a notorious fact, that though we are living in the nineteenth century of the Christian era, there are nations, the inhabitants of which are in a state of utter supineness, if not of deadness, in reference to the whole cause of education, not only callous in its promotion, but altogether destitute of a knowledge of the relations subsisting between education and a nation's

prosperity and happiness; and the question that here presses itself upon our attention is, whether something cannot be done in the matter of legislation by which such lethargy may be dissipated, and a proper appreciation of education instilled into the minds of the people at large? We have no hesitation in declaring that much may, and much ought to be done by statesmen and patriots in this matter, and, as already hinted, in nothing can this be more effectively or extensively done than by the mode in which the necessary support is raised, even by assessment.

Many arguments might be adduced in favour of this position—of direct and immediate taxation for the support of education. We might, for example, show, in the first place, that this system of support, which exalts education to be the birthright of every child of the realm, is at once the best and the cheapest. 2. That it dissipates with one stroke every vestige of excuse, both of non-attendance and irregularity of attendance on the score of poverty, thereby dignifying and ennobling mind, by the removal of every inequality or obstruction in the way of its culture or refinement. 3. That this mode of support is most entirely in accordance with the great principles and ends of civil government. 4. That it exhibits, in bold relief, a portraiture of the golden rule of benevolence that signalizes and adorns the whole genius of Christianity—that we ought to dispense our property for the good of others, not according to what we have not, but according to what we have,—“Every one shall give as he is able, according to the ability wherewith the Lord hath prospered him, that there be an equality.” 5. That it hath left an impress upon the State that originally adopted it, by which it stands forth not only foremost amongst the other nations of the earth for intelligence, industry and morality, but foremost amongst the other States of that union, of which it forms a part. 6. And that all the objections usually brought against this mode, such as the injustice of building school-houses and upholding the cause of education, when we have no children under our roof to participate in the boon, may, with equal effect, be brought against every other species of taxation, plainly and palpably arising from the necessities of the social compact.

But all these arguments, however plain and forcible, and however much they commend themselves to the approbation of the reflective, dwindle, in our estimation, into utter insignificance in comparison to the one to which reference has been made, viz., the great power that this mode of support possesses in awakening and arousing communities and nations steeped in indifference and apathy, to something

like an adequate sense of the value of a universal education, enlisting their sympathies, and calling forth their co-operation and zeal. And all this it effectuates, obviously, by the direct appeals it makes to the selfishness of our nature. Need we wait here to depict the selfishness of humanity, or the mastery it exerts over all the other powers, and principles, and sensibilities? And where are we to look for the embodiment, the incarnation, so to speak, of this power? Where, but to a man's property, his possessions, his means, his wealth, his purse, his pocket. This is the mainspring of all his other thoughts and desires, of all his words and acts. This is the object of objects; the subject of subjects. This is the mainspring that sets and keeps in motion the whole machinery of man's complicated nature. Touch any part of this, however insignificant, and you touch a cord that will thrill and reverberate throughout the whole system, even to the utmost extremities, that will rouse into life and activity the most latent springs, opening up fountains in the wilderness, and converting dry lands into pools of water. Compel a man who has amassed his hundreds of thousands, to pay, by the law of the land, his fifty dollars towards the erection of the new school-house in his section, or his twenty dollars annually towards the remuneration of the teacher, and that very individual, heretofore unaccustomed to the very sound of the word education, now becomes all alive to its importance. He minutely examines the work of the tradesman in the erection of schools; he takes care that a proper and competent teacher is appointed; and, above all, he employs every possible means to secure the regular attendance of all the children within the confines of his section. Such we hold to be the natural and legitimate effect of direct and immediate taxation on the community at large, in support of education. It may not be productive of all these beneficial results at once, but it will gradually leaven the minds of the intelligent and best conditioned, call forth their energy and zeal, invest them with a personal identification in all that transpires on the subject, and lead them to watch, with the most vigilant eye, every step that is taken in educational matters.

SECTION II.

