

TWO LECTURES

—ON—

BRITISH COLUMBIA,

—BY—

LEGH HARNETT, ESQ.,

OF CALIFORNIA.



VICTORIA :

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1868.

P R E F A C E.

In publishing these Lectures in their present form, I am only complying with the general desire of the people, to whom, at different places, they were addressed. The opinions they contain as to the future of British Columbia are so different to those commonly entertained, that I should have hesitated in their publication, had they not been endorsed by the intelligence of the country. The mere fact of my having *seventeen* years' experience in the mines of California, though it might give weight to my opinions, would not confer the authority I desire on this occasion. If the publication of my opinions is to do any good in the world, it must be known, I am not speaking merely as an individual, but on the behalf and under the sanction of the community. I have, therefore, thought it necessary to append the resolution adopted by the audience at New Westminster, the Capital of the Colony, and signed by Henry Holbrook, Esq., President of the Municipal Council, as it conveys precisely the authority under which I desire to appear.

LEGH HARNETT.

VICTORIA, Feb. 7th, 1868.

The Lecturer sat down amidst loud and enthusiastic applause, after which the Hon. J. Robson read the following address, which was seconded by Jas. Cunningham, Esq., unanimously adopted by the meeting, and presented to Mr Harnett, who duly acknowledged the same :—

To LEGH HARNETT. Esq.,

SIR,—Having had the pleasure of listening to your two Lectures on British Columbia, including all its interests, we cannot allow you to leave without making some acknowledgment of our great indebtedness to you. We have been astonished at your powers of observation, and impressed

with the correctness of your reasoning, and still more have we been surprised at the vast amount of interesting and important information you have collected in so short a time.

It is little to say that we heartily endorse what you have advanced in regard to the advantages and resources of this Colony. Unquestionably the country owes you much, and it is as gratifying to us to say as it will doubtless be to you to be assured that you leave us with the respect and gratitude of all classes. We hope the interruption to our intercourse will be short, and that we shall soon have the pleasure of seeing you amongst us again. If so, you may rely upon meeting with a hearty reception.

Signed, on behalf of the Meeting,

H. HOLBROOK,

President Municipal Council.

NEW WESTMINSTER, Nov. 27th, 1867.

MR PRESIDENT :—It is just eighteen months since I came a stranger amongst you, to learn and not to teach. When I look back through that short period and see how my position has changed, I may be pardoned, if I keenly feel the responsibility it entails, and deprecate, in some measure, the importance attached to my opinions. It is true that I am no longer a stranger, that my name has become familiar to almost every household in the land, that I have been entrusted with a most important duty; but all this, I think, may be attributed as much to circumstance as to merit. I first came here for the purpose of compiling a brief history of the Colony, to be published in another form, which gave me the fullest opportunity of understanding its real condition. The favorable conclusions I drew from the evidence before me were made known to the community at a public meeting in the theatre; and thus, it was natural, on coming the second time, to complete my original business, a general desire should prevail for me to visit the upper country and judge honestly of its future, by my mining experience in California, I believe, it is admitted by all, I have discharged the onerous duties of that exploration faithfully in every respect; that I have omitted nothing, overlooked nothing, neglected nothing having a remote bearing on the future of the Colony, and I am here to night, after five months' excessive labor, exposure and fatigue to submit to you the final result of my investigations. I confess I have felt much anxiety about the character of this meeting, for if my labors are to do any good, so abused and slandered has the Colony been, I must not speak on this matter as a private individual, but for the community, and under their sanction. The intellectual and social element I see present encourages me to speak boldly, while it warns me to speak honestly. I shall do both, and if I succeed in gaining the concurrence of those before whom I stand to night, I shall consider I have accomplished a success of which any man may be proud.

You are aware, Mr President, that this lecture is to embrace the whole of your mining interests, with a description of your entire mining territory. On this ground I must claim your indulgence, for there are few things in life more difficult than to make such a lecture attractive to an audience having little knowledge of geology and less connection with the mines. Under ordinary circumstances, it is nothing but a relation of specific terms and dry detail, which it is impossible to diversify or embellish. In this case, I think, I may fairly claim the indulgence asked, for you have all, though it may not appear so, a direct connexion with the

mines—a connexion, in fact, which governs your future condition. There cannot, in my opinion, be any immediate improvement in the general interests of the Colony, in commerce, trade, agriculture, real estate, manufactures, &c., without an immediate improvement in the mines. Without the latter, the others must remain languishing in their present unhealthy state for a long period, probably the lifetime of the present generation; but with the latter, the change would be magical—new life, vigor, enterprise and prosperity would exist everywhere, and comparatively to as great an extent as in California, after her mining depression in 1858. Precisely in the same way that an *unnatural* prosperity in the mines gave, at first, an unnatural life to the whole Colony, you can measure the result of a return to a natural prosperity in the mines, such, I mean, as they are really capable of regaining—a new life, and better still, a *rational* life, would be infused into the whole body politic, from which a permanent prosperity never known before would follow; for you, like ourselves, in California, I imagine, would not soon forget the bitter lesson of your misfortunes. Thus, it will be seen, the real prospect of the mines developed, and the extent and capacity of the auriferous territory undeveloped, is a question of absorbing importance, which no class of persons in the Colony can ignore or treat with indifference, for it certainly involves the very condition of their existence. I rely, therefore, to-night on self-interest, at all times a powerful agent with mankind, to excite the attention I desire, while I endeavor to show what your mines are positively to-day and what your mining territory must be hereafter.

The mining explorer or engineer, who seeks to attain a competent knowledge of this portion of the Pacific Coast, must have a general if not an intimate acquaintance with its mineral formation, as it appears elsewhere, otherwise its extent will frustrate all his exertions and its character baffle all his ingenuity. But with a knowledge of the mineral formation of California (which I have studied practically for seventeen years) he has the key of the whole Coast, which not only facilitates his labors at any given point but renders his conclusions thereon accurate and reliable. It was this experience and knowledge I brought to bear on British Columbia while tracing for *hundreds of miles* the unity and correctness of her mineral formation. The same mistake I find, and a mischievous one it is, has been made here, that we made in California, adopting a general system of mining, similar in all cases and in all districts, without in some degree first understanding the source of those mines. The miner, who labors to develop the auriferous deposits, or the explorer, who seeks to understand their extent and character, if they would avoid endless failures and ruinous expenditures, must both study two things, viz., the mineral formation from which those deposits originally came, and the primitive water-sheds by which they were originally located.

To simplify this lecture to the full comprehension of those present, who cannot be expected to be familiar with the fundamental principles of mining and exploring, I shall carefully eschew all technical and scientific terms while I take you step by step through the vastness and yet the legitimacy of your mining territory and explain *seriatim* the facts which have led me gradually to form such an exalted opinion of your slandered country. First, then,

THE MINERAL FORMATION.

It is a great mistake, in my opinion, of many very competent persons to deny the *continuity* of true organic veins and the existence of any natural laws by which we can determine their permanency and richness. For my own part, I am a firm believer in the continuity of organic veins, in obedience to the course of electricity, now generally admitted to be the grand agent of their formation ; for, as Prescott beautifully remarks, "it is electricity, mysteriously powerful in this as in other departments of material existence, that teaches these veins what course to take, where to accumulate and where to lie down and rest." Modern science has demonstrated, beyond all question, the universal influence of this agent throughout the range of animal life and material existence. Why, then, deny it in the aggregation of mineral veins, and thus retain the difficulties, which for ages have proved a stumbling block to geology and scientific mining? I was first led to believe in this theory when exploring the great mineral formation of the Coast, from the Southern boundaries of California to Oregon, especially the copper system ; and I have since become confirmed in that belief by my recent explorations thence through your territory up almost to the Rocky Mountains, a distance, in a direct line, of some 1200 miles or more. From the extreme south, through the intermediate regions to the extreme north, I find the same unity of formation, the same continuity of course, the same extent of width, the same disposition of metal, the same relation of rock, and therefore how can I longer doubt it all springs from the same parentage ; that the great mineral formation of California and British Columbia are one and the same thing, and that when placed under the same expenditure of capital and the same intelligence of labor, as these primary agents of successful enterprise and industry naturally gravitate to their level, they will equal each other in the same endless wealth. I believe I could not do the Colony a greater service than by proving the identity of the mineral system of the Coast at the extreme north and the extreme south. The world knows what gold California has produced, still produces, and for years will produce ; the world, if it pleases, may know thereby what British Columbia, struggling at present under the early difficulty of California, an unnatural inequality between labor, food and capital, will be,

when like California, she has out-lived that difficulty and started fairly in her career of prosperity, and, so from the quantity of gold, the world may, if it pleases, form a correct estimate also of all other natural products and elements of wealth. I do not concur with those political economists who think there is no advantage to a country in being gold-bearing. Would California and Australia be to-day what they really are, magnificent in their present and future history, unless for the last fifteen years they had produced from \$40,000,000 to \$60,000,000 every year? In California, I know, all the elements of productive wealth, commerce, agriculture, manufactures, existed for many years, and do still to a great extent, in proportion to the yield of gold, though having received a good start from the product of gold, they are fortunately all fast becoming self-sustaining. I see the same thing going on around me here—the life of the Colony governed in the past, the present, the future, by the yield of gold—exalted or depressed, stagnant or progressive, according to the year's yield. How all important then to have a correct knowledge of the mineral formation, which, in fact, determines the extent and richness of the auriferous deposits, which again in their turn decide the life or death of the country for years. The ignorant may deny, the educated may doubt, one man's ability to see farther into a rock than another, and yet with an *abiding* faith in *nature* he can do so, and does do so, in all mining countries. I know very well the Great Creator never errs or belies His purpose, and on looking over the universe we find everything "that is, is well." Now, in the same way, if I find the imprint of Divine omnipotence stamped on a rock, or a series of rocks, or in other terms "on a formation," I care not what man, or multitude of men, ignorant beyond what they see, or intelligent to the full extent of education, oppose me, I there rest my unwavering faith. I know this formation is an integral part of the great universe, I know it is created for the specific purpose of man's use and happiness, and therefore must be capable of being understood and developed by natural laws, otherwise the object of its creation is a failure, and that cannot be. The fact is, Mr President, these mineral formations are really governed by laws as determined and immutable as those that govern the heavenly bodies; and when the one are understood as well as the other, there is no more difficulty in predicting the result of the final development of a mineral formation than there is in tracing the excentric wanderings of a comet through space for centuries to come, and fixing the precise moment at which it shall reappear to us on earth. If one man, by a knowledge of gravitation, can bring the eternity of space within the deductions of the human mind, I see no reason why another, by a knowledge of geology, should not also be able to bring the mysteries of the mineral system to a comparative certainty. Being assured that such a thing is to be done, let me now give in detail the analogy between the

systems of California and British Columbia, on which, as I have already said, so much of the future life of the latter depends, especially in attracting a speedy increase to her population and capital.

I find, then, the two systems, existing at the extreme north and extreme south, a counterpart of the other in all their relations, divisions and subdivisions; from the copper to the gold and silver, in the granite, metamorphic, slate, trap-rock, marble, there is no difference in character or position, so far as I can discover. Taking the copper system as a base of examination, we find it here, as in California, in three divisions, and by mastering it the remainder of the whole formation is easily understood. In California, the central division is the principal, stretching from the foothills of the Sierra Nevada, twenty-five miles east, into the mountains, and intersecting the whole State north and south; on the western summit of the Sierra Nevada there are two or three veins, and in the coast range five veins, forming two more divisions, parallel to each other, but all three separate and distinct in their formations. The same thing precisely exists here. Commencing at the west, in this country, I find the Alberni, Sooke and Howe Sound veins, corresponding with the Coast Range in California; then, travelling east, I find the central division, extending from the mouth of Thompson River twenty-five miles in the interior, and intersecting the whole country north and south, and finally at the head of Shuswap Lake, two or three veins, which correspond with those on the western summit of the Sierras, while it is remarkable that the distances from west to east, between these three divisions, are about the same as in California. Again, the best gold and silver veins in the two countries are found east of the central copper division, with the subsidiary rocks already mentioned occupying the same relative positions throughout the whole formation. It is by no means an idle speculation to establish this identity, for it appears self-evident to me that the marvellous wealth extracted from the California mines at the present time simply reflects the destiny of British Columbia hereafter, when her mines, equally rich and more extensive in gold, silver, copper, iron, lead, and incomparably richer in coal, are brought under the same liberal expenditure, intelligent labor, and scientific development, an event only to be hastened by the real facts of the case being made known to the world. It is sufficient to state here the fact of the unity and extent of the mineral formation, as I shall have to particularize upon the gold and silver veins when I speak about quartz mining. On the present division of my subject I shall merely add, it is a matter of indifference to me who follows my footsteps in my late explorations, so long as he is a competent and unprejudiced man. In that case, I feel assured, his intelligence and justice will compel him to indorse my opinions, and with me, to regret the world should so long have been kept in ignorance of the real merits of the country. Having thus

established the legitimacy of the source of your mineral wealth. I must proceed next to the

AURIFEROUS DEPOSITS.

