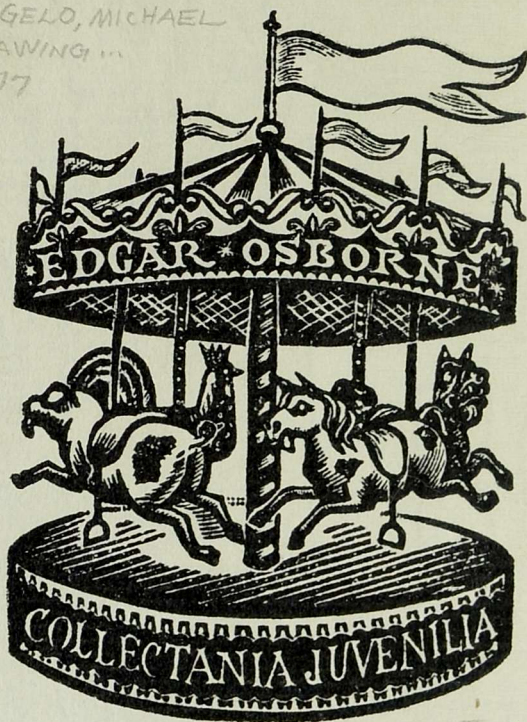




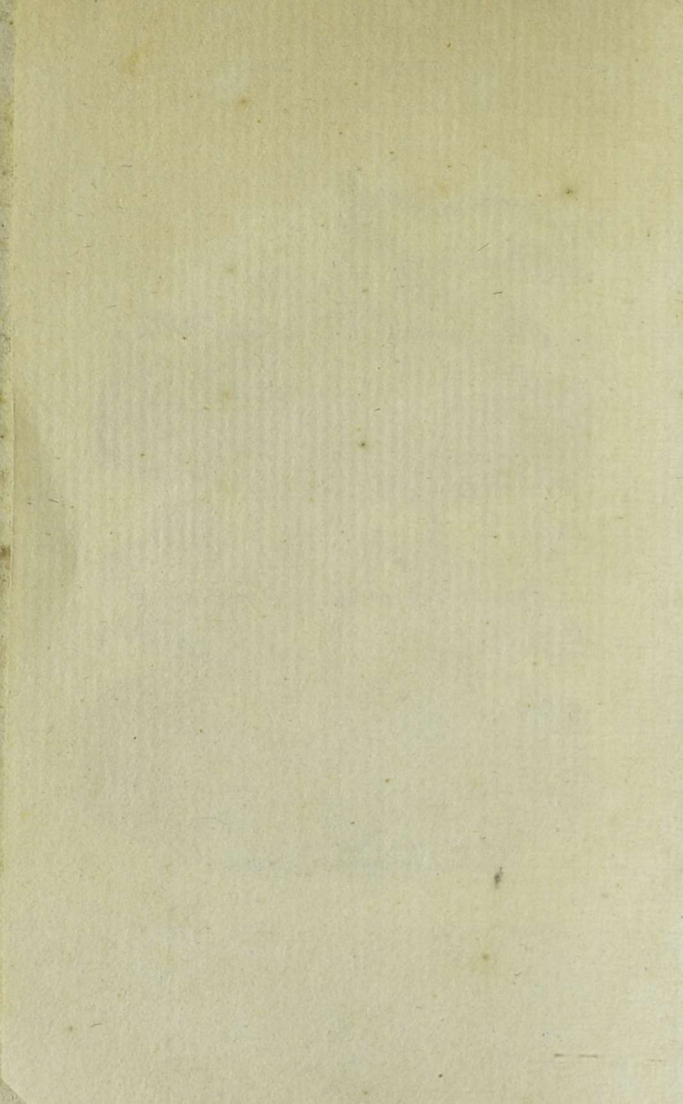
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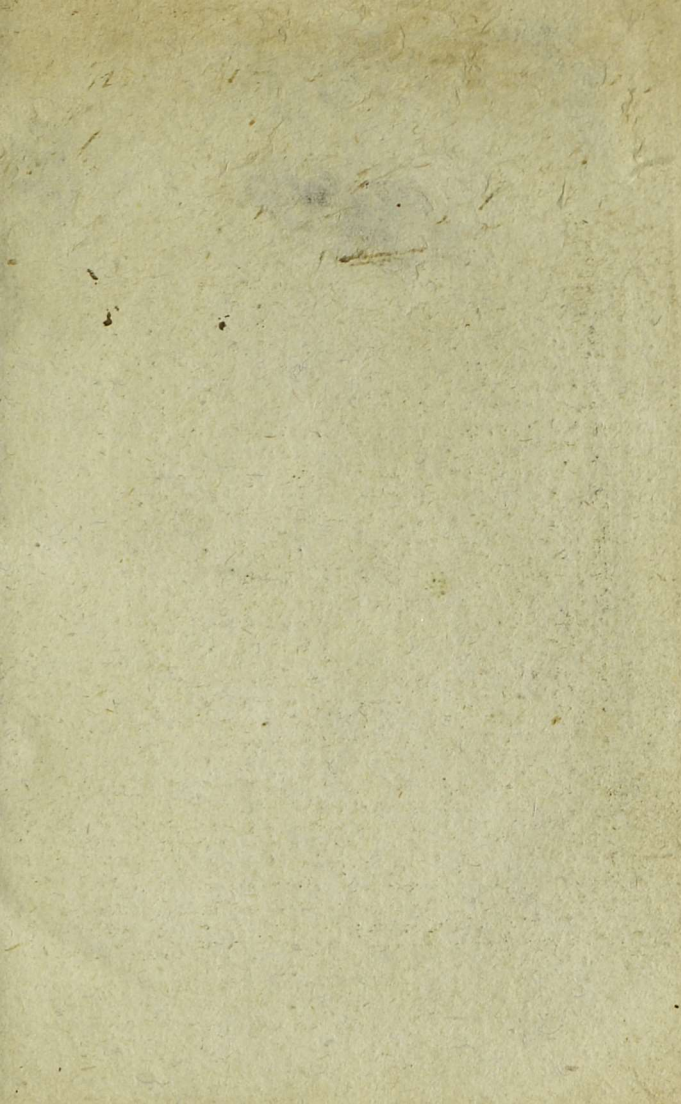
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THE  
DRAWING SCHOOL  
FOR  
LITTLE MASTERS AND MISSES:  
CONTAINING  
The most easy and concise Rules  
FOR  
LEARNING TO DRAW,  
Without the Assistance of a TEACHER.