But we cannot continue this strain of observation farther. It were more to our purpose, did we here briefly advert to the way in which such a measure, in adaptation to our external circumstances, and, with great general advantage, should be carried into effect. It is well known to many of our readers that the first intimation we have of this system, the great principle of which is,—that the property of all

shall be taxed by the majority for the education of all—is on the records of the city of Boston for the year 1635, within five years after the landing of the pilgrim fathers on the Massachusetts's shores, when it was determined, at a public meeting, that a schoolmaster be appointed for the teaching and nurturing of the children, and a portion of the public lands given him for support. In a few years afterwards, in 1647, the Collected Association of Massachusetts made provision by law, that every town where there were one hundred families, should keep a school, where youth should be prepared in Latin, Greek and Mathematics, for the college or university, which, in 1638, had been established by the same authority at Cambridge. Thus it is clear that the whole sum required for the support of education was at that time raised by direct taxation. Now, though we believe, that it would prove in every way advantageous to the cause of education, and to the country at large, were the same course pursued, yet there is no nation, as far as we know, that has done so in the adoption of the free system ;—this has always been with certain modifications. The province of Ontario, for example, makes an offer of a certain amount to every county or municipality, on condition of its raising an equivalent by assessment, which being done, all the schools are declared free. In the province of Nova Scotia three parties or constituencies are recognized ; the province at large, the county, and the section. The province, out of its general revenue, gives a certain amount to each teacher, according to the class of certificate held ; the county raises by taxation, at the rate of thirty cents per head, which is distributed amongst the teachers according to the average attendance of scholars, and the deficiency is made up by the section, only by assessment. The following is the plan we proposed years ago ;—a third, to be paid by the province, another third, by the county, and the other, by the section—the section being allowed to raise the amount in whatever way the inhabitants may deem advisable,—a guarantee, of course, being given of its being raised before the other two-thirds could be drawn from the treasury or county. We refer to this matter here for the purpose of showing that the free system may be carried into effect in various ways, and in adaptation to all external circumstances. We believe, too, that something may and ought to be done, by which, in perfect consonance with the free system, a closer relation shall be established between the parents of the section and the teacher. This, in our view, would impart tenfold force and lustre to the whole scheme, and render it all the more accordant with the findings of nature and the teachings of inspiration, as well as more acceptable to the people.

RECAPITULATION OF CHAPTER.

This is, perhaps, the most interesting and important topic belonging to the Exterior of education. We have studied and canvassed it in all its aspects and bearings; we have examined and compared the various plans, with their modifications, pursued both in the old and new world; and it is to us only matter of regret that we have been obliged to confine ourselves to a few general observations on the superior claims of direct taxation, and on the ways in which this assessment principle is usually levied.

This has an extensive range. It is something more than a matter of pounds, shillings and pence;—something more than an attempt to ascertain the cost of the education of every child in a national system;—something more than the realization of the amount necessary for the maintenance of this branch of the public service. It involves, and that very largely, the position and respectability of the teacher; it affects,—and that most deeply,—at once the quantity and quality of a national education, and it is, when regarded in these aspects, that it is invested with a magnitude and importance, far surpassing every other consideration. But it is, especially when looked at in the last aspect, as affecting the quality of education, that it rises to its highest platform—its real point of elevation, evincing the sagacity, the self-denial, and the philanthropy of the pilgrim fathers, when they conceived the magnificent idea of a free and universal education for the people. How forcibly is the conduct of these devoted men thus delineated in one of the reports of the Secretary of the Massachusetts Board of Education:—"Two divine ideas filled their great hearts,—their duty to God and to posterity. For the one they built the church, for the other they opened the school. Religion and knowledge!—two attributes of the same glorious and eternal truth,—and that truth the only one on which immortal or mortal happiness can be securely founded."

 CHAPTER V.

SUPERVISION OF NATIONAL SYSTEMS OF EDUCATION.

1. CENTRAL BOARD WITH SUPERINTENDENT OF EDUCATION.
2. COUNTY OR DISTRICT COMMISSIONERS WITH LOCAL INSPECTOR.
3. TRUSTEES OR MANAGERS OF SECTION WITH SECRETARY.