These, as found in what are called Placer Diggings, can only have their extent and richness determined by the mineral formation. Hence, if we find the one correct we may safely have confidence in the other. I admit, however, there must always be more uncertainty in finding and following such lodes than in working mineral veins, because their distribution through rivers, gulches, and hills being governed by the action of water, is necessarily eccentric, accidental, and arbitrary. Indeed, there is only one safe theory by which to judge them, and that is, to determine the primitive water courses, as far as possible, by the evidences of the present configuration of the country. Some people deem this process little more than mere speculative observation; to a certain extent it is so, but when a man understands the business, possesses the requisite knowledge and experience, and will take the trouble to perform it properly, for it is very laborious, it is astonishing what a degree of accuracy can be given to that observation. In examining the different creeks at present under operations, and the enormous territory hitherto neglected, I fully realized the responsibility of this uncertainty, feeling the need painfully for a corresponding circumspection and care before I adopted any conclusion as to their future. I believe, I omitted nothing that could guide and mature my judgment. I took all this special trouble, because for some time past, a general belief has been growing up at home and abroad that the auriferous deposits of this country are nearly exhausted. Looking at the condition of things as I found them in the mines, I confess I am not much astonished at the prevalence of such a belief. A greater mistake, however, was never made in the world. In no single case, that I could see, has any ground been worked, within a distance of three hundred miles in length and one hundred in width, *but the beds* of a few streams, while the sources of gold feeding those streams, as for many years in California, have been entirely neglected. I think it safe to say, there is not a legitimate *hill tunnel* in the upper country. How, then, can the deposits of gold be exhausted? They are really not yet touched. To-day they are as thoroughly unknown as they were six years ago. But with the experience of California, in this respect, before the miners, such a thing ought not to be, and had they devoted a tithe of their early wealth to the discovery of hill-diggings, which all admit could have been done without inconvenience at the time, such a thing would not have been. But the mistake as to the exhaustion of the auriferous deposits goes farther even than this; for in the stream-beds, throughout every locality, where the lodes have been longest and most successfully worked, so far from being exhausted are now

only beginning to be better opened, better understood, and better appreciated, while new ones of great importance, in different sections far apart, have recently been discovered. There is no such a thing for generations to come, as exhausting the auriferous deposits of this country; they are co-existent and co-extensive with the mineral formation, and cannot therefore be thoroughly known, much less worked, until the other is more thoroughly developed. A man who has had the experience of half a life-time in California, participated in all her mining vicissitudes, watched her struggles, and shared her triumphs, can see at a glance that the deplorable condition in the mines and country is but the result of natural causes, which must have their course; but uninfluenced by that condition pecuniarily, his vision is left free and clear, and he can also see at a glance those causes have nearly exhausted themselves, and without your knowing it, inaugurated a new period of safer progress and prosperity than ever known. This truth, which has been impressed on me, step by step, as I passed through the gold regions, will, I think, be impressed on you, as we travel through those regions again to-night. I propose to give an illustration of the principal sections, beginning with—

WILLIAM CREEK AND ITS TRIBUTARIES.

This creek has played so important a part in your history, and forms so conspicuous a feature in the history of mining, that it is well worth being understood. From the time of its discovery in 1861 up to last summer, as near as I could ascertain from the most authentic sources, some \$25,000,000 have been taken from its bed, and a limited portion of its banks, within a distance of three miles, and yet when thoroughly drained and thoroughly worked, I really believe twice that enormous sum will be taken out hereafter. From its fabulous richness it has been alike, the origin of your prosperity and misfortunes. It would have been far better had the creek been discovered two years sooner or five years later. In either case the welfare of the country would have been more permanently served, for its interests, products, and reputation would not have been dependent, as they have for years, on the accidental condition of a single isolated spot. In either case, many rich tracts of mining and agricultural lands, easy of access, and with the finest climate, would have been teeming with life and wealth, which now are unjustly deserted, because this creek has absorbed the capital and enterprise of the whole population, and filled them with inflated dreams of sudden wealth to the prejudice of that patient industry from which the true wealth of every country comes. Unfortunately and wrongly, since its discovery, William Creek has been considered, in a certain sense all Cariboo, and Cariboo all British Columbia. The world, more or less, thinks so to-day, because it has no authentic knowledge of the wonderful wealth and richness of the vast

interior. Thus, in a great measure, it must remain, until Cariboo regains its pristine glory ; for it is only by its wealth your own people can disenthral themselves from such a contracted existence, and field of operation ; it is only by its wealth strangers can be induced to come in sufficient numbers to give life and vigor to the whole country. The principal point then I had to determine by my investigations was, whether this creek and the vast region it opened, and still represents, held out any immediate hope of accomplishing either of these things. I have already said, I do think so conscientiously, and I do not think I am mistaken.

The opinions prevailing in the public mind respecting this particular spot are altogether wrong. I was under the impression myself that there were only one or two very rich claims in Cariboo, all the other ground, like the basins in Idaho, being barren. I know that such is still the general impression in California. Yet on William Creek alone there must be over sixty good claims, independent of the Flume Companies and Hill claims, some of which, after six years' working still pay remarkably well, and all pay wages, which means, in other words, from \$8 to \$10 a-day. Last year, it is estimated that nearly *one-third* of these claims were not touched during the best part of the season, owing to the Bed Rock Flume, at the upper end, not being completed, and the Bed Rock Drain Flume, at the lower end, being filled up by the freshet. But in spite of these drawbacks, what was the result of the season's labor ? The total yield of gold was larger than at any period since 1863, the golden year of the country. This season, the upper Flume will be completed, the lower one repaired, which will bring the whole creek into perfect operation by draining it thoroughly from one end to the other ; and if these Companies secure the drainage against every possible contingency, the most important thing of all in successful mining (and it is their interest and duty to do so.) I cannot but conclude the yield next season will surpass 1863 by a large amount. I arrive at this conclusion from the best of all evidence, the history of every claim from first to last. To secure myself against mistake, I took the total receipts and total expenditure of each from the time it was opened to the present day, with the amount and character of ground left to work. I cannot, of course, give the whole, as it would be tedious, and consume more time than I can spare. Those, however, I select, are not chosen, it must be understood, on account of their great richness, but to show the steady yield of the ground. I will take the upper part of the creek first, beginning at the Canyon :—Black Jack Co., located in 1862, 6 interests ; in two years took out \$200,000 ; total expenditure, in the dearest time, when labor was \$16 a-day, \$50,000 ; still the best claim on the creek for proper hydraulic washing. Cunningham Co., located in 1861, 4 interests ; total receipts up to 1865, \$500,000 ; total cost, \$100,000 ; now making good wages sluicing. Tontine Co., located in 1864, 4

interests; total receipts, \$36,813; total cost, \$22,243; now prospecting for back channel. Dietz Co., located in 1864, paid good wages all the time. Tyack Co., located in 1861, 4 interests; paid all the time from \$16 to \$20 a-day to the hand; this year better than ever, washing up sometimes over 100 ozs., and looking more promising as they go into the hill. California Co., located in 1861, 9 interests; total receipts to 1865, nearly \$500,000; total cost, \$150,000; now working a small sluice; three white men and two Chinamen; making from \$15 to \$20 a-day; considerable ground left. Cornish Co., located in 1861, 8 interests; paid expenses to 1866; that year paid a dividend of over \$400 to the interest besides wages, most of the shareholders working; in 1867 up to September paid over \$8,000, at cost of \$4,000; still paying better as they go into the hill. Steadman Co., located in 1861, 4 interests; up to 1863 total receipts nearly \$60,000; at a cost of \$15,000; still working and making good wages. Allen Co., located in 1864, 1 interest (colored man); could not be worked till 1866; from that time to the present paid from \$25 to \$30 a-day to the hand; considerable ground to work. To these may be added, the Browse, Wilson, Bradley, Forward Cos., in fact, the whole of the immense flat stretching thence to the Junction of McCullum's Gulch, paying in about the same proportion, but which will all be worked henceforth to the *best advantage*, by being thoroughly drained by the Bed Rock Flume. This company also have a large amount of good ground, hitherto lying idle, but which also will be brought into operation under the hydraulic system, and contribute immensely to the general receipts of the season. I may here remark, for they deserve my saying so, that it is almost impossible to estimate the benefit this Corporation will be to the upper portion of the Creek, within the limits I am now describing, if they adopt a safe and liberal policy towards the miners. Under such management, I consider, they have one of the best properties in the country. Below the canyon, some of the most marvellous claims existed, and I could go on saying the same of them as I have of those above it, until your patience was exhausted. It is enough to say that the old celebrated Diller claim, which paid in one day 103 lbs. of gold; the old Barker claim, which enriched its owners, will be drained by Mr R. Dexter; it is expected in time for this season, and if so, that ground and the rest stretching up to the mouth of the Canyon, will again yield immensely. Then below these claims, down to Camerontown, including some twenty or thirty good claims, the whole Creek will be a scene of active labor, if the Bed Rock Drain is only secured against accident. In my opinion, the miners ought to see to this themselves. A common *benefit* is a common *interest*. To secure a successful season, at any time, is no trifling matter to the miners; to the country at large, in this particular period of its crisis, it is all important the world should see how really rich you are, and that can be done if the drain-

age of the creek this year is kept secure. Every man is interested in, and therefore should contribute to it if necessary; for drainage; in all mining regions, especially Cariboo, is the secret of permanent success, whatever may be the character of the dirt, whether very rich or only moderately rich.

It is necessary here, while treating upon this branch of the subject, to draw your attention to a stream running into William at this point from the left-hand side, called Stout's Gulch. It also has been a feature, like the great stream itself, in the history of mining in Cariboo, but never hitherto properly understood or appreciated; its glory has yet to come. It is especially an illustration of what perfect drainage will do, and as it presents itself to-day, is the best worked stream I saw in the country. The mouth of the Gulch joining William Creek was commenced in 1863, and worked chiefly the next year, when the water from the latter breaking into it, it has never, I understand, been opened since. The first claim on it from the mouth was the High, Low, Jack, located in 1864, with 5 interests, and in June, 1867, paid a dividend of \$12,000 to the share. The Pioneer Co., located at the same time, paid about the same amount, and was then sold to the Floyd Co., who now own the whole ground from the mouth to the Alturas, above them. This company lost most of last season by their underground drain being filled up, but this is a magnificent claim and will be for a long time, having good pay dirt from 20 to 40 feet wide. The Alturas Co. is next, located in 1864, with 8 interests; from thorough drainage they work their claim to great advantage, making much of it, otherwise valueless, yield well thereby. In five weeks, last summer, they paid off an indebtedness of \$23,000, and have a large amount of ground left. Taft Vale, located 1864, 8 interests, only commenced working thoroughly last summer, by extending the drainage from the claims below, and averaged from 100 to 240 oz. a week. It cost \$30,000 to open this claim in the first instance, having lost five shafts for want of their present drainage. This is also a splendid claim. The Jenkins Co., located 1864, 8 interests, have pay dirt from 30 to 40 feet wide, but from its great width it has never yielded over \$12 a-day to the hand. The Much Oro, located in 1865, 6 interests, realized \$20,000, at a cost of \$15,000. The lead is narrower and richer here than in the Jenkins, and now they have carried on the drain, they will henceforth realize much more. Above are two claims, the Durham and Emery, prospecting for the lead on the upper end, on the left hand side of the flat. I consider this a very important locality, and examined it thoroughly. My observations led me to conclude, that although these two companies occasionally find gold enough to encourage them, it is only a small overshoot from the original lead, the continuation of which eventually will be found above the Much Oro, on the right hand side of the flat; then curving to the left, but con-

siderably above the Emery and Durham. I am led to this conclusion by the present condition of the slate-rock, as seen along the water-ditch going to Lowhee Creek. There must, unquestionably, at one time have been an immense water stream through here, and before it was drawn down to its present level, have turned off opposite or a little below the Alturas, gone through the high hill behind Barkerville and joined William Creek, then also a much larger stream, at the Morning Star claim below the town. This is no idle or useless speculation, for there must be an immense deposit of gold at the flats, which originally fed Stout's and Lowhee Gulches, and which can only be found at last by investigating the formation; and anyone understanding these matters, doing so, will, I believe, adopt my views. This case is multiplied all over the country, so that a correct knowledge of the one attained by actual experience will both assist and hasten the development of the others. That surely is no trivial consideration. Such is Stout's Gulch to-day. What will you think when I state it was not deemed worthy of attention three years ago? Yet this is the natural progress experience creates in mining, as well as in other occupations; and when I see that experience daily maturing in Cariboo, and carefully applied in every direction to the development of her vast auriferous deposits, I cannot but feel that her real wealth and greatness will only be known when most of us have passed away.