Embellished with a great Variety of FIGURES  
curiously designed.

To which are added,

The whole Art of KITE MAKING;  
AND

The AUTHOR's new Discoveries in the  
Preparation of WATER COLOURS.

By Master MICHAEL ANGELO.

L O N D O N:

Printed for T. CARNAN, at Number 65,  
in St. Paul's Church Yard.

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MDCC LXXVII.

*Pr. 6<sup>d</sup>*





T O

HIS ROYAL HIGHNESS  
PRINCE EDWARD.

T H I S

DRAWING-SCHOOL,

WITH ALL

DUE SUBMISSION AND RESPECT,

I S

HUMBLY INSCRIBED TO HIM,

A S A

PATRON OF THE ARTS,

B Y

HIS ROYAL HIGHNESS'S

MOST OBEDIENT AND

DEVOTED SERVANT,

MICHEL ANGELO.

TO  
HIS ROYAL HIGHNESS  
PRINCE EDWARD  
THIS  
DRAWING-SCHOOL,  
WITH ALL  
THE SUBMISSION AND RESPECT  
AS  
HUMBLY INSCRIBED TO HIM  
AS A  
PATRON OF THE ARTS  
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HIS ROYAL HIGHNESS'S  
MOST OBEYANT AND  
DEVOTED SERVANT,  
MICHAEL ANGELO.

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T H E

P R E F A C E.

AFTER having perused almost every Book hitherto published for the Instruction of young People in the Art of Drawing, I have found them calculated only for those who were advanced above the Period of Childhood. Many of them contain nothing but Designs, without the least Directions how to proceed; and even in those that have a short Introduction, the whole is so filled with the Terms of Art, and Geometrical Proportions, as tend rather to deter Youth from the Study of this Science, than encourage them in the Pursuit of it.

There are, it is true, Books of Drawings sold at every Print-Shop for Six-pence each; but, if the Purchaser expects to find in any one of them all the different Parts of the Human Body, he will be much mistaken. The first he lays his Hands on may consist of

## THE PREFACE.

Landscapes; the second of Birds; and in the third he may find a Leg or an Arm, and perhaps a Body complete. Should he express his Desire to have one containing every Limb separate, he will be told, that such an one cannot be had under *Five* or *Six Shillings*.

I have here attempted, with no small Share of Care and Application, to form such a Piece as I apprehend will be of singular Service to those who wish to become Proficients in Drawing, at a very trifling Expence; and I will venture to assert, that whoever shall make themselves perfect Masters of what it contains, will find no great Difficulty in imitating whatever they may afterwards meet with in much more expensive Works. I have not only given the different Parts of the Human Body, but have likewise introduced twelve Birds in different Attitudes, and given some Directions for the Preparation of Water-colours.

The first Principles of Drawing cannot be taught too early; and I am fully convinced, that young Children might be brought to a tolerable Knowledge of it long before that Age in which they are generally first put to it.



## THE P R E F A C E.

it. Children are naturally fond of Pictures ; and it is no uncommon Thing to see them, before they are taught how to hold a Pen, drawing Houses and Steeples, Dogs and Horses, &c.

Was this Disposition, which seems natural to the Generality of Children, properly encouraged, and made rather a Matter of Amusement than a Task, we should probably see many Prodigies at seven or eight Years of age ; and Time might make them Artists equal to those of *Italy*.

The Human Figure, and particularly the Face, is the most difficult Study ; but when the young Pupil has made himself a perfect Master of this, he will find no great Difficulty in any Thing else. For this Reason, I have given Copies of various Faces, from the most easy, gradually encreasing to those which are difficult.

I would advise such Parents as may chuse to put this little Work into the Hands of their Children, not to impose these Lessons on them as a Task, but merely as an Amusement ; not to treat them with Severity, if they do not properly attend to them, but to

## THE PREFACE.

encourage them by trifling Rewards (such as are great in the Eyes of Children) when they make any remarkable Improvements. Tho' they may not understand Drawing themselves, yet surely there can be but few, if any, who cannot tell when the Designs here given are properly imitated.

I have added the whole Art of *Kite-Making*, being induced to give it a Place here by the Manner in which it is written. Though it is an Amusement of Children only, yet even *their* Amusements should be thought of; and, though every little Artist may think himself perfectly acquainted with this Matter, yet it is possible, on reading this Treatise, he may change his Opinion, and find himself totally unacquainted with the Essentials of Kite Making.

THE

# THE DRAWING - SCHOOL.

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## LESSON I.

**M**Y young pupils must not expect to become perfect Artists in a Day, a Week, or a Month. No Science is to be acquired but by Time and Industry, and it would be a Kind of Cowardice in any one to be disheartened at the first or second Trial, merely because they did not succeed in their Expectations. I have seen many little Folks, when a pretty Drawing has been shewn them, express the most eager Desire to be able to produce the like, which undoubtedly they might in Time have done would they have had Patience; but, not being able to arrive at the desired Ability on the first Trial, they have given the Whole over as impracticable. It is not such Pupils I want, as they will only tend to bring my Work into Disgrace, and deter others from consulting it.

To you, who are my patient little Pupils,  
I now



## 8 *The* DRAWING-SCHOOL

I now address myself, and shall proceed to set you forward in your Work, and will not leave you till I have taught you the true Rules of Proportion; for on this depends the whole Beauty of your Drawings.

Your first Attempt should be to draw a Human figure; for, when you can do that perfectly well, you will be able to copy almost any Thing; but in this you must begin by Degrees. You must provide yourself with fine Pens, Paper that is stout and smooth, and good Black-lead Pencils. It will be Time enough to think of Hair Pencils, India Ink and Colours, when you have made a tolerable Progress in this Art. Instead of loose Paper many make Use of a common Copy-Book, such as is generally used for writing in at School; and this is preferable to loose Paper, because the young Artist will thereby have an Opportunity of preserving all his Operations from the Beginning, and may, whenever he pleases, compare former Attempts with the present, and thereby see how much he improves.

His first Attempt should be of the easiest Kind, such as the following.