The proper supervision of every branch of the public service is of primary importance. The branch itself may be in highest equipment,

in admirable adjustment; the organization may be as complete as the circumstances will admit of, and the officers universally allowed to be perfectly competent for their respective situations; but unless there be an experienced and ever vigilant superintendence, the whole department may prove a comparative failure, or, at least, be anything but efficient in its operations. And all this is as much the case with education as with any other branch or department of the public service. And the first point that should here engage attention, and be well weighed, is that of centralization, or the business devolving on the central presiding agency and that of the various subordinate committees scattered over the country, and intended to carry out, in the different localities, the will and the instructions of the central power. Whatever may be the jealousies or suspicions that may be generated, if uniformity is to obtain, centralization is indispensable; in other words, the first thing to be done in carrying out a national system of education, is the appointment and constitution of a Central Board or Council of Public Instruction, of which Council the Superintendent of Education ought to be *ex officio* a member, and act in the capacity of Secretary. On this Board devolves the whole management of the educational interests of the country, from the common school to the university; it possesses and directs all the endowments, and expends all the money that has been or may be granted in support of the national seminaries; it makes and alters, from time to time, with consent of the Governor and Council, any statutes, rules and regulations that may be deemed necessary for the government and discipline of the same; it appoints and removes, from time to time, teachers and professors, and other officers; it prescribes and fixes their duty, their qualifications and remuneration; it makes or alters, as may be deemed necessary, from time to time, any statutes or regulations touching the granting of certificates to common school or academic teachers, the course of study pursued by the same, the establishment of scholarships in the university or in all the affiliated colleges, the examination for matriculation, degrees, scholarships, &c.

The necessity of this Board no one calls in question. The whole dispute here has been about its composition, and that has mainly turned upon the point, whether it should be political or non-political. Accordingly, the greatest diversity prevails amongst the nations of the earth in reference to this matter, some pursuing one course, and others another. Those nations that maintain that education ought to constitute one of the departmental offices of the State, are either provided with a Minister of Public Instruction, charged

with this work, who generally has associated with him a few of the supporters or members of the government, whose advice he takes on every special and trying occasion; or, it may be, the executive constitute the Council of Public Instruction, in which case, the leader of the government generally assumes the responsibility connected with the actings of the Board. Those nations, again, that maintain that education should be entirely removed from the arena of party politics, that it is too sacred a subject to be tossed about upon the platform of political partizanship, have, generally speaking, a Council of Public Instruction, distinguished for their enlightened educational zeal, whatever may be their political creed, and these selected from the leading denominations of professing Christians in the nation. The views and the opinions of this Board on any important educational matter, are presented to the country through the medium of the government of the day. Though in deciding a matter such as this there may be specialities or peculiarities in the condition of the nation, political or educational, which for a time may determine the adoption of the former line of procedure, yet, as a general rule, and in ordinary circumstances, we have no hesitation in avowing our adhesion to the latter view, and declaring our preference for the preservation of education, as far as it is practicable, free from party politics, and in making provision accordingly. This view, or preference, arises mainly from the nature of education itself. If there is one feature or law in education more conspicuously displayed, more prominently exhibited than any other, it is that of progression or the law of advancement. This enters into its very essence, both theoretical and practical, demanding at once a safe and solid foundation, and a continuous and consecutive uprearing. And how can this be effected, if there are changes in the educational, as frequent and as radical as are presented to us in the political world? By such changes an arrestment or impediment may be imposed, by which the leading wheel may go backward instead of forward, may retrograde rather than progress. The polity of the retiring government in educational matters, may be perfectly distinct from that which has succeeded, and thus the whole interests of this important branch of the public service may be staid or subverted for years, thereby destroying both the advancement of sound theoretical views, or working out any universal practical improvement.