There is another stream running into William's, a little below, on the opposite side, called Conklin's, which cannot be overlooked in considering the future of this section of Cariboo. From the great richness of the celebrated Ericson claim, near the mouth, immense expectations were formed, which, so far, have not been realized. If the rich pay in the Ericson had been anything but an accidental deposit, it would certainly have been found in the bed by the Reid Co., who have an extensive, deep, and exceedingly well-worked claim, or by the Home-Stake tunnel in the hill on the left side, because it could never come from the right side, between the mouth of the Gulch and the upper end of the Reid claim, if not farther up for that strip, stretching indeed back to the Canyon on William Creek, is inevitably barren. In truth, Conklin's is very difficult to understand. It is one of those spots, sometimes found in mining countries, which baffle scientific investigation, and which can only be proven by hard labor and expensive ventures. Yet from the interest and importance it derives from an accidental freak of nature, we ought to try to understand it, in some measure, in order to direct the large expenditure of labor and capital it so strongly attracts and freely receives. The extreme richness of the Ericson claim, at the bottom, and the smooth surface of the rocks in the Renfrew and other claims at the head of the Gulch, convince all people of two things—the existence of a tremendous wash through there some, and the existence of a large deposit of gold somewhere in the

neighborhood yet. Considering the amount of labor and capital expended at the present day on this Gulch, the enunciation of any man's ideas may be useful to all interested, provided they are based on reason, and induce a closer and more extended examination of the laws of nature. My opinion is, that the mountain, from McCullum's Gulch to the Prairie Flower, at the Meadows, though divided now, is one and the same mountain, that Conklin's Gulch is comparatively of recent formation, and that the original deposit will only be found far back in the hill, beyond *the pressure of water*, which when it first broke its barriers, made the United, Ericson, Davis, Aurora, and Borealis ground so very rich. Thus, to understand the final chances of most claims on this Creek, we must look into the prospects of finding

HILL DIGGINGS.

These may be considered the second era of placer mining, for they are naturally overlooked until people begin to inquire whence all the gold in the stream beds comes, and is finally traced up the banks into the mountains. Too much importance cannot be attached, nor too much encouragement given to this branch of mining, for as a general thing, it is always found to be a permanent source of wealth. According to our California ideas it has not really been commenced in British Columbia, simply because its day has not arrived; but it is time public attention was directed to it, for by my own showing, the more the streams are brought under a thorough system of drainage, the quicker and more effectually will they be exhausted, and hence, it cannot be very long in the natural course of events before some other resource will be required to fall back upon. Let us, then, look into the hills rising so precipitously round the locality we are reviewing, and that will be sufficient, for the same argument, and the same rules in a primary sense apply to all others.

Of the existence of immense rivers, of which there is no evidence at present but such as the hardy miner gives the world, I may quote the great "Blue Lead" in California. Here we have the bed of a large river, intersecting the centre of the whole State almost from one end to the other, filled in by some terrible incomprehensible convulsion, and huge mountains piled up on it afterwards to hide, if possible, its precious treasures for ever. By degrees and by accident man's intelligence is brought to bear upon the subject, when the secret of countless ages is made known, perhaps, in a few months; and, his skill and endurance in this, as in his other triumphs over the accumulated obstacles of nature, add to the general happiness of his race. Now, if large rivers can thus be lost for ages, and found again in one country, why cannot smaller streams be lost and found by the same agencies in another? I ask this question to arrest the attention of the sceptical, feeling assured, that if the experience of California in this matter is applied to

British Columbia, much labor and money will be saved, and many failures avoided. Indeed, I do not think better service can be done the country by any one, than to assist the investigations now directed by the miners in Cariboo to the discovery of those primitive deposits which have made its principal streams so rich. For my own part, I give the preference to the hill on the right side of William Creek. In the first place, I find the country from Ground Hog Lake and Jack of Clubs' Creek to the head of William much firmer in its formation, more consecutive in its order, less disturbed on its surface, than the country thence to the head of Grouse Creek, and throughout bearing less evidence of being auriferous. I naturally look, therefore, for the original water-course which fed William and Conklin's to be in the right hand hill. Did that stream, then, come somewhere from Bald Mountain range, across the head of McCullum's Gulch, through this hill to the middle or upper portion of Conklin's, behind the boundary line of the United and Aurora claims, to the Forest Rose and Prairie Flower, at the Meadows, which originally probably were a series of large lakes? I am strongly inclined to this opinion, and feel satisfied, hill diggings, as rich as any we ever had in California will be found along the route I have just marked out. The whole range from McCullum's to the Prairie Flower, was certainly in early times all one hill, for from each extreme I traced with exactness the same evidences of two or three distinct slides, of fearful power, which finally left the rim rock on the left hand side of Conklin's as much out of its primitive position as the Canyon on William Creek. No one, I presume, acquainted with geology will venture to maintain the latter rocks are in their original position. Everything in my mind leads to the conclusion I have drawn. Even the lead on William, from above Richfield to the Canyon, is nothing but an overshot from the hill deposits, otherwise it would never be found in the Tyack and California claims, as it has been, creeping up from the Creek to the very summit of the first slide. Taking the limited time at my disposal the wet weather I experienced, and the amount of work I had to do in places over a hundred miles apart, I can at the best be only suggestive now; but, notwithstanding the Perseverance claim on Mink Gulch, I can find no satisfactory evidences on the west range, from the head of William to Stout's Gulch, of the existence of primitive deposits on that side; yet I have examined every point with equal care. In speculating upon the chances of the tunnels in the east range, which must eventually lead to the discovery of rich and permanent diggings, I may mention the Cathcart, Cornish, Mountain View, Hilton's (if run a long way in) those on the south side of Conklin's at the upper end, Home-Stake, United, Aurora, Borealis, if they will persevere, Forest Rose, and Morning Star. The last claim, however, is distinct from the others, but it will open a very rich deposit, for the whole hill in which it is located bears

evidences of an extensive basin. Below this claim, on the west side, and the Forest Rose on the east side, the country down to the Meadows looks unpromising for hill diggings. The result I predict, of course, is the work of time, and can never be fully accomplished until the stream-beds are more exhausted; then labor, provisions and materials will be cheaper, and consequently the cost of tunnels reduced within the means of many, who have now the desire but not the ability to commence them on a large scale. Thus, I feel assured, the brave men of Cariboo, who have already done such marvellous wonders, will be true to themselves, and repeat the history of California in this, as in other respects. Who would have thought that any men could have been found in California, when labor and provisions were as dear there as they are to-day in Cariboo, to devote three, nay six years of their lives, and seventy or one hundred thousand dollars of their money, to pierce her grim old hills in order to reach their hidden wealth? Well, we know it was done in cases innumerable throughout the State; we may rest assured, it will be done here also. A finer race of men are not to be met in the world than the miners of Cariboo, hardy, industrious, intelligent, generous; they may be discouraged to-day, but they will not be so next season; with an extended and more correct knowledge of the country, will come better and surer results; an increase of gold will bring a renewal of confidence; and that confidence, a thorough development of the country. I have one more subject to speak about before I finish William Creek, without which any account would be unjust and imperfect. I mean

THE MEADOWS.

These are a series of flats, extending from below the deserted village of Marysville down the stream to its junction with Willow River, a distance of three miles. These flats, as I have already said, were either one large lake or a continuation of lakes in early times, having their final discharge of water through Jack of Clubs' Lake, round the western base of Island Mountain, instead of the eastern side, as at present. In the prosperous days of William Creek, as the gold was gradually traced down to the stream in paying quantities below Marysville, they received much attention, and were prospected in every direction, as far as possible, by shafts and artesian wells. At all points, without exception, I believe, where the gravel was touched at an average depth of about 60 feet, far apart, and in opposite directions, such astonishing prospects were obtained, that to-day, the fact of their being marvellously rich cannot be disputed. As far as I could learn, and I can get scores of affidavits from the most reliable men in the Colony, if necessary, to prove the fact, every shaft on reaching the gravel got a prospect from ten to twenty-five cents to the pan, which allowing an aver-

age of ten feet of gravel throughout the flats, by no means an extravagant allowance, such a prospect makes them the richest and most extensive deposit of gold I know on the coast, even supposing it were no better as the bed-rock was reached. The moment, however, the top gravel was disturbed, the water shot up with such violence, and in such quantity, that no shaft could be kept empty. Machinery of the best character, with pumps of the greatest power, were applied in vain to combat this great enemy of miners; and, so the meadows were finally abandoned, after a long and terrible struggle, at an expenditure, it is estimated, of some \$600,000. Soon afterwards the general depression commenced, under which the whole Colony still lies prostrate and exhausted; and since then no one has had the means to do what is now known necessary to be done in order to drain the ground effectually, though that drainage can be obtained easily, and, in a certain sense, cheaply, besides being made a paying investment almost from the beginning. I fully endorse the general opinion prevailing now, that the source of this great body of water came from the Jack of Clubs' Lake, about four miles long, a mile and a half wide, and in some places, over a hundred feet deep, lying to the west of the Meadows, a mile, or perhaps more. Thus, by sinking on the Meadows *sixty feet*, the surface level of the lake is exceeded, according to my calculations, at least *thirty feet*, and by an underground communication evidently existing, the same as was found at Valecitas, in Calaveras county, California, each shaft would immediately fill that depth, as soon as the water escaped by disturbing the gravel. Hence, it is evident, no known machinery or pumps could contend successfully against such a pressure. The question then comes, how is the ground to be drained sufficiently to get to the bed-rock, and what would it cost? The answer, at first, sounds strange, though it is true. The lake can be successfully drained deep enough, and a tunnel run thence to the Meadows for \$50,000 or less. That is a very small sum compared with the \$600,000 expended already by a small number of men; but, unfortunately for themselves and the Colony, those men did not know, while they had sufficient capital at command, what they had to do at the time, or it would have been done. Mr Dewdney, a competent civil engineer, has surveyed the country on the Western side of Island Mountain, from the Lake to Willow River, and finds a fall of 40 feet can be obtained within a short distance, and then probably another 50 feet between there and the river. I am fully prepared to confirm the first calculation, and have, therefore, no doubt of the correctness of the second; but, supposing no more fall than the first 40 feet could be obtained, it would practically drain the ground, as a limited quantity of sub-water could be mastered by pumps. Much of the labor of the lower drainage could be done by this water as it is drawn from the lake. There is then, we see, no really great difficulty in the way of this vast undertaking.