This





This is a Mouth, and Part of a Nose. Attempt this first with your Pencil: but do not despair, if what you do should be but little like it, even after several Trials: for Time and Industry will certainly conquer all Things. Be sure strictly to follow this Rule, never to begin another Figure till you can draw the former perfectly well.

When you find you can imitate this pretty well with your Pencil, you may then draw it with your Pen, comparing your own Drawing with the Copy, and not leaving it till you come very near to it.

This will be sufficient for the first Lesson.

---

## L E S S O N II.

**I**F my young Pupils have gone thro' their first Lesson in a Week, I think they have made sufficient Haste in their Progress; for a slow Beginning generally makes a quick Ending. But, to proceed: As you have now  
learned

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learned to draw the Mouth, and the lower Part of the Nose, it is necessary you should add a Chin to them, otherwise the Nose and Mouth would be of little Use, as every young Artist well knows. However, here is a Chin added to the former Nose and Mouth.



A little Practice will bring you to form this Chin very properly, as there are no complicated Strokes therein; and thus you will have learned the lower Part of a Face. After this you may proceed to the Eye.



To draw the Eye properly requires some Time and Attention, and the young Artist must not expect to do it perfectly till after many Trials. He must first make the Ball of the Eye, then the curved strong Line over it,

and the Semicircle under it: After that the other Lines and Shadings above and below it. In larger Figures, the Eye will require to be made much fuller, and ornamented with many other Shadings; but the Artist who is once become expert at drawing this, will soon find it easy to draw any other that shall fall in his Way.

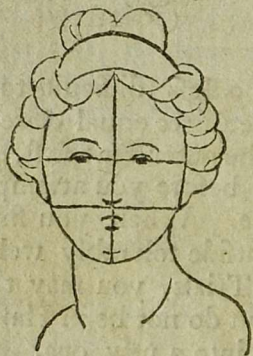


The Ear is no less difficult to draw than the Eye, and requires equal Care and Attention. Draw the outer Part first, and do this several Times, before you attempt to meddle with the Inside. When you find you can imitate the Outside tolerably well, and that after repeated Trials, you may then proceed to finish it; but do not be in Haste to get out of this Lesson into a new one. It would be adviseable, before you proceed any farther, to go over again what you have already done.



## LESSON III.

**H**AVING now learned to make the Nose, Mouth, Eyes and Ears, the next Thing to be attempted is to form a Face according to the Rules of Proportion, without a sufficient Knowledge of which it will be in vain for the young Artist to proceed any farther with Hopes of Applause.



First draw the Oval, which must be well proportioned like the above. When you have made one to your Mind, draw a Line quite across,



across, exactly in the Center, and another at an equal Distance between the former and the Chin. After this, draw a Line from the Top of the Oval to the Bottom. On the center Line draw the Eyes, and a little above them place the Eyebrows. A very little above the lower Line is the Place for the lower Extremity of the Nose, or Nostrils; below that Line is placed the Mouth, and at the Bottom of the Oval is made a Stroke for the Chin. Thus will the Eyes, Nose, Mouth, &c. be placed according to the Rules of Proportion. When you have thus finished the Face, you may then draw the Ornaments round the Head, and the two Lines at Bottom, which form the Neck and Part of the Shoulder.

When you are fully convinced that you can do this properly, you may then take one Step farther, and attempt the following;

**B**

**This**



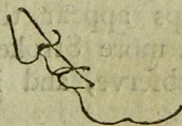
This is nothing more than the former more perfectly finished, in which the Eyes, Nose and Mouth, are distinctly represented. It will be prudent at first to attempt this only with the Black lead Pencil, as the Pupil may then rub out with a Bit of Bread such Strokes as appear to him erroneous. After he thinks he can draw it tolerably well, he may try his Skill with his Pen; but let him remember to draw the Lines, which are to direct him where to place the Eyes, Nose, &c. with his Pencil only, that he may rub them out when the Ink of his Drawing is dry, and thereby give

give his Head the more graceful Appearance. When he can do this Head to Perfection, he may congratulate himself on having arrived to some tolerable Degree of Knowledge in the Art.

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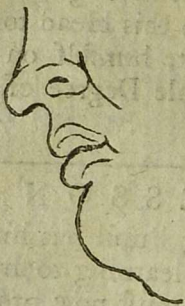
#### L E S S O N I V.

**T**HE young Pupil has hitherto been employed in learning to draw the Front or full Face: He must now proceed to draw the Face looking Sideways, which is called a Profile. He may first attempt the following very easy one.



He must begin this at the Nose, and proceed downwards. If he has taken Pains in learning the preceding Lessons, he will find no Difficulty in this; but may soon proceed to the following :

## 16 *The* DRAWING-SCHOOL



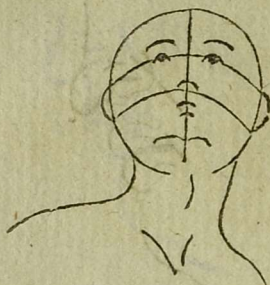
This is something more expressive than the last, and consequently requires a little more Attention. Here the young Student must observe, that the lower Extremity of the Nose is made much different from the last, and that the Lips appear thicker, and accompanied with more Strokes. All this he must carefully observe, and imitate them as near as possible.



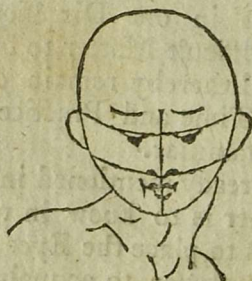


As it is undoubtedly necessary for the Learner to learn Faces in all Directions, here is one looking the opposite Way: and, not having been used to it, he will at first find it a little difficult. If he uses himself at first to draw faces in one Direction only, he will find it a difficult Matter to break himself of it, and will thereby remain only half an Artist. But Time and Practice will make them equally familiar.

We have already mentioned in what Manner the Learner is to know in what Part of the Head he is to place the Eyes, &c. it may not now be improper to acquaint him how the Eyes are to be directed upwards or downwards.



Here the Learner will observe, that the Eyes are placed higher in the Head than before directed, and that, instead of straight, curved Lines are used, which incline upwards. My Pupils will see by the Figure what effect it has.



This, you perceive, is the Reverse of the former: The Eyes are brought rather lower than

than usual, and the curved Lines incline downwards, which make the Figure as though looking at something beneath it. Patience, and a good deal of Practice, will in Time make these Things familiar.

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### LESSON V.