But, whatever be the constitution of this Council, all will be of comparatively little value, unless there is an efficient officer in the capacity of Superintendent of Education, to see that all its judgments

are to the very letter carried out. More particularly, it is his duty to see, that all the provisions of the acts on education, and all regulations regarding Universities, Normal, Common and Grammar schools are duly executed; to visit Grammar schools or Academies as often as practicable; to ascertain that all the Inspectors of schools do their duty; to prepare and lay before the Council such regulations, regarding the grades in the series of education, as he shall judge expedient and advisable; to prepare and transmit all correspondence which shall be requested or authorized by the Council; to have the immediate care, management and payment of all money; to endeavour to provide for and recommend the use of uniform and approved text-books; to prepare suitable forms, and to give such instructions as he shall deem necessary and proper for making all reports; to decide upon all matters of complaints that may be submitted to him by any person that may be interested in Grammar or Common schools; to apportion whatever sums of money that shall be granted by the legislature for the support of school libraries, &c.; to be responsible for all moneys paid through him, and to give security for the same; to make to the government and legislature a report of any national University, Normal and Model schools, Grammar and Common schools throughout the Province, or country, &c.

The next matter is the constitution and appointment of local Boards for the transaction of all local affairs in a national system of education. The organization of these Boards will naturally depend, in a great measure, upon the already existent civil arrangements. Whether the various counties, or shires, or divisions have yet been subdivided into regular municipal corporations, or whether these only extend to towns and cities; all this will give shape and form the most convenient arrangements for the educational Boards. Two or three counties ought to be combined as a field of operation for a local Inspector, appointed by the county or municipal Boards, on the recommendation of the Superintendent of Education. Whatever may be the opinion of some in reference to these intermediate Boards, there cannot be a doubt that an efficient body of Inspectors would add largely to their usefulness, would turn to profitable account their operations. There is, perhaps, no office of greater importance in the furtherance of national education than that of Inspector, whose duty is now generally understood to extend to the following matters:—1. To see that the whole spirit and letter of the law are rigorously carried out in the district or counties committed to them. 2. To stir up the inhabitants, generally, in the cause of education, by the delivery of lectures, circu-

lation of tracts or pamphlets, &c. 3. To secure the best and most suitable teachers for the locality. 4. To visit the schools, periodically, and both by the stated teachers examination and his own, thoroughly to test the scholars on their technical knowledge and general intelligence. 5. To examine, closely, the various registers; and, lastly, to write out a report on the condition of the school, to be forwarded to the trustees for the inspection of any party or parties living in the section. This office demands the highest qualifications, both professional and literary, and should be amply remunerated.

The third and last Board, or committee of management, is that which presides over a school section, generally elected annually by all rate-payers, to represent them in carrying on all the negotiations connected with educational matters during the course of the year. The division of the territory into sections, the appointment of efficient trustees, and the faithful discharge of their various duties in keeping alive the cause of education, through the assistance of the teacher, and otherwise, lie at the very foundation of the whole nation's education, without which no decided progress can be made. Much here, again, depends on the efficiency of the secretary of these trustees, who should possess the requisite qualifications for his office, and be well remunerated. The duties of these trustees need scarcely be enumerated. They involve all matters connected with the engagement and labours of the teacher—all the exterior arrangements for the comfortable accommodation of the pupils, and the arousing of the people generally to an interest in the subject.

RECAPITULATION OF CHAPTER.

In the preceding chapter, we have merely indicated the various topics worthy of consideration in the matter of supervision. The whole of that work depends on two classes of agents, the one gratuitous and the other paid. It is hard in a young colony to obtain the qualified individuals to constitute these Boards, and when they are to be found, they generally regard time as their capital and husband it for the promotion of their temporal aggrandizement. When we visited the New England States for the first time, nothing arrested our attention more, or drew forth greater admiration, than to find so many highly educated gentlemen, merchants, bankers and professional men, devoting so much of their time and energies to the cause of education. This was refreshing indeed. Such individuals in these colonies are few and far between; they require to be trained; but