The tunnel to the Meadows from the Lake, would not cost as much as the tunnel cut through the hill a few miles above Auburn for the water of the Bear River Ditch. With the Lake once lowered 60 feet, the company could begin to realize enough to pay a large share of their expenses, for besides the edges of the Lake prospecting enough to pay \$5 or \$6 a-day sluicing, the tunnel would soon cut the rich lead of Lowhee, one of the best creeks in Cariboo, at the mouth of which the Calaveras and First Chance claims are still paying from 100 to 200 ozs. a-week each. Such, in so many words, is the work and amount of capital required to redeem this rich, but idle ground, and considering all things connected with it honestly, and in a business light, I know no mining speculation equal to it on the whole coast. There are many men in this Colony who are aware how enormously Gold Flat, near Nevada City, paid, when put under a similar drainage, after some 1500 men had drifted in it for three seasons—that undertaking, however, fades away into night when compared with this one. Indeed, it would not be extravagance on my part to place the drainage of these Meadows on a par with the great Sutro Tunnel, so far as *profit* goes, which is to drain all the claims on the Comstock ledge in Washoe. The one is intended to go through *eight miles* of solid rock, at a cost of \$6,000,000, and the stock is all taken in California, Atlantic States, and England; the other, is intended to cut through gravel *one mile and a half* at the most, at a cost of \$30,000, and no one can be found to touch it. Yet, it is a question in my mind, supposing both works completed to-day, whether the owners of the Meadows' Tunnel, in Cariboo, would not realize in five years' time twice as much as the owners of the Sutro Tunnel in Washoe; for, if 1500 men could not half work out Gold Flat in three years, 4000 men could not work the Meadows out in ten years. In California, it is safe to say, any number of men would be glad to complete the undertaking for the only privilege they have in such cases there—that of catching the tailings from each claim; and, in many of our large drain flumes, as much or more money is invested on that solitary condition than it would take to complete the one I am now describing. But, in addition to the privilege of catching the tailings, *itself an enormous fortune*, the Government would grant a liberal charter of so many feet of original ground on each side the flume, on the condition, of course, that the work would be completed. I am opposed, on principle, to such charters as a general thing, because they have a tendency to create vexatious and obstructive monopolies; but, in this case, considering the magnitude of the undertaking, and its influence on the prosperity of the country, it would be necessary, for if once commenced, no person should have the power by owning ground on the line of route to obstruct its completion and success. Such, Mr President, is the scheme of draining the Meadows. Looking at it as a practical miner in every possible light, its practi-

cability, its cheapness, its certainty of paying, its duration, I dare not let loose my imagination to paint its effects on the future of the Colony if successfully carried out, and perhaps, it is unnecessary, for they must be obvious to every person. After all it is only question of time. We live in an age of rapid movements and rapid accomplishments. During my experience in California I have seen so many sudden revolutions in the mining world, such vast schemes conceived, enunciated, believed in, completed, within such short periods, at such enormous expenditures, that I have ceased to doubt the accomplishment of any scheme, having a reasonable business character, when honestly brought before the speculative ^{part} of the age. And why should not this one be speedily accomplished, when like others of less promise and less surety, it is thus honestly presented to and urged upon the world? I see no reason, because I have unlimited faith in the energetic, glorious enterprise of the people on the Pacific. The inhabitants of this Colony were not behind the rest in their day of prosperity, if on looking over your gigantic works of every kind, my eyes do not deceive me. Yet those works, or many of them, were stopped, as it were, in their conception, and yourselves laid low. What of that? Suppose you did stake all on a single throw and lose, you cannot get lower than the bed-rock where you are, as we in California from similar causes were before you. You must rise again or perish. Which is it to be? Did we perish? Did any English community ever perish? No, and neither will you. This very creek alone, which built you up and threw you down again is still worth betting upon. Take courage, you may well do so, for in old William Creek, the father of Cariboo, the father of the Colony, which I have now thoroughly, and I believe honestly illustrated, there is still wealth enough left to build up the country again three times as large as ever it was.

I must now lead you a short distance below these Meadows, and the junction of William Creek and Willow River to a stream opened last summer, called

MOSQUITO CREEK.

It is hardly possible to estimate the good which the country will derive from the discovery of this creek. It may be regarded, indeed, as one of the most fortunate events that could have happened. Apart from its real wealth, and the comparative easy character of the ground to work, it is the key to an immense new territory almost unexplored hitherto, stretching to the Fraser river fifty miles, all of which will be found full of streams as good as Mosquito, excepting that portion intersected by the granite range, and that, I think, will not be so good. Thus, Mosquito will not only give a new impetus to mining, but, what is better, revive the drooping spirits of the old miners, and inspire generally, a new confidence in the country, not easily to be shaken hereafter,

for already this new territory has been prospected twenty-six miles, to a creek called Mustang, and gold found in paying qualities that far down. Some new discovery of this kind, with gold in paying quantities, and without being so difficult and expensive to work as it has been on the old creeks, was requisite at this period. It cannot be denied many circumstances of late tended to shake the confidence of the people in Cariboo containing general gold deposits easy to be worked, and though such was a superficial view, it was not altogether without reason. For instance, Lightning, Lowhee, Grouse, Antler, Horse-shoe, Keithley and others, had gradually gone down; Cunningham, Conklin, and others had not realized expectations, although a vast amount of labor and money had been expended upon them; so it came to pass, that what was left in William Creek and its immediate vicinity was considered about all that could be relied upon in Cariboo. So that, in reality, I regard the opening of Mosquito at present as important an event in your history as the opening of Cariboo originally; nor, would it astonish me, if it proves of more value to the Colony in the end than the discovery of three such creeks as William, wonderful as that has been and is still if the new country which it calls into life is vigorously prospected to the Fraser. But it is not simply in the fact of its being a new creek, very rich, easy to work, and the pathway to an immense gold region hitherto neglected, that I consider the discovery most important—it is rather, in the newer and truer knowledge of the country it supplies, and in the application of that knowledge to other districts. There is in fact no limiting the encouragement, if properly viewed, which it gives of the inevitable progress of the country. Three years ago the creek was first discovered and worked, but labor, provisions and packing were so high, that it would not pay a dollar, although only five miles from Barkerville, the chief trading town of Cariboo. It was abandoned until last Spring, when a man named Cockings, dissatisfied with the results of his labor, and having some leisure time at his disposal, resolved to return, and see whether he had gone down deep enough, his opinion all the time being that he had not. He did so, like a sensible fellow, and he and the Trevethicks, whom I remember years ago at Grass Valley, in California, now own the Discovery claim. In a few months the creek was occupied and opened, and before I left Cariboo, the total results of the claims taking out gold was as high as 500 ozs. a-week. Next season, there will be some 300 men or more working, and the result when in full operation, will I think, be 1200 or 1500 ozs. a-week, for the Minnehaha and other claims not then paying at all, have since been found to be immensely rich, while those that were paying well have become still richer. You cannot then over-estimate the importance of this creek. The gold it yields, of course, is valuable to you, but the evidence it gives of your progress, your wealth, and the lesson it teaches your miners, is incom-

parably more so. It shows beyond all question that the true character of the country has never been understood; that it is rapidly being attained; and that as labor, living, and wages reach their natural level, these four essentials of prosperity will force your progress and extension in spite of yourselves, and all your enemies combined. To satisfy you I am not talking without mature calculation, let me enumerate the claims opened since last June, the time the work was commenced, up to September, the date of my visit. First the Minnehaha, 15 interests; had spent then about \$4,000 prospecting, without results; since found the gold, and taken out probably twice that amount, having in one week, I learn, washed up over 400 ozs. The Hocking, 5 interests; sank a shaft 65 feet, and drifted 18 feet, got pay to the amount of 52½ ozs.; now paying well. The Ophir, 4 interests; struck pay in the first shaft 25 feet deep; taken out from 3 to 5 ozs. a-day. Willow Co., 5 interests; total cost, \$800; total receipts over \$2,000; paying then about 6 ozs. a-day to two picks; pays much better now. Point Co., 4 interests; total cost, \$800; total receipts, \$1,500; paying about \$12 a-day; now paying better, I believe. Union Jack and Hugo Co.'s prospecting for the source of the lead. Jeffrey Co., 4 interests; total cost, \$3,000; total receipts, \$4,500; now paying better. Rising Sun, 7 interests; total cost and receipts, \$1,500; now paying a dividend of \$50 a-week to the interest, besides \$6½ a-day wages, to such shareholders as work, being \$39 a-week more, or \$89 together; now paying better. Holman Co., 4 interests; total cost, \$2,000; total receipts, \$4,000, for two picks. Tabb Co., 6 interests; total cost, \$40 or \$50 a share, prospecting. Discovery Co., 3 interests; total cost, \$2,000; total receipts, \$1,500 up to September; not thoroughly opened; running a tunnel, the results of which I have not learnt. Intersecting Mosquito, about half-way down, and having its source in the same mountain, is another stream, called Red Gulch, not sufficiently opened at the time of my visit, to speak definitely of its merits, but since proved to contain very rich deposits. To describe this gulch in detail would simply be a recapitulation of Mosquito; though, in general, I believe it will be somewhat more difficult to develop. I have no doubt at all of its proving equally rich. At the time of my visit there were six companies at work, with a large number of claims located, but laid over for the season. Like Mosquito, this summer, it will be full of life. One word more on this section, and I have done with it. Between Mosquito and the Fraser River, some 50 miles, thence up the river, to Fort George, a distance of 100 miles, where gold was found last summer in paying quantities, and back from the Fraser to Swamp River nearly parallel with Mosquito, is a large auriferous region, utterly unknown, as I have already said, which will henceforth be carefully prospected owing to these developments, and in the end become the most popular region in Cariboo, because the

greater portion will prove the least expensive and difficult to work of any yet known. So that you see it is not an idle foolish boast in saying Mosquito is worth more to the country to-day than William Creek; not so much from the amount of gold it will yield, as from the new life, vigor, enterprise, and confidence it will inspire; and, because it goes far to prove that Cariboo *really is*, the country of endless wealth which we have heretofore only thought it was.

I must now retrace my steps, and travel in an opposite direction 60 miles south-east to the Quesnelle River and Horse Fly country, taking as we go, a glance at the creeks lying in the intermediate sections, the value of which, though occupied a long time, is only beginning to be known. The first is

GROUSE CREEK.

It lies some five miles north-east of William, running parallel with it, and rising in the same Bald-Head range of mountains. I attach great importance to this creek; for I regard it as the future centre of the best hydraulic and Hill diggings in Cariboo. Its history to day, is instructive, by showing the vitality of the country, as a truer and more extended knowledge of its character prevails amongst the miners. For several years it has been abandoned, and any man who spoke of it except in terms of contempt, was considered a madman or fool; yet it now boasts thirty five companies at work, a good saw-mill, and two respectable villages. It is not, by any means, an easy creek to understand, describe, or work, from the existence of two distinct leads, one much more modern than the other, and neither, according to any evidences I could find, ever coming from the Bald Mountain range. Of course, this naturally complicates its investigation and development; it has two very rich, continuous, and determined leads: that fact has been proved; but whence they originally came, can only be explained by a great amount of expensive labor. The Ontario and Mountain Co.'s tunnels on the north and the Point Co.'s open cut on the south side, all prove the adjacent ranges rising from the creek to be auriferous, and that it and another stream existed for a long time at an elevation far above the present water level. Thus years, perhaps, will be required to ascertain the real wealth of this locality, which everything indicates, in my opinion, to lie in the banks and hills rather than in the present stream-bed. The Heron, Flume Co., Discovery, Caledonia (the latter paid very well last fall), Salt Spring, and Hipple claims combine in different ways to prove this fact; and, therefore, if all the other claims, from the Saw-mill to the head of the creek, supposed to be on the modern lead, should prove failures, it would not change my opinion of the richness of the locality in general. But there are circumstances connected with this creek which give it an advantage over any other locality I have seen in Cariboo. From the boundaries of the Heron and Hard-Up claims at

the lower end, the creek stretches out into a continuation of flats in which, at present, the old channel has not been found, although considerably prospected for. Throughout these flats and benches, Mr Heron informs me, the gold is generally distributed from the grass down through the gravel, which at the present rates of living, with China labor at \$3½ a-day, can be made very profitable. Indeed, there were some Frenchmen working them last summer, who with most imperfect appliances, acknowledged to making \$4 and \$6 a-day, though where the gravel was only three feet thick, they did not wash more than six feet square, and that in California would be considered about half a day's work for an ordinary man. There is abundance of ground of this character all through to Antler Creek, which with proper sluicing, in the hands of California miners would pay \$10 or \$12 a-day to the man. But this is not all. At a comparatively small expense sufficient water could be introduced for hydraulic washing, with 150 feet pressure; and that system, with the bed-rock soft as it is, and such an amount of gravel easily washed, would certainly raise the pay to \$20 or \$25 a-day. All this is sure to be in the course of a short time. It is contrary to the nature of things that hundreds of acres of valuable mining ground, while there is a known system of washing which makes the investment safe, should long be allowed to lie idle when its actual existence is made public. Such an idea is preposterous. If men can go through a district like this for 30 miles to the head of Bear River, with the ground not very rich, but generally containing gold, and with small means and small appliances soon realize enough to commence large surface hydraulic operations, you may rest assured, men from somewhere will come to do so. The existence of such a tract would be considered a most fortunate event in California. The same may be said of Canadian Creek, a small stream lying a short distance to the west of these flats, but emptying itself into Valley River, if that can be called a river. Along this creek I know personally of the existence of an immense deposit of *fine* gold, a thing I had been earnestly looking for, but never found before in Cariboo. Almost on the top of the mountains, behind the Miller claim, and running up into the Divide between William and Grouse Creeks, as high as 20 cents to the pan has been washed; while in the tunnel of the Clear Grit claim, at the lower end of the creek, I myself picked small particles of gold from the gravel seven feet above the bed rock. I have my doubts whether the Clear Grit can be made to pay very much under the present system of working; but under a good hydraulic, which would cost but little more than the present works when completed, it would pay immensely for a long time. So it will be seen from these statements that Grouse Creek, so long despised and ridiculed, because three men would not investigate their interests properly in '61 and '62, is fast vindicating herself in the estimation of practical men, and in due time will become the centre

have illustrated, there is not yet yet sufficient population in the country to prospect it thoroughly.