**T**HIS Lesson will not be very difficult, provided the young Artist has properly attended to the preceding, since they are rather Copies to improve him by Practice, than as containing any Thing materially new, though they may be necessary in order to prepare him for the difficult Tasks, which he will meet with in the next Lesson.



This

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This is a pretty little bald-pated Fellow, who has perhaps torn all the Hair off his Head by running it into a Bush after some Bird's Nest. However, be that as it will, first draw the Outlines, observing not to give him less hair than he has, and to imitate the few Strokes resembling it as nearly as possible: Be careful likewise to observe the Form and Situation of the Ear. Then proceed to the Eyes, Nose and Mouth, and carefully finish the Whole.



It is difficult to say, whether this little Fellow's Head wants combing, or whether he is naturally what we call shock-headed. It is no Matter

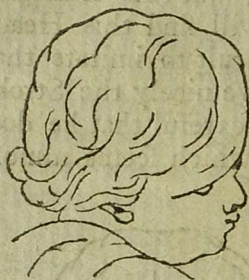


Matter which; but this is certain, that the young Artist will find this Head of Hair a little more difficult to imitate than the last. He must observe nicely the Strokes in every Part, and be careful that he does not overlook the Ear, which seems almost buried in the Hair.



This little Gentleman is looking down at something, and it is possible that it may be at his Book. You have already been directed how to give the proper Turn to the Eye, in order to direct the Look of the Figure downwards. You must likewise observe, that this is rather a Front Face than a Profile, though the Head is so much inclined one Way, as to leave only one Ear exposed to View.

You

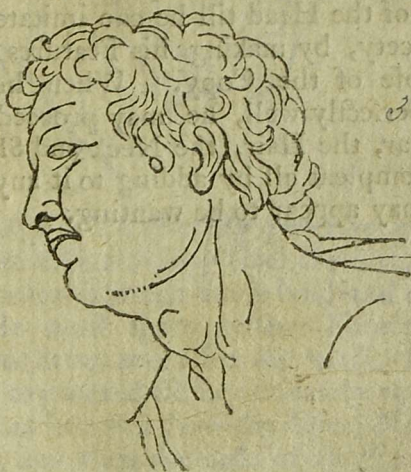


You observe that this Head is in a different Situation from either of the other three; for here is only one Eye seen, and that almost obscured by a Lock of Hair. He is a little fulky looking Fellow; but never mind that: Do him all the Justice you can, in drawing his very Likeness: Do not overlook the small Part of the Ear, which is left open to view, and be particularly attentive to the Nose, Mouth, and Chin.

L E S-

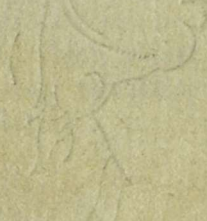
LESSON VI.

**I** Hope my young Pupils have been very attentive to the preceding Lessons, otherwise they will cut but a poor Figure in this, which is by far the most difficult they have yet had, and which, to execute properly, will require all their Experience, Care, and Attention.

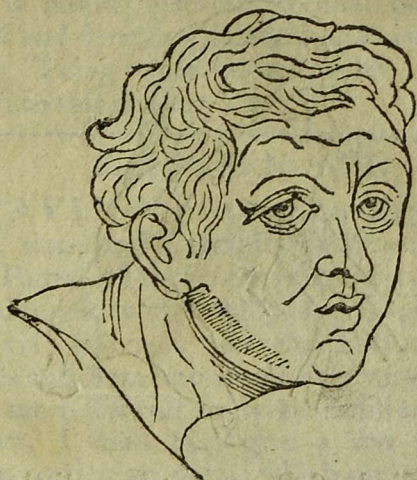


This,

This, as well as the two following, is an Antique, in which the different Passions of the Mind are expressed. It will be advisable for the young Pupil to draw this with his Pencil several Times before he attempts it with his Pen, as he will find Occasion to remove many of his Strokes, or at least to amend them. Let him first begin with the Forehead, Nose, Mouth, Chin, and Eye, and by no Means attempt to draw any other Part of the Head till he can imitate these to a Nicety, by making his Features the same as those of the Copy. When he can do this perfectly well, he may proceed to draw the Ear, the Hair, the Neck and Shoulders, and compleat all by adding to it any Strokes that may appear to be wanting.







The young Pupil will easily perceive, that this is a more difficult Copy than the former, as every Feature is much more bold and expressive. He must spare neither Time nor Attention to draw every Stroke exact, and not pretend to proceed till he can nearly equal the Copy. Let him first draw the Eyes, Nose, and Mouth, and then the Side of the Face ; after this he may proceed to the Ear, then the Hair, and finish with the Neck.

C

As



As a Kind of Reward to my little Artist for the Pains he has taken in the two preceding Drawings, I have here given him a very pretty Head of a Nun, which he will not find so difficult as the former perhaps were. Let him first begin with the Face, then draw the Veil, and finish with the Neck. It will be well worth the Pupil's while to continue some Time in this Lesson ; for, when he can draw these three Heads to Perfection, he may then

boast of having acquired no small Skill in the useful and diverting Science of Drawing, and every Thing that follows will become a Pleasure rather than a toil.

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## LESSON VII.

**H**AVING given the necessary Instructions and Examples for drawing Heads and Faces, we shall now proceed to the Arms and Hands, which the young Pupil will not find very difficult. As the Position of the hands and Arms are frequently very different, and more difficult in some Positions than in others, I shall here give a few Copies of some particular ones, which are perhaps all that need to be done on this Head.

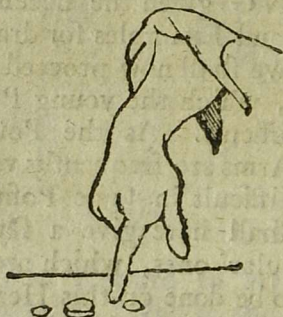


C 2

Here

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Here the Hand is resting on the Edge of something, by which Means you see only the Thumb, the Fore-Finger, and the second bent, the rest being concealed from the View. Be careful to imitate the Arm, as well as the Hand, as nearly as possible.



The Fore-Finger is here represented as pointing to or counting out Money on a Table. The Fore-Finger and the Thumb only are seen, because the other Fingers are supposed to be bent into the Palm of the Hand. Begin this and the former Figure at the Top of the Arm, and proceed downwards to the Extremities of the Fingers.