unquestionably they are in progress, and ought to be educated and encouraged. Nothing would do this more extensively, than to hold up prominently before their mind's eye the supreme value of education, in the promotion of their personal and social prosperity alike in Church and State. Another thing that will go far to render the labours of these men more useful and efficient, is the pecuniary remuneration made to the paid agents. It is now all but universally admitted, that a paid agency is indispensably necessary, even for carrying on any benevolent or evangelistic enterprise. And this is especially so in the carrying out of national systems of education. Superintendents and Inspectors should not only be paid, but paid well so as to command the highest talent, the most extensive attainments, and the utmost skill. No Superintendent of Education should have less than £500 sterling, per annum, nor a well qualified Inspector, who dedicates the whole of his time to his business, less than £300 sterling. This will prove the most economical way in the long run, and render the gratuitous labours of the central and local Boards all the more efficient and valuable.

CHAPTER VI.

LEGISLATIVE ENACTMENTS.

1. SUBJECTS OF LEGISLATION. 2. ORDER OF SUBJECTS.

The whole matter of legislation on national education, or of what may be styled educational jurisprudence, is comparatively in its infancy. Considerable strides have, no doubt, been made in this, as in every other department of national education, during the last quarter of a century or more. This has been the case in new countries, and, especially, in the Western States of the American Republic, and in some of the British Colonies, both East and West. In old countries everything of an educational character is so completely stereotyped, and there are such divisions into classes, parties and creeds, that it is no easy matter to make any radical change on the existing condition of things. For the truth of this remark we have only to glance at the modern history of Great Britain and Ireland. How many royal commissions, for example, have sat during the last fifteen or twenty years to gather statistics and general information

on the subject of education! How many schemes, by the leading statesmen of the day, have been propounded and published! How many Bills have been laid on the table of the Imperial Parliament and withdrawn! In new countries, however, where all is buoyant and elastic, no such obstructions lie in the way, and, accordingly, in some of these, important educational laws have recently been passed and great improvement effected upon those of older countries.

1. *Subjects of Legislation.* And here, it may be asked, what is the first educational matter that ought to be considered in any legislative measure? In answering this question, it may be of advantage that we refer to a distinction oftentimes made in the preceding pages—the distinction between the inner and outer processes of education—a distinction which, because it has not received the attention it is entitled to, has led to many mistakes in legislative enactments. It has been again and again stated that the former comprehends all those duties arising from the relation subsisting between the teacher and the taught; such as, the organization, the management and government of schools, the branches taught, method of teaching them, &c. The latter, or the outer processes, comprehend all those duties or functions that, properly speaking, belong to the statesman or the legislator; such as, the territorial divisions, from the individual school or section up to the highest class, the erection of school-houses, with all their appurtenances, including apparatus, text-books, &c., the mode of support with its appropriations, the qualifications of teachers, examinations for certificates, &c., the different Boards, with their respective functions and their paid agents. These, properly speaking, fall under the cognizance of the legislature; these are the main points to be adjusted in an educational act. The others, or the inner functions, will naturally fall to be given in the shape of instructions by the different Boards, from the highest to the lowest, with their corresponding officers, which instructions cannot be too particular, or deal too much in detail. Here the Council of Public Instruction, or presiding agency, must step forward and assume the responsibilities, and functions, and obligations which belong to it. Here come in the power, and the skill, and the profound, yet delicate, instrumentality of the Superintendent of Education. Here is he required to give forth the most enlightened and enlarged views of the end of education, the means best calculated for subserving that end with the functions of the subordinate Boards, and the duties of those appointed to carry out their instructions. His influence, his zeal and enthusiasm should pervade the whole machinery, not merely awakening every teacher to a sense of his responsibility, but moving and

operating upon all the activities and sensibilities of every scholar. It is exactly like that of the Field Marshal, on the day of battle, his instructions not only influencing every member of his staff, but every soldier, even to the rawest recruit. This evinces the stupendous importance of the office referred to, and shows, very impressively, that no means should be spared to obtain the best qualified person to fill it, at whatever cost. A paltry economy, here, may lead to the wasteful expenditure of hundreds upon hundreds in other quarters. He must be a man not only of great sagacity and discretion, of profound literary attainments, of high professional skill and experience, but of marked and signal administrative capabilities.