Having finished and left the Cariboo district, on reaching Keithley's, I will now proceed to the south-east side of the second divide, a distance of five miles, in a straight line across, to Cedar Creek, on the south lake of Quesnelle River, in order to bring under notice a new territory recently opened, which promises to be of much importance in future. It is astonishing on reaching Quesnelle River how the country and climate change immediately for the better, cereals, vegetables and fruits being grown in abundance, while the profusion of the wild raspberry, a large and luscious fruit, is truly marvellous. From this region the early pioneers traced up Cariboo, which led gradually almost to its desertion in the feverish race for sudden wealth, and it has since remained, I may say, unknown, so far as its real richness is concerned. Some parties, however, went into it again two seasons ago, and opened Cedar Creek, which from the large and steady pay it has yielded must lead eventually to extensive diggings being found on this magnificent lake, offering as it does for nearly ninety miles above and twelve miles below the creek an unbroken navigation. The discovery of this creek ranks certainly in importance next to Mosquito, seventy miles away to the north-west, because while the two establish the richness of the extremes they at the same time establish the richness of the centre, the only difference being that the latter is generally much more difficult to open and expensive to work. Up to this time only three companies have got fairly to work on Cedar Creek—the Aurora, Moorhead and Barker. The first, the Aurora, at the mouth, is perhaps of the kind the best opened claim in the country, having a main flume of 2000 feet to carry the tailings into the lake, and three sluices, each 150 to 200 feet long, to wash the dirt; total cost, \$8,000; total receipts, principally last year, \$20,000; with ground for three years more, and in a condition to be worked to the best advantage. The Moorhead, located in 1866, 2 interests; total cost, \$2,000; total receipts, \$7,000. The Barker, located in 1866, 3 interests; total cost, \$7,000; total receipts over \$20,000, with ground for three years more. Above this claim, to the head of the creek, a large extent of unprospected ground remains unoccupied. Mr Barker himself belongs to the best class of our California miners, and as soon as he has finished the stream intends running a tunnel into the side hills, on evidences which certainly justify the enterprise, and which, I feel confident, will be successful. It may be, therefore, this creek will be the means of inaugurating the era of hill-diggings, and if so, its discovery will be one of the most fortunate events that could possibly have happened.

A few miles to the east of Cedar lies Black Bear Creek, which was opened in a small way last summer with satisfactory results. It runs however in an opposite direction, emptying itself into Spanish Creek, a tributary of the north

fork of Quesnelle River, thus intersecting the whole of the south divide and proving it to be auriferous all through. Some day this fact will force itself upon the attention of prospecting parties and have a beneficial result. Again, below Cedar, some two miles, but running into the south lake, is Coquette Creek, until lately occupied only by a solitary company of Chinamen, who are known to have done well by their purchase from the Cornishmen who originally opened the creek. The latter lost their lead, and as usual, got discouraged and sold out. The pertinacity with which the Chinese have kept on working has again attracted white men to the creek, and good results are expected from the work they have now in hand. Up to this period these are the only new mining operations in this section. They may, so far, be limited in character and limited in productiveness, but they assure me that the country, deserted for Cariboo, will ere long be its rival, as the population increases, because, although it may not be so rich, it is superior in four essentials of successful placer mining; it is easier of access, better in climate, longer in season, and less expensive to work. With those advantages its thorough development is only a question of time. Nothing more has been done to-day, simply for the reason there were not people in the Colony to do it.* I have only one more district to notice in the northern gold fields, and to omit it would be an act of injustice. I mean the Horse Fly country. It commences with the river bearing that name, some twenty miles above Cedar Creek, on the south side of the lake, stretching east I suppose up to the head of the lake, and west between the boundaries of Quesnelle and Thompson Rivers to the dividing water-shed of the whole country, an immense region of which nothing is known except that it contains gold largely from one end to the other, though, I confess, I see no chance of its being brought into operation for years. I shall simply speak of the district in the neighborhood of the Horse Fly River. In the first place, it is remarkable for containing a gravel formation very similar to the celebrated "blue-lead" of California, and ~~containing~~ the fertility of the valley, as shown in the endless profusion of natural pasturage and indigenous fruits of every variety, proves the alluvial deposits of a great primeval river. Whatever prospecting has so far been done on the present river to discover the bed of the old one has been rendered useless by a false bed-rock which the miners did not understand. In the entire basin of the river I find an immense formation of a bastard talc, which of course could not hold gold to any extent, though in spots quite large amounts have been obtained; but on further examination I find the hill-rock to be metamorphic. This fact satisfies me that the talcose formation is only accidental, and

* The country of the main Quesnelle running 40 miles hence to the Fraser, including Lightning Creek and Cottonwood, will be included under the head of hydraulic mining.

must be cut through entirely, not followed down in holes as was done to reach the original pay gravel, which under this talc is likely to be very rich. At present, however, this splendid district lies idle, as the few men in it originally exhausted their means and were compelled to leave. Some of them, I understand, intend returning when able to prosecute their investigations; in that case, I would recommend them by all means to cut through the talc, which according to general experience cannot be more than sixteen or thirty feet thick. I have now finished the northern gold fields of British Columbia. It will at once be seen what a trifling proportion lying between the gold-bearing parallels has been occupied, and how imperfectly that trifling proportion has been prospected and developed. What then will be the condition of the Colony when the whole of that vast region teems with a busy, active, and prosperous mining population? Simply incredible. The facts and details I have given prove beyond question that I have not examined the mining regions carelessly or superficially, but on the contrary, more minutely than others preceding me. If I am mistaken in the estimate I have formed, it is upon evidences that would deceive any man, and nature does not often present such for the sake of deceiving—those evidences cannot be mistaken. Such as I have described the northern gold fields such I really believe them to be, and such I am firmly convinced they will eventually prove.

There is another immense territory to be noticed, the southern gold fields, but as these have been partially worked and the gold found generally is fine dust, it will enable me to show their value better by considering them in connexion with

HYDRAULIC WASHING.

This division embraces a vast region, commencing below Hope on the Fraser, up the Thompson and Bonaparte Rivers, to the head of great Shuswap Lake, a distance of some 250 miles, to which for the purpose of this description of gold washing may be added all the country from Lillooet up to Quesnelle River to its forks in one direction, and to Cottonwood and Lightning Creek in another direction, at least 150 miles more. When gold was first discovered on the Fraser it was found in very fine dust, scattered profusely on the surface of its bars and banks, but none generally speaking on the bed-rock. This led to a false impression of the country. It is supposed this fine gold was washed down the Fraser from the regions above, where the coarse gold would be found. This, however, cannot possibly be, and the deposits of fine gold on the Fraser have no connexion with the coarse gold of Cariboo, though the idea led fortunately to the discovery of the latter. I arrive at this conclusion from two important facts—first, that gold as coarse as any in Cariboo is found to-day in quantity on Bridge River, near Lillooet, showing the existence of a distinct primitive deposit: and

next, that the water-shed forming that deposit always ran from Nelson's, 100-mile house, to the Fraser, in an opposite course from that forming the Cariboo deposit. The point mentioned is to-day and always has been, in my opinion, the natural division of the two great water-sheds of the country, for it is a singular coincidence, that the present water-sheds of British Columbia and the pre-Adamite river system in California are the same. The gravel beds of the southern districts in California appear to have been formed in rivers whose courses followed the same direction as the present, while those of the northern mines appear to have run at right angles. This is precisely the case with the present water sheds of this Colony, and we may, therefore, presume it will be found the same with those of ancient times. Hence the fine gold of the Fraser could never have come down the river from any point higher than Lillooet; it could never have been carried at right angles over the intervening country to the Fraser, nor could that river afterwards carry it 300 miles and scatter it about where first found. The river itself forbids such a conclusion, for after all it is nothing more than a natural sluice on a large scale, and with its immense benches, its jagged and broken rocks acting as riffles, the fine gold must be caught long before it reached Hope, by the very principle on which we conduct large gold washings to-day. To give reason to such an argument we must pre-suppose the river to have been at least twenty times its present size; no doubt it was, for the benches on both sides from Yale to Quesnelmouth mark its gradual contraction within its present limits; but that fact, so far from strengthening, really destroys the argument. Such an immense volume of water as the river then contained would immediately dissolve the debris containing the fine gold, when gravitation would soon gather it to its final resting places, for it is now an authenticated fact, that even fine gold will not travel far in water without the aid of some earthy substance. Hence, I conclude, the fine gold deposit of the Fraser never came from Cariboo, but from a deposit of its own in the lofty benches and precipitous hills on both sides, and which probably will only be found by means of the hydraulic pipe. In estimating the ground then in British Columbia suited for this system of working, the Fraser cannot be excluded with justice, although it has been worked for years. Let me now show in detail the results of hydraulicing in California, for by them alone can anyone thoroughly appreciate the advantage it will be to this country when applied to its full extent.

The greater portion of the placer diggings in California, as you all know, were first worked by the rocker and long-tom, most crude and defective machines, and district after district gradually deserted on the supposition of being exhausted. Then flume and ground-sluicing came into existence, and with them the districts deserted were re-peopled; again worked to advantage and again deserted. Then fol-

lowed the hydraulic pipe, and with this last and most perfect system, a repetition of action and a repetition of results, only with this difference, the districts have not again been deserted so fully, for thousands of acres have thereby been made remunerative for years past and for years to come, which under any other method of working would be valueless. The field for profitable hydraulics in California, indeed, has been found almost co-extensive with the gold belt, and it will prove so in this country. It is not my intention, however, to do more than refer to the principal districts under hydraulic power, in order simply to illustrate the cost and profit of working, and to do this effectively I shall make an extract from the report of Mr George Black, M. F., published in San Francisco, 1864. Speaking of the hydraulic diggings between the south and middle Yuba, he estimates the ground supplied with water by the Middle Yuba Canal Company at 5 miles in length, 350 yards average width, and 40 yards average depth. These figures give a grand total of 123,000,000 cubic yards; of this amount, only eight per cent. was worked out in 12 years, the average yield of which, *as saved*, was 30 to 45 cents per *cubic yard*; hence this mass of auriferous earth would yield over \$38,000,000. But the total area of the gravel deposits worked on the ridge is estimated to be equal to fifteen square miles, which, assuring a like average width and thickness would contain at 30 cents per cubic yard the enormous sum of \$550,000,000." To work dirt under this system, Mr Black computes the cost as follows, and I have taken his 1864 prices as approximating in some degree those of this Colony in 1868. "To work," he says, "one cubic yard of this auriferous earth, assuming the wages of the miners to be \$4 a day, it would cost by the ordinary pan, \$20; with the rocker, \$5; with the long-tom, \$2 50; with the sluice 75 cents; and by hydraulics, 20 cents." Now, before I give the result of washing dirt by this system, let me show in another way still plainer the infinitesimal character of its pay. Mr Black, and I assure you he is quite an authority amongst us, asserts that this great hydraulic dirt in California, of which the world has heard so much, during 12 years' average, *only paid 30 cents to the cubic yard*, or a fraction over 1 cent to the cubic foot. Now, a cubic foot of loam dirt without rocks will fill an ordinary gold wash pan about ten times, so that every prospect a person would obtain amounts on an average to the tenth of a cent. Can anything in a business sense be more infinitesimal? Yet now listen to the results. I will give some of the principal claims only. Take for instance the Blue Gravel Mining Co., in Smartsville, 18 miles from Marysville, which is known to have yielded since 1864 no less than \$600,000; their sluice boxes are over 3,000 feet long; they are cleaned up eight or nine times a year, and from which are obtained amounts varying up to \$50,000 each time. The Live Yankee claim, at Forest City, is reported to have paid \$3,000,000; while throughout the