Here





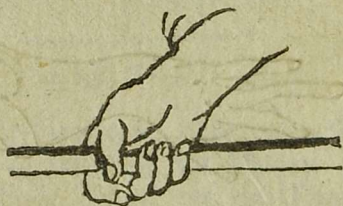
Here the Back of the Hand is turned towards you. The second Finger is supposed to be holding something between that and the Thumb ; consequently, according to Nature, the third Finger must be a little bent, and the first and little Finger be extended.



The Hand is here extended, and the third Finger is bent downwards for some particular Purpose. Be careful to observe, that this Situation of the Hand makes a material Alteration in the Lines of the Arm.



Here the Hand is represented as holding a Globe or a Ball. In this Position, you shew only the Thumb, the Finger supporting the other Side of the Globe.

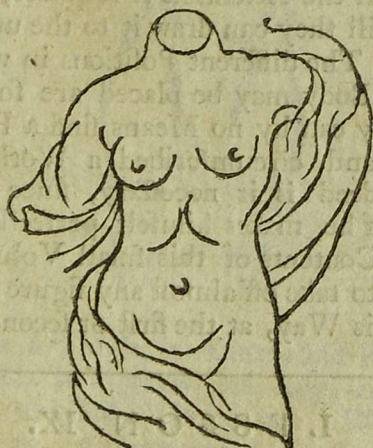


This Hand is grasping a Staff; and it is probable, that the young Pupil will find it more difficult to imitate than either of the others in this Lesson. However, there is nothing in it to despair of, since a little Care and Attention will soon accomplish it.

L E S.

LESSON VIII.

**F**ROM the Hands and Arms we shall now proceed to the Body, and in the next Lesson shall conclude the Parts of the Human Figure, with the Legs and Feet.



This is the Body of a young Woman without either Head or Arms ; but this will be no great Loss, as by this Time you can make her a very pretty Head, and give her Hands  
and

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and Arms in what Position you like. You must begin this at the Neck and Shoulders, then proceed downwards, and at last finish it by drawing around it the loose flowing Garment. As this is the only Body I shall trouble my young Pupils with, I hope they will not be in too much Haste to pass it over, but give it all the Attention it requires, and not quit it till they can draw it to the utmost Exactness. The different Positions in which the Human Body may be placed are so various, that they can by no Means find a Place in so concise and circumscribed a Work as this: Nor indeed is it necessary, since the little Artist, if he makes himself perfectly Master of the Contents of this small Volume, will be able to take off almost any figure that shall fall in his Way, at the first or second Trial.

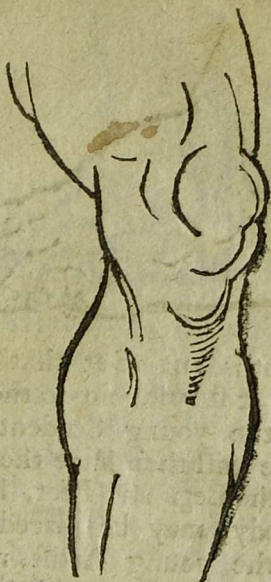
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### LESSON IX.

**W**E come now to the last Part of the Human Figure, the Thigh, Knee, Leg, and Foot, in the Execution of which the Student will find no great Difficulty.

This





This is a Thigh, a Knee, and Part of a Leg, which is so plain and easy, as to require no particular Direction. When he finds he can do this perfectly well, he may proceed to the Foot.

This



This Foot is cut off at that Part of the Leg, where it should join to the preceding ; so that, if the young Student joins them together, he will then have the Limb complete. As the Legs and Feet, like the Arms and the Body, may be placed in different Positions, the young Artist must observe, that he views this Foot Sideways ; and let him be very careful in imitating the Lines which form the upper Part of the Foot, the Heel, and particularly the Toes.

This



This is a Right Foot, placed in a different Form to the preceding, the Toes being rather contracted than extended.

To give the various Positions of the Foot would be endless, and in some Degree impossible: Even the largest Works have not attempted it, and I cannot. However, I shall not quit this Lesson without giving one more curious Example,

This



This is the Leg and Foot of an Angel, or other Being, on Wing, with the back Part of the Leg and Foot turned to the View of the Spectator. There are many other Positions of this Limb, as I have just observed; but these are sufficient for the present Purpose.

LES.



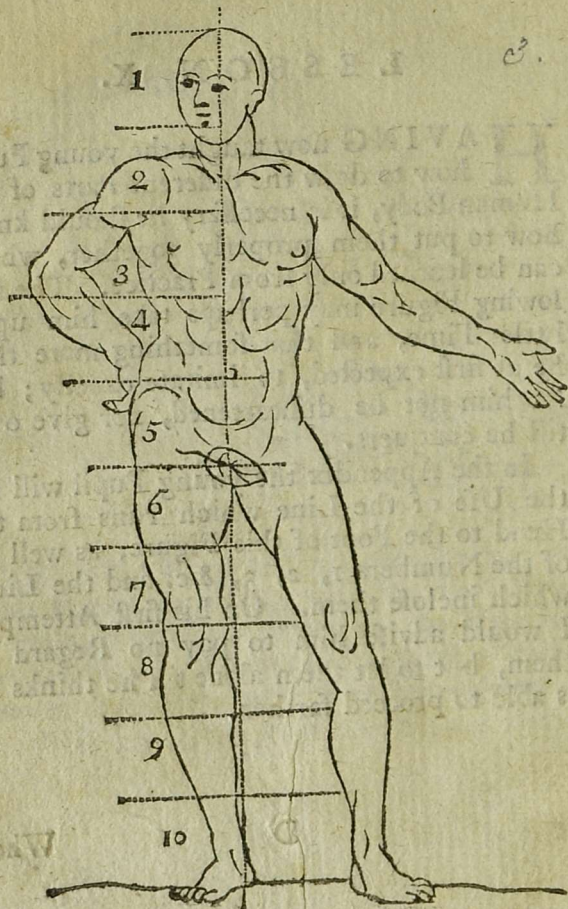
L E S S O N X.

**H**AVING now taught the young Pupil how to draw the different Parts of the Human Body, it is necessary he should know how to put them properly together, which can be learned only from Practice. The following Figure may perhaps take him up a little Time, and that something more than he at first expected, to imitate exactly; but let him not be disheartened, nor give over till he conquers.