2. *Order of Subjects.* Two plans may be pursued in the arrangement of the subjects in a legislative enactment. First, we may take up the different subjects as they rise in their importance, beginning with the territorial division of the Common school section, and proceeding as high as the Council of Public Instruction, or the presiding agency. And, perhaps, there is no better order than the one indicated in the preceding section, filling up, of course, all the intermediate defects. The other plan that may be adopted, is to commence with the central power and its paid official, the functions to be discharged by that power, the appointment, the duties, &c., of the Superintendent; then to descend throughout all the local Boards, till we terminate with the lowest class of managers or trustees, with their appointments, their offices and responsibilities. Or the whole of this arrangement may be reversed. We may commence with the trustees, the teacher and the people of the section, and proceed higher and higher until we arrive at the central Board. This is the mode pursued in some enactments, and though to some it may appear the more logical, they cannot bring together the different parts in consecutive order, or in their dependencies upon the higher functionaries. We give a decided preference to the order followed in the Nova Scotia enactment. Here, the greatest care should be manifested not to blend or confound the peculiar instructions of the Council of Public Instruction, or the presiding committee, in dealing with inner work, and the points that appropriately belong to the legislature.

RECAPITULATION OF CHAPTER.

We have briefly adverted, in the preceding chapter, to the subjects, and the order of legislative enactments on education. Though we have drawn what we conceive a proper distinction in reference to the sub-

jects of legislation, we are far from maintaining that others may not be introduced into school laws, or that the order pointed out is to be considered irreversible. Every wise statesman will, in concocting a legislative measure upon education, naturally endeavour to secure, in as far as these are attainable or practicable, two things,—first, the matter of quantity, and second, that of quality. The points which will most extensively secure the former, are the outer organization and the mode of support. The three points that will most extensively secure the latter, are, gradation, branches, and the qualifications of teacher. How admirably are the legislative enactments of Prussia and many of the German Principalities concocted with a view to these ends! So is it with many of the Cantons of Switzerland, and most of the New England States. It might have been profitable to present, in tabular form, a few of the provisions of national educational enactments as specimens, such as those of Prussia, France, Switzerland, Scotland, Ireland, Massachusetts, New York, Ohio, the provinces of Ontario and Nova Scotia, but our space will not now admit of it. And in winding up the whole of the exterior of education, whilst one cannot help perceiving much that is excellent in those national systems, no reflective mind can fail to mark the great and grievous defects which mar, less or more, the working of them all, more especially, the want of a thorough uniform inner system of physical, intellectual, emotional, æsthetical and moral education, of a class of truly qualified teachers, and of the due and legitimate recognition of the three parties of authority and control,—the State, the Church, and the Parent. It were vain to expect that national systems can produce those glorious results, for which they are destined, so long as these wants exist. Let philanthropists, and statesmen, and educationists, and teachers labour on in their high and benevolent undertaking. Let them retain their distinctive walk, whilst they mutually co-operate with one another in the achievement of the same noble purpose;—and, especially, let this be the case with the State, the Church, and the Parent: and soon, very soon, will the benefits of a sound, wholesome, national education be not mere matter of speculation, but of great living practical realization—soon, very soon, will it be seen to constitute not merely the main bulwark and fortification of all other benefits, but their highest prosperity, and glory, and bliss.

CONCLUSION.

We have now finished our work. The object of that work, as stated in the preface, was to present a consecutive, compendious view of the whole subject of education, of its inner and outer processes, as a science and as an art; and this for the purpose of furnishing a guide, a directory, a Text-book to the teacher, as well as a book of general reference to those interested in the cause of education. And this object, whatever be the imperfections of the performance, we think, we have accomplished.