State, it is no uncommon thing to see the less important claims clean up from a few hundreds to \$15,000 or \$20,000 each time. In one case, the Manzanita Hill, near San Juan, Nevada County, 510 kegs of powder were discharged at a single blast to reduce the dirt to a fitting condition to wash. A dull report, it is said, "broke upon the ear, and a mass of earth, 150 ft. deep, 200 ft. wide, 300 ft. long, rose a short distance into the air, and fell back thoroughly disintegrated, and in a fit condition for working." Such is the spirit with which this system is adopted and carried out all through California. Suppose it were applied here even in a limited way, what a difference it would make. All up the Fraser, especially round Lillooet, the benches and hills will all pay 1 cent, and in many cases 3 cents to the cubic foot, and at the same time abundance of water and abundance of fall can be obtained; it is the same on the Thompson and Bonaparte Rivers to the head of Shuswap Lake; it is the same up the Quesnelle River to the Forks, and above them; it is the same in Cariboo; it is the same everywhere, but the people do not understand its wonders; in fact, its day has not arrived. It is not only in the extent to which dirt can be washed, so much as in the effectual manner in which it is washed by this system that its merits lie. Drifting is a slow and costly process, while it is an established axiom in mining that the best underground men necessarily leave a third of the gold behind them. Suppose the old Aurora claim, on William Creek, like the Manzanita Hill, at San Juan, was shattered to pieces by powder and put under an effective hydraulic, do you think it would not pay more than 1 cent to the cubic foot? It has paid from 1863 to the end of 1867 about \$225,000 in dividends, at a cost of \$100,000; put that claim under the new system, when three men would do the work of fourteen, and it would pay again almost as well as it did in its proudest day; while the folly of such costly labor would be seen and appreciated. At present, however, the people say it cannot be done; ere long, you will hear them say it must be done; and then, but not before, when every section of the country is brought under economical operation, and made to pay in full the proportion it can pay towards the general wealth, the world will stand amazed at the annual yield of gold coming out of the "poor and beggarly country" which British Columbia is called to-day.*

Before I close this branch of the subject, let me say a few words upon the two great difficulties at present in the way of introducing the same general and extensive mining sys-

* The same argument may be used in reference to ground once worked over, especially that which has been drifted. Take for instance the rich Heron claim, on Grouse Creek. It originally paid \$300,000, at a cost of \$150,000. Last year five men bought it for \$4,000, and by simply cutting down the bed-rock from twelve to eighteen inches deeper, averaged nearly 100 ozs. a-week during the season.

tem in this Colony that prevails in California, for they are intimately connected. I mean, the absence of artificial canals and the severity of winter. I confess, it struck me, considering the complaints I heard of the want of water, not only as very extraordinary but as one of the main causes of the mining stagnation in Cariboo, that there were no artificial canals or large temporary reservoirs. Of the necessity of both here, as elsewhere, during the latter part of the season there can be doubt. The question then comes, can they be built? The artificial water canals for mining purposes in California, are, perhaps, the proudest monument of her enterprise and spirit. The best ground is of no use without water. Now to make all available, there is a network of these canals intersecting the entire State, 5,328 miles long, constructed at a cost of \$15,575,400; the water is drawn from sources as inaccessible, and through regions as terrible as any in British Columbia; it is taken from the heads of rivers, incased for miles in solid walls of rocks, the lakes on the very summit of the Sierra Nevadas 11,500 feet above the level of the ocean, and finally, sent to its destination through flumes, iron pipes and over suspension bridges, with a constructive genius that could not be subdued or appalled. Yet, notwithstanding this enormous supply, our general washing is suspended for the season from about the second week in July to the end of October, and oftentimes later. I grant such a system of canals cannot be constructed here for some time, but to meet the emergency, the miners by uniting together, as was done in California, can do the next best thing, build large reservoirs at the head of the creeks, as a reserve fund when needed in summer, and thus ensure a profitable employment of every hour of that precious season when drawing to its close. This could be done successfully, and to a certain extent cheaply in every district, and thus equalize in a great measure the busy mining seasons of both countries. There is not, however, as things are, the vast difference which some imagine and many maintain. In California, from the dry summer, extensive washing, and mining operations generally are suspended from July to November, during which period many miners go to the Eastern States, and many visit San Francisco; in British Columbia, the suspension takes place in December, sometimes sooner, and goes on to April and May, and the same exodus is seen; so, after all, it is but a change of period rather than a difference of fact. All that is wanted, so far as I could observe, to place British Columbia on an equality with two-thirds of California, is more water at the end of summer; and with that the severity of the winter would be shorn of much of its terrors and most of its evils. In California, it is true, tunneling is carried on in the fall of the year, and a vast amount of dirt accumulated for the wet season; to some extent, the same is done in Cariboo, and every year now will see that system of work extended. At

Cedar Creek, last summer, the Barker Co. and others worked and washed from the first week in April to the end of November ; and so thence south the same thing could be done, if there was only water introduced through the country. Take, as an example, the whole of Thompson River to Boston Bar, on the Fraser, all the way full of good hydraulic and moderately good sluicing ground ; if that territory was in California, the Bonaparte would be carried right through from Cache Creek, and by supplying water for irrigation in the intermediate sections, be made a splendid investment. If this sounds extravagant, let me state there are many artificial canals in California much longer, and much more costly than this would be. I will enumerate a few, to satisfy the incredulous, and to show I never make statements I am unable to sustain. On referring to the Pacific Coast Directory it will be seen that the Eureka Canal Co., Cosumnes River, is 450 miles long, and cost \$500,000 ; Pilot Creek Co, 150 miles, cost \$300,000 ; South Yuba Canal Co., 200 miles, cost \$1,500,000 ; Eureka Co., Yuba River, 150 miles, cost \$750,000 ; Auburn and Bear River Co., 290 miles, cost \$650,000. I could, if requisite, multiply these cases, but they are sufficient to show that such a canal as I have just mentioned is not so gigantic or terrible an affair after all ; that it is not nonsense, as some in their ignorance of what men will do in gold countries might be pleased to call it, when they know the wealth to justify the expenditure is really there. As in the case of draining the Meadows, tunneling the hills, introducing hydraulics, I see no earthly reason why the same enterprise, the same costly undertakings, the same wonderful and all conquering spirit, should not be seen in British Columbia that we have witnessed in California, when the world comes to know that they will pay as well there as elsewhere. That is simply the trouble, the world knows nothing of the real truth of the case, and as far as the people and a portion of the Press are concerned, they seem, until lately, mutually determined it never should know. Personal experience, whether good or bad, is not by any means a safe principle by which to judge the general or particular merits of a country. All cannot become rich by mining any more than by any other occupation in life ; and it is well they cannot, for I can conceive nothing more deplorable than mortal's condition in a community where every person was positively rich—even if poverty and wealth were not, as we know they are oftentimes, the result of mere chance and accident. But what incalculable turpitude is this in men, to go forth and defame a country at all times, and in the most unjust manner, simply because they were not successful in it. However, these things will soon be adjusted, for the truth is told now by everyone who knows anything of the country ; and you rest assured, that this greatest of all evils, "the short season and severe winter," will grow smaller and

smaller as water is generally introduced throughout the mining regions.

GOLD, SILVER AND COPPER VEINS.

I have been requested to say a few words before concluding upon these interests, and as I have examined them I will do so gladly, for without such notice my history of your mineral wealth would be incomplete. With reference to the auriferous quartz ledges, I have traced them from Island Mountain, at the head of Mosquito Creek, through Lowhee, Stout, William, Grouse, over Bald-Head Mountains to Black Bear Creek, on the great south lake of the Quesnelle, a distance of seventy miles. Although these ledges are very fine in character, well developed, determined in their course, and offer every evidence of being up to the standard of the California ledges, still I do not think the time has arrived when they could be worked to advantage. Much discretion must be exercised in commencing the quartz business on an extensive scale. A failure at first would throw these great interests back for years. It will be wisdom in this respect to be guided strictly by the experience of California. Up to 1860, nearly everyone who went into the quartz business was ruined, and it fell into such disrepute, and became so odious in San Francisco, that no capitalist could be found to advance a dollar to assist in opening a ledge for which now he would gladly give \$50,000. The total average pay of the California ledges throughout the State, according to Mr Black, and other authorities of equal experience, does not exceed \$15 a ton. Of course there are many brilliant exceptions, and so there will be here, but upon the whole, you have no right to expect nature to make an exception in her general laws for you. Now in this country at present, with labor, money, provisions, machinery, freight and incidental expenses so high, anything under \$60 a-ton at least would be a losing affair, and \$40 a-ton is *very rich* rock; thus 18 out of every 20 men investing in quartz largely would be ruined, the same as men were at first in California, and this great productive interest thrown back for years. Therefore, I advise a little delay. Develop the ledges so far as to prove them, if you please, but except in ordinary cases, do not attempt to work them on a large scale. It is estimated that from 1862 to 1865, the period of the quartz mania in California, that San Francisco and New York spent \$120,000,000 in Reese River, Montana and Idaho, without getting a dollar in return, and now no matter what they find, no one will help them in those cities, nor will they for years. You all know the desolate condition of those territories at present, from having little or no other resource to fall back upon. I have already spoken of the immutability of the laws governing mineral veins, but those laws are valueless against an overwhelming expense that can

neither be avoided nor reduced ; and it is a poor policy in mining to expend the money in simply getting to a mine, which was intended to develop it ; people very soon tire of such a business. I grant there is a great difference in California to-day. In 1860, her quartz interests were literally dead ; in 1867, her quartz mills numbered 411, erected at a cost of \$5,900,000, the annual aggregate product of which is \$11,250,000. What produced this change in seven short years ? In the first place, a better knowledge of the laws governing mineral formations and a thorough experience in working rock, and the application of both to the minimum yield and the maximum cost by which to determine the margin for profit ; and in the second place, the natural equalization of labor and capital. To-day, from these causes, a ledge paying \$10 a-ton, easy of access and easy to work, would bring more in California than one that would pay \$500 a-ton in Idaho or Montana ; simply because, in the former, we can reduce our amalgam for \$5 a-ton, which leaves 100 per cent. profit. A few years will make a similar change in this country. You are not wanting in all the elements of successful quartz mining ; and, therefore, it is better and safer for all concerned, in my opinion, to allow the business to come to maturity in the natural course of events, than to force it into a sickly existence at present, to its certain prejudice hereafter.

These observations, however, do not apply to the same extent to your silver ledges. You have already made such a wonderful development at Cherry Creek in silver, that I think that interest may be advantageously advanced now as hereafter. Such enormous fortunes have been made in Washoe by silver, and such an enormous business is still done in California in silver, that I see no difficulty in inducing capitalists to invest money in it here, if the thing is properly managed. Besides, there can be no doubt about the Cherry Creek lead, the quantity and the character of the rock it has yielded establish its legitimacy at once. I have some in my possession, richer than any coming from Washoe for three years' past. I feel convinced they have the main lead and not the spur ; but as the sudden illness of Mr Landvoigt prevented me going to inspect it personally, I cannot yet determine that important point. Nevertheless, putting all the circumstances together, I confess I cannot resist the conviction on my mind, that the discovery is not made on a spur, but on a large, rich and permanent vein. I saw the same ledge on Scotch Creek, twenty-six miles from Cherry Creek, and it is there nearly thirty feet thick, and at the same time a magnificent character of rock.

You are probably aware, His Excellency the Governor was kind enough to place his little steam yacht Leviathan at my disposal, in order to visit the Howe Sound Copper Mine, near Burrard Inlet, soon after its discovery. Many in this city have asked me, since my return, whether there is any-

thing in it. Indeed there is, you may be assured, a great deal in it. I pronounce it by far the best thing of the kind discovered in the Colony, and quite as legitimate as any on the Pacific Coast. It is one of four mines hitherto found in the world, of which we have record, where sulphuret ore in a concentrated form was carried in quantity and of high percentage on the surface. Nor is there any doubt, in my mind, about its being a true organic vein, for there, plainly in sight, are all the essentials necessary to constitute a true copper vein down even to the fluekan, the first and last essential. At present there is a slight displacement, which will require probably drifting for a hundred feet to overcome. As soon as the vertical dip is reached in the hill, the vein will show itself in its true course and form, and at least be three feet thick. If this mine is now judiciously managed by the owners, and liberally dealt with by the Government, it must be of immense good to the Colony; for it at once establishes the reliability of your vast copper ledges, and may in the end, when thoroughly developed, excel the marvellous richness of the Union in Copperopolis, and the Cobra, in Cuba, for neither of those celebrated mines were equal to the Howe Sound mine on the surface.