In the Appendix the young Pupil will see the Use of the Line which runs from the Head to the Foot of this Figure, as well as of the Numbers 1, 2, 3, &c. and the Lines which inclose them. On his first Attempts, I would advise him to pay no Regard to them, but to let them alone till he thinks he is able to proceed farther.

D

When



When he can draw this Figure perfectly well, and has attended properly to what has been advanced in the Course of these ten Lessons, I may venture to apprehend he will not think much of the trifling Expence of this little Volume, which has taught him so much without the Assistance of a Master, whose Premium is generally very extravagant. But let me not forget my *fair Pupils*, who are perhaps under more Obligations to me than the young Gentlemen, who, having other Studies of a more laborious Nature to pursue, have not so much Time as young Ladies to amuse themselves in this delightful Field of Pleasure. When I speak of young Ladies, as wishing them to employ a small Portion of that Time which they throw away at the Toilette and the Glass, to the more rational Amusements of Drawings, I may perhaps fall under the Censure of some little Female, who, before she can well speak plain, is taught to rail against every Thing, but the Invention of some new Cosmetic, or the Discovery of some delicate Paint, which cannot be discovered from Nature itself.—Alas! it is to the false Mode of Education, and not to the Fair-



Sex themselves, that they are so much exposed to the just Censures of the sensible and judicious Part of Mankind.

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## A P P E N D I X.

**A**S I apprehend I may with some Degree of Reason suppose, that my young Pupils have by this Time acquired a Knowledge of the Art of Drawing, superior to some who have studied it in Schools for a much longer Period, I shall no longer treat them as Children, but give them a short Abstract of the ingenious *Mr. Russel's Elements*, as far as it is consistent with my present Plan. That Gentleman wrote for the Instruction of Pupils of a more advanced Age, as is evident from his Recommendation of the Study of Anatomy, in order to enable the Artist to imitate every Muscle of the Human Body with more accuracy: My Design is, to entice Children to the Practice of Drawing, at an Age before any such Thing is generally thought of, and to make this not so much a Matter of Compulsion



pulsion as of Amusement. After thus fairly acknowledging my Intentions, I am confident, that the ingenious Author of the *Elements* will not accuse me of any unfair or illiberal Freedom taken with his valuable Production.

Some Artists reject the Use of Drawings or Prints for the Student's Imitation. "It is" (say they) a servile Method of proceeding, "because it cramps the Ideas, and hence" "Genius suffers too great a Confinement." Notwithstanding this, the usual Practice is to copy after Prints and Drawings at first; and I imagine Experience has determined the Advantages accruing from this Method.

To set the Drawings of the most eminent Artists before a young Beginner, at his first Commencement, must be highly beneficial, as it undoubtedly will prevent that Rudeness and Inaccuracy, against which the most exact cannot be too much guarded. How much more then ought the young Student to observe this Caution? Some Geniuses require Restriction, and, when this happens to be the Case, the placing of accurate Works before them must hold them in a Kind of Subjection,

from which alone Correctness is to be expected. Exact Copies are absolutely necessary at first: This will imperceptibly produce a Habit of Correctness, till, by Degrees, the Student will make himself Master of those grand Essentials to Perfection, Truth, Boldness, and Freedom.

Truth will be acquired by this accustomed Correctness, Boldness and Freedom will follow after as the certain Consequence, and on these the Excellence of the Performance must depend.

Copying the Drawings of good Masters has also another considerable Advantage; which is, teaching a good Method of Execution, whereby many laborious and fruitless Efforts will be prevented. The young Student should always have it in Remembrance, that his chief Aim ought to be the making of a correct Drawing, and of attaining a Truth of Outline, since this is more essentially necessary, than a Smartness of Touch, or a pleasing Execution.

When the young Pupil has made himself Master of a good Degree of Exactness, by copying after Prints or Drawings, let him be provided

provided with some good Head, cast after the Antique; and this should be one, in which the Features are strongly marked, and boldly determined, such as the Hercules, Jupiter, or Niobe, as he will find the Strength of either of these more easy of Imitation, than the Refinement and Delicacy of the Antinous, or Venus of Medicis; though the latter, after a Time, will be his favourite and most valuable Study.

The Nose being the Center, most Artists begin their particular Shapes with that Feature, and from thence proceed to the Eyes and Mouth; but let the Student sketch the Outlines very lightly, that any Mistake may the more easily be altered. His greatest Attention must be paid to the producing his Drawing correct, and the Lines of the Features parallel to one another, and each at a proper Distance. If the Student fails here, all his Labour in the finishing will be to no Purpose.

When he has made himself Master of the Knowledge of the Face, he may proceed to the whole Figure, studying with much Assiduity the Casts after the Antique, those al-

most



most perfect Standards of Grace, Majesty, and Beauty.

Rules, in the Opinion of some People, are the Fetters of Genius: but a great Man very judiciously observed lately, that “they are “Fetters only to Men of no Genius,” which is undoubtedly true; for, when they are properly used by Men of Abilities, they assist Genius, and not impede it. On this Account, I shall proceed to give the Measures of a finely proportioned Human Figure, with which it is necessary the Student should make himself acquainted, previous to his Studies after the Life.

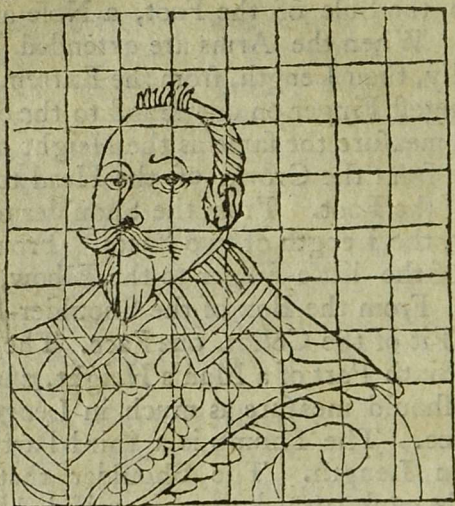
The best Way to measure the Human Figure is by Faces, ten of which (from the lowest Hairs on the Forehead to the Bottom of the Chin) is the best proportioned Height. The Face is divided into three equal Parts: 1st. the Forehead; 2d. the Nose; and, 3d. the Mouth and Chin. From the Chin to the Collar Bones is twice the Length of the Nose. From the Collar Bones to the lowest Part of the Breast, the Length of the whole Face. From the Bottom of the Breast to the Navel, one Face and Half a Nose. From the Navel