We started with the conviction that there is in the Bible a great principle, exemplified and illustrated by Him, in whom are hid all the treasures of wisdom and knowledge, upon which the whole of a sound and progressive education should be based and upreared, which principle is embodied in the two words, "Train up." We believed, moreover, that David Stow, sitting, as he did, a humble learner at the feet of the Great Teacher of Nazareth, had discovered and unfolded many admirable expedients, by which, in adaptation to the circumstances in which he was placed, this principle was reduced to practice, nobly vindicating and maintaining its position, as furnishing a sound and broad basis for the educational platform, as universal as man, and as deep as his capabilities. And yet, withal, there was a want of connectedness, of elaboration, of development, and of exhaustiveness in these expedients, which deprived them of a large amount of their cementing power, of their wide-spreading influence, of their beneficial results. We considered that something might, and something ought to be done by which, in adaptation to the nature of the recipients, these expedients might be reduced to a system, and applied to all the branches and ramifications of an elementary and advanced education—to education, whether conducted privately or nationally. This has been our aim in the preceding discussions. We lay no claim to perfectibility here. But, whatever may be thought of the classification we have adopted, we believe, that we have put that classification on a basis that will set at defiance all opposition and assault, and that simply because it is a natural basis—the basis of adaptation. If the whole of the divine works derive their strength, lustre and utility from being founded upon such a basis, there need be little apprehension of the validity of the ground we have taken, or of the fortification we have raised being speedily defaced or dismantled.

We now lay the whole, as an offering, at the feet of every devoted and progressive educationist, beseeching him not to rest satisfied with mere speculative notions about the principle or the expedients devised for carrying the same into effect, but to prove and test the whole by actual experiment, by the broadest practical application. There is a striking reciprocity here, as in almost everything else, between the principle and the practice, between the science and the art. The more assiduously and diligently the latter is carried into operation, the more vivid, and lucid, and influential will the former become; and all this, again, will but stimulate, and encourage, and facilitate the practical working. Not a few are sufficiently eloquent on the matter of the beauty and suitableness, and the glory of the principle, but who manifest the utmost reluctance to try its power and reduce it to practice; and that because of the supposed difficulty or drudgery. What we specially desire, on the part of all earnest teachers, is the putting of the principle into practice, whatever the difficulties or the acts of self-denial to be encountered. All that is required is a commencement. Every renewed effort will lessen the difficulty, and such will be the satisfaction and delight arising from a nearer, because practical inspection of the principle, that it will far more than compensate for all the conflicts and sacrifices to which any one may have been subjected in making the attempt. And when to all this is added one of our subordinate principles, or rather, we should call it, one of our common expedients,—we mean that of iteration and reiteration, even until the intellectual faculty we desire to educate has been strengthened and expanded, or until the moral sense has been trained into a habit in any one department; and how transcendent and extensive will be the result! The mind itself, the more it is cultivated, will shine forth with more radiant lustre, the vast advantages of education will be seen in their full zenith of perfection; and what an impulse should not all this give to the mightiest efforts of genius in this particular walk! What unflinching steadfastness and perseverance should it not call forth in the accomplishment of yet more astounding triumphs!

But there is another errand on which the enlightened and enthusiastic teacher must go,—even the leavening of the masses with a due appreciation of a high-toned reflective education. There are but few communities in any civilized or partially civilized country, who do not see and acknowledge the benefit or the necessity of the education of all; it is otherwise in reference to the kind of education or the quality of what is given. This can only be done by a practical demonstration,

by an exhibition of its fruits, showing openly and palpably the wide difference between the pouring in and the drawing out system, between the mere stocking of the memory or any other faculty, and the harmonious culture of all the powers, and energies, and sensibilities of our compound nature, between a thinking and a non-thinking population. All this demands not only a high and ennobling purpose, but a patient, an unwavering perseverance, and that under difficulties and sacrifices of no ordinary description. Despite of all this formidable array of impediments, who that possesses any adequate sense of the precious results flowing from sound education, would not long and labour for the arrival of the day when these results shall be fully realized? Who can contemplate, with anything like lively faith, the universal diffusion of such an education without the desire of participating in such a glorious consummation, when our earth shall not only be set free from all the curses and miseries flowing from the introduction of moral evil, but all creation shall have become tuneful with the song of enlightened, and moralized, and spiritualized human beings.