So far, I have spoken only of your mineral wealth on the Mainland. Vancouver Island, of course, I have had no opportunity of examining, to decide with any degree of certainty either the extent or character of its auriferous deposits. Its copper and coal, however, are endless, and the rock on which your town of Victoria stands is all a mineral formation. It appears to me, you should first devote every energy to the development of your splendid and extensive coal beds. I have already told you that the theory of Professor Jackson, of New York, a very competent and scientific man, of the non-existence of the carboniferous era in California is daily gaining strength, for the more we examine into the matter the more we find his statement of the auriferous rock occupying the place of the coal-measures to be correct. Hence, then, the coal does not exist there at all, or at such a depth it cannot be worked with profit; in either case California is left in the same dilemma—she is without coal. I stated this eighteen months' ago, and that, therefore, the day was not far distant when the proud city of San Francisco must come begging to you for the means of sustaining her commerce, manufactories and greatness; for without coal she is comparatively helpless. To-day my prediction is nearly realized. It was then evident to me that the business enterprise of the Americans would overcome all political and national prejudices, and in the event of not getting coal of their own, they would do the next best thing, go to the nearest and cheapest place for the supply they required. To-day they are doing so, and I am satisfied, if the business is properly managed, at least 150,000 or 200,000 tons a-year can be sent from this Island to San Francisco.

It is gratifying to see the increase of shipments lately made from Nanaimo, the last year exceeded the previous year by 10,000 tons, while the shipments during the first two months of this year are far in excess of that increase. And so it must continue to the end—the long, dreary night of misfortune is giving way to the dawn of a brighter day; and if you only avail yourselves of the mineral wealth in your possession, the coal beds of Nanaimo, Cowichan, Comox, Newcastle, and on the Mainland, are sufficient in themselves to build up the Colony to the highest state of prosperity and wealth.

LECTURE II.

On the Agricultural, Commercial, Geographical, Political and National Resources, Advantages and Aspects of the Country.

MR PRESIDENT:—Having in my previous address substantiated, I believe, beyond all question the mineral wealth of the country, which in the natural course of events must attract the attention of the world to a large extent, in spite of all the prejudice and misrepresentation of those who judged the country, not from its merits so much as their own incapacity to ensure success, the next question that presented itself to my mind was, whether in case of a sudden influx of people drawn to it by sudden discoveries which are certain to be made, the agricultural capacity of the Colony would be equal to the emergency. Instead, therefore, of finishing my travels with an examination of the mines, I found, in order to ascertain this fact, I had still an irksome, laborious and important duty to perform, and I went through with it with care, because few people, unacquainted with mining countries, have any idea how closely the production of gold and the production of flour are connected. My impressions of the agricultural character of the Colony, I am free to confess, by being obtained from false authorities, were about the same as my impressions of its mineral wealth, altogether wrong and unjust. It was necessary, in this case, to examine the districts lying adjacent to the main thoroughfare of the mines, the product of which could be brought into immediate use if required to feed and sustain a mining population; so it must be understood all the rich tracts of land extending along the banks of the Fraser to its mouth, and also on Vancouver Island, are not included. I am merely speaking now of the Upper Fraser, from Yale to Quesnellmouth. It has always been maintained that British Columbia is not an agricultural country, the same thing that was said of California in early times by men about as foolish as those who spoke of that country without any real knowledge of its merits. In order to prove the vitality of this country, it is not necessary to prove it an agricultural country in the strict sense of the term—that is, like California, capable of exporting grain; all that appears necessary to me, is to show she can, as early Cali-

fornia did, sustain the population of to-day, and half-a-million more if they were to come to-morrow at any given point without calling into requisition the whole of her resources. Now, what do I find in this respect? This great truth—that British Columbia is as capable in agriculture as she is in mining, even within the contracted limits to which I shall confine myself, extensive as those limits are in point of distance, but nothing, worse than nothing, in comparison with the total extent of her vast agricultural area.

From Lillooet on the west to Soda Creek on the east side of the Fraser, say 200 miles north, thence to Cache Creek, along the Thompson, to Savana's Ferry, up the lakes to Kamloops and Seymour, say 200 miles south, I find a country as fertile, as easy of cultivation and as durable as most of the better portions of California, and which, judging from its general features and the actual crops it produced last year is certainly capable, without exaggeration, of sustaining at least half-a-million people in the two great necessities of life, flour and meat. Throughout these limits I also find, as in California, that all required to make an apparently barren land highly productive is sufficient irrigation, for the crops last year by this means averaged thirty bushels to the acre, an average over that of any similar given area to be found, I believe, on the coast. It is estimated by parties engaged in buying last year's grain, that the Upper Fraser, from Lytton to Quesnelmouth, produced 1000 tons of wheat, which is equivalent to 9,000 barrels of flour, while the quality of flour is equal to the celebrated Golden Gate brand of California; and that this is not an exaggerated calculation, is evident, from the fact of Cariboo this winter, the most severe ever known, being abundantly supplied with flour of your own producing at 20 cents a pound instead of 50 cents a pound, when the supplies were dependent upon California. Thus you have arrived at that period, long to be remembered in your history, when the upper country, even the "howling wilderness" as it is called, has become self-sustaining in flour. Few people, especially those unacquainted with mining countries, can form a true estimate of the importance of this achievement. While California remained dependent on Chili for flour, she made little progress in the development of her material interests; while British Columbia remains dependent upon California we see the same thing; but as the former gradually became self-sustaining, she gradually became what she is, the princely mistress of the Pacific. Shall we deny the same results to the latter? Perhaps we might with propriety if she were not a large producer of gold and coal; but having these, with the production of her own flour, her career, in my opinion, cannot be impeded. No, sir, the facts of your taking last year the first step towards your independence of the world for the chief means of living, the first time observe it has been taken in your history, is worth more, a thousand times more, than all the glittering, unstable, grandeur of the past, be-

cause it will create an inevitable desire for greater independence by greater production, and therefore every coming year, in obedience to that desire, will duplicate the past year in both. The labors of 1867, all round, have been indeed a glorious triumph for the Colony.

Throughout the limits I have drawn, the soil is very rich and enduring; abundantly supplied with water for irrigation, with a climate unexceptionable in summer, and not very severe in winter. I have already spoken of the high average of the crops, and as a proof of the power of duration in the land, they proved larger upon some of the farms last year on Cache Creek, the fifth consecutive growth of wheat, barley and oats, than ever known before. This was shown on the two farms, of Boston and Perry—the one under cultivation five years produced about the same proportion of wheat from 22 acres, that the other, for the first time under the plough, did from 30 acres. From inquiries at the mills, at Lillooet, Soda Creek and Cornwall's ranch, I learned that the grain runs very even in its percentage of flour, yielding in all the three districts from 65 to 70 per cent., with a little advantage in favor of Cache Creek grain. The best and largest farms I have seen in the whole country are Dunlevy's and Galbraith's, at Soda Creek; Boston's and Perry's, on Cache Creek, and the Cornwall ranch, on the Thompson. A few particulars of these five ranches, selected simply because they are well-known, may not be uninteresting. Dunlevy produced about 125,000 pounds of wheat, 40,000 of barley, 30,000 of oats. Galbraith, about 150,000 pounds of wheat, with something of the same in barley and oats. The immediate district of Lillooet produced 1,500,000 pounds of excellent wheat, 800,000 pounds of oats and barley, 60,000 pounds of beans, which is much less than the farmers intend growing there next season. Sandford, or Boston, as he is commonly called, on Cache Creek, 43,000 pounds of wheat, 86,000 pounds of barley, 22,000 pounds of oats. Perry, from 30 acres, the first season, as already said, averaged 50 bushels of wheat to the acre. Cornwall Brothers, have 90 acres under cultivation with 50 more preparing for this year, last season's crop yielded 48 bushels to the acre, with barley and oats in the same proportion; oats especially never being considered good under 49 bushels to the acre. These gentlemen, in addition, have 380 head of cattle, 60 horses, hogs, &c., &c., in quantity, and will soon become wealthy. I wish to refer for a few moments, to Sandford's case, being a bright and meritorious example of industry. He located 260 acres in 1861, the cereals of which, as given already, would realize him last season \$4,500, in addition to which (given here as an evidence of the duration of the ground) he produced 70 tons of hay, worth \$25 a-ton; in vegetables, 50,000 pounds of potatoes; beans, 3 tons; carrots, 8 tons; Swedish turnips, 15 tons, besides a large amount of onions. The total cost of this farm residence, out-houses, fences, together with ditch for irrigation, cost \$6,000. Putting the stock growing up

on the farm, together with its produce, the proprietor to-day may be considered rich. I could instance numbers of such examples, yet it is difficult to make people believe that British Columbia offers any inducement for farmers to cultivate the land. It must not be understood either that the territory within the limits mentioned is fully occupied. Not a tithe of it is under cultivation. Indeed some of the best still invites the settler. Here, I must observe, that the climate is equally good for vegetables. During the summer, in all places, as far up as Quesnellemouth, I ate peas, cauliflower, cabbages, turnips, carrots, onions, celery, as large as any grown in California, but better flavored, while the potatoes everywhere in the Colony, for size, soundness and quality, defy the world. The same holds good also in reference to fruits. It is a common and true saying amongst the Americans, that where the water-melon flourishes, any fruits may be grown to advantage. When, therefore, I found water-melons at Lillooet and other places as fine in every respect as any grown in Ione Valley, California, I was not surprised to find apples, pears, plums, strawberries, cherries, gooseberries, currants, &c., &c., if not so large as the California fruits of the same variety, infinitely better flavored. Yet people will persist in calling the interior a "howling wilderness," fit only for the red man and the bear. If I am wrong in these statements it is easy to show the falsehood. To do so, however, requires a man to do what I have done, traverse the entire country step by step, look into everything, calculate everything, compare everything, and when that is done, I know my veracity will be established. General statements, contradictory of what I advance, will not suffice; figure against figure, detail for detail, must be produced, and then if there is a discrepancy it can very soon and very easily be brought home to the erring party. If I am *proved* to be wrong, let me for ever be covered with the shame such falsehoods deserve. Now, Captain Bumsby, author of the trashy letters appearing last summer in the *Cariboo Sentinel*, as your optics and imagination are so dull that you could not see Legh Harnett's garden in the interior, here is another chance for distinction—to you and all of the same school, I boldly throw down the gauntlet. Any man who could ride through the country at the time of my visit, and not see it in the same light that I did, must look in his own soul for the barrenness he sees around him.

The next and last point to be considered in connexion with the agricultural resources of the Colony is cattle-grazing. I approach this subject really with hesitation, nor should I venture to publish the facts I have collected, were they not fully substantiated by parties whose position and characters cannot be questioned. It is, indeed, one of the most remarkable features of the country, and I doubt whether any man was more astonished than myself at what I learned and gathered. The magnificent range of pasturage, in which the bunch-grass is found, peculiar for its fattening pro-

perties, really begins east of the Cascade Mountains, fifty-seven miles above Yale, running up to the head of navigation on the Fraser, to the very base of the Rocky Mountains, altogether north and south 800 miles, but how far east and west is not known, though the distance must be immense. I will select a few particulars from my notes. The principal cattle dealers are the Messrs Harper, two brothers, supposed to be worth \$200,000, most of which they are said to have made in this Colony. Mr Jerome Harper assured me there is scarcely any such pasturage in Texas or Missouri, and as he is an American his testimony is the more reliable. They are located on the Shuswap and Cache Creek, and possess about 1,800 head of fine stock. At the time I saw him at Cache Creek, on his way to Cariboo, with some 600 head of grass-fed cattle for the winter's supply, he assured me he could select 180 three-year old steers from the band that would weigh 870 pounds each, while the remainder were certainly the finest lot of beef-cattle I ever saw collected together in any country. No such average as this could be reached on the Pathero Plains, round San Juan, south in California, beyond comparison the finest grazing district in the State. Again, Mr Cornwall told me they had killed *two-year* old animals that weighed as high as 820 pounds each, fed simply on grass. One case I witnessed myself, on Antoine's farm, four miles below Mr Cornwall's, exceeds all the others, and appears almost incredible; it was that of a *yearling*, killed in my presence, which weighed when dressed 545 pounds. I could mention many such instances coming to my knowledge indirectly, but I prefer the above because they can be authenticated by the gentlemen whose names are mentioned. Here then, again, you see what this "howling wilderness" of the interior will do, and is doing daily. Can such cattle be found in the London market, *fed alone on grass*, in England, Scotland or Ireland? If so, I confess, I never saw or heard of them. In California, I know nothing of the sort can be produced. Another instance may be given of the extraordinary value of this bunch-grass for dairy purposes, and with it I will finish. It is that of Messrs Duck and Pringle, located on the Shuswap River, who made 1,500 pounds of butter from 15 cows during last summer. Nor is the severity of winter through this particular district, as in some others, a set-off against the profits of summer. During some extreme seasons, it is true, cattle suffer and die; but settlers who are prudent enough to cut natural hay for winter feed, which can be done for \$5 or \$7 a-ton, never lose a single head in the deepest snow, while such as do perish are old and poor California cattle. That I am not underrating or overrating this magnificent cattle range is proved by the Cariboo teamsters and packers, in addition to the stock belonging to it, regularly bringing at the end of each season from 400 to 600 head of worn out animals of every kind to winter, and which, without being fed with hay, come out in the spring in splendid condition. And so

I leave the agricultural resources, with a firm conviction, that in this respect, as in others, the country has been grossly misrepresented.