to the Secrets, one Face. From the Secrets to the Knee-Pan, two Faces. From the Knee-Pan to the Ankle, two Faces. From the Ankle to the Sole of the Foot, a Nose and a Half. When the Arms are extended horizontally, their Length, from the Extremity of the longest Finger on one Hand to the other, should measure the same as the Height of the Figure from the Crown of the Head to the Sole of the Foot. From the Shoulder to the Elbow, the Length of two Faces. From the Root of the little Finger to the Elbow, two Faces. From the Box of the Shoulder-Blade to the Pit of the Collar, one Face. The Foot is the Sixth Part of a Man's Height, and the Hand should measure as much in Length as the Face. The Thumb is a third Part of a Face in Length. The Shoulder that the Face is most turned over is raised higher than the other. The Shoulder bearing a heavy Burden will be raised considerably higher than the other. The Hip on which the Body chiefly rests will likewise be raised higher than the other.

A very

A very easy method of Drawing any Picture, is to cover it with Squares in the following Manner.



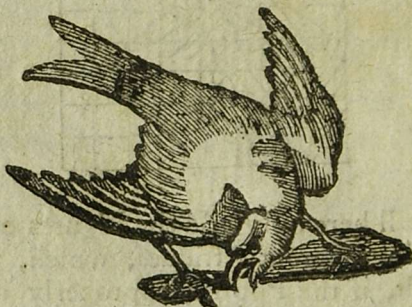
When you have thus squared your Copy, do the same by the Paper on which you intend to imitate the Figure; but for this Purpose use only the Black-lead Pencil, observing to make the Squares in both exactly the same in Number and Dimension. With your Pen then draw the same **Lines** in each Square  
on

on your Paper as you find in your Copy. When finished, rub out the Black-lead Lines with a Piece of Bread, and your Drawing will appear in the greatest Perfection. If you are desirous of making your Drawing less than the Original, you have nothing more to do, than to make your Squares on your Paper as small as you would have them; but to observe to make them the same in Number, as you will here see.



I shall here only add the Figures of twelve Birds in different Attitudes, which, tho' not difficult, if the Pupil has properly attended to his former Lessons, may afford some Matter of Improvement as well as Amusement.



















If the young Pupil is desirous of imitating Nature throughout her various Productions, he may consult *Dr. Brooke's Natural History*, in which he will find a very curious Collection of Beasts, Birds, Fishes, Insects, &c. executed in a masterly Manner.

THE  
WHOLE ART  
OF

KITE-MAKING.

THERE is undoubtedly no Amusement, of which we little Boys are fond, more innocent, or less dangerous, than that of *Kite-flying*. Bird-nesting and Leap-Frog, besides many other Sports, are frequently attended with Accidents; but this is wholly divested of all Mischances, except that of now and then losing a favourite Kite, which is often a Matter of no small Concern.

Every Boy pretends to be a perfect Master of the Art of Kite-making, and thinks himself exceeded by none; but, when I walk abroad in the Fields near London, and see the many miserable ones that are popping up and down in the Air, I cannot help sincerely pitying the Degeneracy of the present Age in this noble Science. Some of them shake and quiver like an Aspen-Leaf, and some are no sooner raised, than they immediately pitch down on their Heads, and are at once totally shattered; while others are so loaded with  
Stars

Stars and Ornaments, that you might as well try to raise a shoulder of Mutton into the Air as one of those heavy Kites.

After having spent a great Part of the leisure Hours of my Life, that is to say, upwards of Fourscore Weeks, in long and studious Application to the mysterious Investigation of the Nature and Properties of Kites, I think myself highly qualified to give all little Boys proper Instructions how to become Proficient in this Art. I could not prevail on myself to with-hold from the Lilliputian World the Discoveries I have made, and cannot help flattering myself, that in future Ages this Work will be as much read and revered, as ever will be either Tom Thumb, or Jack the Giant Killer: These are only Matters of Amusement, my Work is of the utmost Importance to the rising Generation.

Without farther Preamble, I shall proceed to give proper Directions, how to make a Kite that will at once mount up into the Air properly, and there steadily and gracefully remain to all Appearance immoveable. I shall begin with the Straighter.

The



The STRAIGHTER is the first Thing to be considered in properly making a Kite; and this must be neither so thick as to make the Kite too heavy, nor yet so thin as to endanger its breaking on resisting the Wind in its Passage into the Air. It is the Fault of many Artists not to proportion its Strength to the Length of the intended Kite, whereby they are exposed to many Inconveniencies. For a Kite five Feet high (which I think is high enough in Conscience) the Straighter may be an Inch broad, and half an Inch thick. The Method of making it square, as practised by some young Artists, is absurd and ridiculous, and I hope will never be followed by any Pupil of mine. This Straighter must be made of fine clear Deal, free from Knots, which has been well seasoned, and consequently not so liable to warp. Many young Artists in Kite-making, either through Vanity, or with a View to save Two-pence, cut out their own Straighters with a Knife; whereas they can properly be done only with a Plane, and is, in Fact, the Work of some *old* and *experienced* Carpenter. This is the only Part, in the making of a Kite, which the Artist may not properly

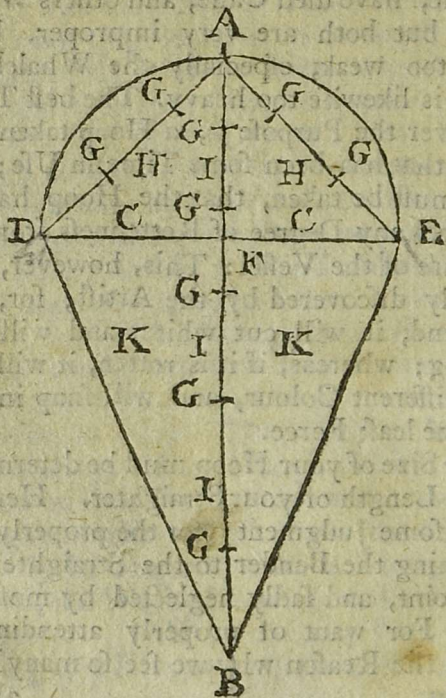


properly perform himself, without any Assistance.