It will be seen from these statements that this solitary bugbear of the Colony, the "terrible winter," might as well be left alone, for in most parts except the extreme north its horror consists more in its solitude than severity. If, as in Canada and the Eastern States, the interior gentlemen could have lots of sleighing, with something very pretty and warm rolled up in furs by their sides all the time, it would not be feared I think so very much. In such latitudes a California winter cannot be expected, though her winter one year in three is more devastating and ruinous than yours with all its severity during the whole time. Indeed, I have never met a country so free from those dire calamities which periodically visit the world as this. Where are your floods, fires, hurricanes, earthquakes, drought that with such a cruel hand constantly in other places lay men so low, so ruined, so crushed? In the absence of these plagues surely you can bear with the severity of a winter, which at the worst only stops work in open air two or three times during the season. I have had some experience in California during the last seventeen years in these matters and know what they are. Let me tell you something about them. Do you know what a large city laid in ashes means? Have you ever seen a vast ocean of fire sweeping onwards with lightning speed, on every side curling up the lofty spires in wreaths of angry flame, devouring the mansions of the rich, the hovels of the poor, the haunts of the vicious, the asylums of the destitute, and commingling all in one vast and common ruin? It is but the work of an hour—yet how terrible that work. To see stern men who had gone to bed rich, delicate and refined women accustomed to the elegancies and luxuries of wealth, children who never knew want wandering to and fro in multitudes, without a home, without clothes, without food, crushed and helpless and no relief at hand, is a sight that tries men's souls indeed. But you have none of this, you have none of this in your midst, and God grant you may still be spared. Do you know what a country deluged by floods means? Have you ever seen a vast inland sea, a hundred miles long and forty miles wide, the work of a few days, but raging and surging for weeks, and laying a paralyzing hand on all it touches? Have you ever stood on some lofty eminence and viewed the utter hopeless wreck of life that lies stretched out on all sides as far as the eye can carry? The work and reward of years lost in an hour—beautiful homes crushed to pieces or swept away, noble cities submerged and surrounded by a desolation as sublime, though not as fatal as that which wiped out all traces of the once proud Babylon and Nineveh? Have you ever seen the darkness of the storm-night prevail by day, when it seemed as though you could raise your hand and clutch the murky heavens above as they poured and poured down their endless

torrents of water, and the soul of man is weary, so weary waiting for the sun? No, you have none of this, you have none of this, and God grant you may still be spared. Do you know what a country dying out by inches from drought means? Have you ever rode over fertile valleys, rich prairies, studded with splendid farms, valuable orchards, endless flocks of every kind, and marked the slow but inevitable work of famine and progress of death? Have you ever seen the beautiful firmament of Heaven paled in its hue by the constant glare of the terrible sun, the creation stripped of every living herb, panthers and bears subdued by hunger come down from their lairs to die with dying flocks of sheep and cattle, and fruits, and trees, and crops perish by the hour? Have you ever felt that living death, the dread silence pervading the busy haunts of man, when the earth and all things living are weary, so weary waiting for the rain? No, no, you have none of this, you have none of this, and God grant you may still be spared. No, sir, of all countries I was ever in this one to me seems least afflicted by those physical evils which constantly punish each clime and each people in turn. What would have been your condition to-day had you gone through a tithe of our California experience? I hear people on all sides constantly talking of California to the prejudice of British Columbia. Well, she is a bright, sunny, glorious country upon the whole; but if there is one country in the world more than another where men's souls have been tried and their energies tasked to make her what what she is, it is that very California. Had this Colony received the same advantage of foreign capital and emigration that she has had, it would have been, in my opinion, a far more preferable country in many respects.

Again, in a commercial sense, I cannot see grounds for such gloomy forebodings, because, in my opinion, the more San Francisco extends her influence, capital and successful trade, it must, to a certain extent, in the end benefit Victoria, simply because she has the only safe seaport besides that city on the sea coast. The opening of the Japan and China trade, and the purchase of Sitka, will also have an immediate good effect, for neither can be carried to a successful issue without the means of this Island. The Americans know this, and hence their desire to get this stumbling block to their greatness on the Pacific. In reference to Sitka, it brings British Columbia at once in the centre of the American possessions, and its trade must centre here in spite of national prejudices and political jealousies. The steamers plying to and from San Francisco must coal here, because it is cheaper, and commercial necessities and commercial benefits soon bring all things to a level. Some think Sitka will never amount to anything, and much fun has been made about its purchase. That is not my impression. In the hands of the American people, and in the midst of American wants, it is sure to advance; and not being able to get this country, the purchase of Sitka was the next best

thing they could do, for the possession of the extreme north and south doubles their power on the coast, and gives them political and commercial advantages they never before possessed. Let those advantages extend to the utmost, if you please, as the great tide of nation floats along your shores; and how you can avoid participating in the establishment and continuance of that nation, when you cut them off in their necessity from their own people? Do you think any Sitka shipmaster would go to San Francisco in preference to Victoria for such things as may be required immediately, simply because you are English? It would not pay, and the Americans look to that point I assure you. But the possession of Sitka by the Americans tends to your advantage in another way hitherto not seen, in connexion with the Japan trade recently opened with San Francisco. You all know how that trade has increased during the first year, beyond the expectation of those who inaugurated it. Now, it is a fact, that the route from San Francisco to Japan, by going through the Aleutian Isles, on the west coast of Sitka, can be shortened *eleven hundred and sixty miles*, instead of going by the Sandwich Isles, as they do now. There is nothing for the large steamers running on this line to go to Honolulu for, except to keep up an established communication and connexion; it cannot possibly pay, financially; and, therefore, when Sitka becomes of more importance, by being filled by American people, and by extending American interests, I do not see how the Japan line can avoid taking the other route; when, in the first place, they save thereby such an immense distance, and by coaling here, in the next place, save such an immense expense. Such are the natural advantages of this place, in a commercial light, that I cannot understand any progress on the Pacific coast and Victoria not sharing in it largely; and the proof of this is, that to-day, she is doing more, and holding her own better, than any portion of the coast from Washington Territory to San Francisco, except Portland, and she is no great thing to boast about.

But the most important feature of this country in relation to its future progress, is its geographical position. Without mines, without any extent of agricultural lands, this alone would make it prosperous in course of time. If the English nation desires to maintain its footing and extend its influence on the Pacific, it must foster and encourage British Columbia. An abandonment of this territory, is an abandonment of the entire Pacific, for there is not now another spot on it where we can get a foothold. The more this truth is impressed upon the English people, in order to induce their assistance in various ways required at present, the better for them and for yourselves, for a greater Colonial calamity could not be experienced than its loss. That position gains additional importance from the configuration of the country inland, in connexion with a waggon-road to Canada. My own impression is, that no power on earth can prevent

eventual Confederation with the Dominion: and, furthermore, that the idea, so far as the transmission of British interests and influences are concerned it is the greatest idea enunciated for a century. I have already told you, in my correspondence with the Colonist, how the configuration of the upper country points naturally to this result, for I really believe it would not cost more to take a railroad to-day from Yale through the Horse-Fly country to the Rocky Mountains than it has already cost to build one from Sacramento to the Summit of the Sierra Mountains, though only something over 200 miles. Thus, \$20,000,000, I believe, of the original stock is gone. I do not think the most salient points in favor of Confederation have been presented to you, neither do I think it has been discussed entirely free from personal prejudices and old political proclivities. Now, it seems to me, any measure having for its object ostensibly the perpetuity of England's greatness, by insuring the prosperity of her Colonies, should receive the respectful attention of every British subject. Now, Confederation cannot be understood without discussing the encroachments made on our Asiatic interests by the aggressive spirit of the Americans since their establishment upon this coast; nor do I refer to that spirit, because I fear it, but to induce the English, if possible, to imitate it. In fifteen years, they have done more in overcoming the national prejudices of the Japanese by the potent influence of commerce, than we have done from the other side in fifty years by the means of treaties and saltpetre; and to-day, from their proximity to Japan, by their establishment at San Francisco and with their Overland Railroad, they contest with us in no mean manner the supremacy of dominion on the Pacific, and threaten seriously to wrest from our grasp a large portion of the rich trade of the Orient; for you may be assured, if they once firmly get a foothold in Japan, they will advance further. How then can they be checked? I answer, by immediate Confederation with Canada. The real lover of his country, and the real statesman, will not view this question simply by the immediate good Confederation would do this Colony, although that is a view you cannot and ought not to overlook; he must view it to understand it properly as an English as well as a Colonial question. It is by these great results the welfare of this country will be best subserved. We can only check the American encroachment upon our Eastern trade by imitating their example on the Pacific, and we can only do that through this Colony. Force this view upon the English and they will see at once what they ought to have seen long ago—that this Colony, next to Australia, is the most important possession England has. This, it may be said, is simply raising a future issue, that may or may not come to pass, while we want immediate relief. What more, pray, do the opponents of Confederation offer by asking you to wait than a future issue, without investing the claims of the Colony with new interest? I know very well the Colony

can redeem itself without, but it will do it, in my opinion, more thoroughly and more permanently with Confederation.

I do not regard this consolidation of power as an untried experiment. To a certain extent it has proved successful in America, but that success was never so conspicuous as when California connected her boundaries with the two great oceans. What California has done for America, Canada will do for British Columbia. I have no doubt in my mind that the great mineral formation of the Pacific Coast crosses the Rocky Mountains within our possessions and goes through to Canada. I know it goes to the Mountains, and we have strong evidence of its existing on the other side by recent reliable gold developments in the Saskatchewan territory. Connect the two great oceans once more through our possessions, and there is no other portion of the globe equal to that territory for wealth of every kind. That territory, however, can only be brought under the industry of man immediately to any extent by Confederation; and, therefore, it seems to me, taking consolidation of power as a fact, that the immediate and permanent welfare of British Columbia and Confederation are synonymous. There is another consideration in favor of this grand idea of Confederation which the people here do not sufficiently regard, if they are not altogether ignorant of it. The Americans have determined to have a *Northern Railroad*, to come from Lake Superior through Montana and Idaho, to Puget Sound. Already the Government have granted 47,000,000 of acres, and ordered a bill for its construction to be brought at once into Congress. They know very well the value of the territory through which this will pass—that it is incomparably superior to the barren territory of the California line. What the Americans know, we ought to know; what the Americans do to *enrich their nation* by an expansion, but at the same time a union of power, we certainly ought to do. We are equal to them in intelligence; superior to them in wealth; but we want their quick conception of great ideas, their harmony of action in carrying these ideas out. In my opinion, this Northern Railroad through American territory, not more distant often from our own line than 150 miles, will of itself force Confederation upon you, independent of all other issues. However, with or without Confederation, of the future prosperity of this country I have no doubt; and after looking into her great and varied interests with me, I hope we now agree, how even as she stands among the nations of the earth, that next to Australia she is to-day the most important possession of Great Britain, and in connexion with the transmission of her future power and future greatness she is priceless in proportion as she commands the Great Pacific.

POSTSCRIPT.—I have to apologize for the reduction made in the Second Lecture, which became necessary in conse-

quence of slightly enlarging the first. Both were originally delivered extemporaneously without a single note, but I have endeavored to keep up the resemblance as far as memory would possibly permit.

I also think it right to acknowledge the especial attention to me at all times of Captain Swanson of the Enterprise ; Captain Finch, of the Anderson ; Captain Irving, of the Onward ; Captain Fleming, of the Lillooet, and Mr Barnard. of the Cariboo Stage Co.