The BENDER is the next Thing to be considered, which is a Matter of no less Consequence than the Straighter. Some, for this Purpose, have used Cane, and others Whalebone; but both are very improper, being much too weak, especially the Whalebone, which is likewise too heavy. The best Thing to answer the Purpose is, a Hoop taken off a Barrel that has been some Time in Use; but Care must be taken, that the Hoop has not acquired any Degree of Rottenness from the Moisture of the Vessel: This, however, may be easily discovered by the Artist; for, if it be sound, it will cut white, and will bear bending; whereas, if it is rotten, it will look of a different Colour, and will snap in two with the least Force.

The Size of your Hoop must be determined by the Length of your Straighter. Here requires some Judgment; for the properly proportioning the Bender to the Straighter is a nice Point, and sadly neglected by most Artists. For want of properly attending to this, is the Reason why we see so many Kites almost

58 THE WHOLE ART OF  
 almost as broad as they are long, and others so  
 narrow, that the Wind has not Power suffici-  
 ently to act on them, in order to force them  
 up into the Air. Though it is difficult to lay  
 down a Rule for what can only be determined  
 by Practice and Observation, yet I will ven-



ture to propose the following. After you have fastened the Extremities of the Bender, DE, measure from the Line or Cord, CC, to A; then, if the Distance from CC to B is a little more than twice that from CC to A, you may conclude you have a tolerable Degree of Proportion. However, a nice Eye has nothing more to do than to try, as near as possible, to imitate the opposite Figure.

Having got a Hoop to your Mind, which should be always chosen larger than at first appears necessary, in order to allow for Accidents, cut it in Half as near as possible; but do not throw away the Half you do not intend to use, lest an Accident with the favourite Half may perhaps make you repent. Then, with a moderately sharp Knife, pare it thin and round; but particular Care must be taken to pare it alike in every Part, otherwise, when you come to bend it, it will not yield equally the same in all Places, and the Beauty of your Kite will thereby be totally destroyed: Besides, it must not be so thick as to make it top-heavy, nor so thin as not to keep the Bands tight when it is bent.

Your Straighter and Bender being thus properly



properly prepared, your next Operation is to fasten them together. For this Purpose, make a Notch within an Inch of the Top of the Straighter, and another exactly in the Middle of the Bender; but take particular Care, that neither of these Notches are made so deep, as to endanger either the Bender or Straighter breaking in those Parts. Then place the Notch of the Bender into that of the Straighter, and tie them fast together with a little strong Thread well waxed, which is far preferable to Twine, as used by some little Artists, because it binds faster, and has not such a clumsy Look.

Having thus far proceeded, measure the two half Circles, ADE, to see if they are equal: and, if either of the Extremities DE is longer than the other, take a Bit off to make it even with the other. Then take a few Yards of fine Twine, and tie one End of it to the Bender at D, within about Half an Inch of the Extremity. Having cut a small Notch on each Edge of the Straighter at F, turn the Twine round it, and then fasten it to E. Measure the Distance from D to F, and from F to E, which, if not equal, must be



be made so, by moving the Twine at F which ever Way it is wanted.

The next Step to be taken is, to carry the Twine from E to A round the Straighter, and then bring it down to D, where it should be fastened. With your Knife make a Slit about Half an Inch long at B, which must be done very cautiously, otherwise your Knife may run up too high, and all your Work be thereby at once spoiled. Bring the Twine down from D, pass it through the slit at B, and carry it up to E, where it must be fastened; and thus your Kite is completely twined.

Many young Artists, having thus far gone on with their Operations, think the Kite now perfectly prepared for receiving its proper Dressing of Paper. This, however, is a Mistake; for, however cautious you may have been in twining it, yet, upon Trial, it may be found to be very uneven, and, if it should be prepared in that Condition, it will never be worth a Farthing. To put this to the Test, cut that Part of the Straighter round, which is above the Bender at A. Lay the End of this on the Edge of some Table, and support the other End B with one of your Fingers.

F

If

If then neither of the Extremities D or E sinks lower than the other, and the whole remains on a perfect Level, you will then indeed deserve the Name of an Artist; but, if D sinks lower than E, or E lower than D, you must be sure to set it right before you proceed to Papering. For Instance, suppose upon Trial one Half of the Kite D weighs down the other Half E, pull the Twine through the Slit B towards E, which will consequently add Weight to *that* Side, while it diminishes it on the *other*. Thus, if you have any Genius at all, you may, with the greatest Nicety, prepare it for Papering.

The Papering of a Kite is a Matter which requires no great Share of Genius or Attention, and, supposing your Paper and Paste are of the proper Sort, you can hardly do wrong: However, a few Directions, even in this Part of the Work, may not be amiss.

Take as many Sheets of fine Writing Post-Paper as you think will be wanting for your Purpose, and lay them between damp Linen; for it is a great Fault, though frequently committed by young Artists, to use dry Paper, as the Kite will thereby always be full  
of

of Wrinkles ; whereas, when it is made with damp Paper, it will be always perfectly smooth and tight. The best Paste for your Purpose is either that sold at Shops for the Use of Shoemakers, or such as is made in the following Manner : Put a little Water into a Saucepan, and place it on the Fire. While that is heating, beat up a large Spoonful of Flour in a little cold Water in a Bason, observing to break all the Lumps of Flour, and to make it quite smooth. When the Water boils, pour this into it, keeping it constantly stirring ; and, when you think it has boiled to a sufficient Thickness, pour it into a Bason, and there let it stand to cool for Use.

When your Paper and Paste are thus prepared, provide yourself with a Table full as large as your Kite. Spread your Paper on the Table, and paste so many Sheets together, as will be sufficient to cover your Kite. Then lay your Kite on the Table, and cut out your Paper to the Size of it, leaving about an Inch for turning in round the Bender and lower Strings. Cut Notches at the End of your Paper, that they may turn over the more



readily, and hold the stronger. All this should be done as quick as possible, that the Paper may not have Time to dry before the Operation is finished.

Having proceeded thus far, you must next place on the Bandages, which are Pieces of Paper, each about an Inch broad, and two Inches long, and which are designed to fasten the Straighter and the Braces of the Bender. These are to be placed at those Marks distinguished by the Letter G. Your Kite being thus far finished, you must put it in some shady Place to dry, but by no means in the Sun, or near a Fire, both which dry it too fast, and often make it warp.

When your Kite is perfectly dry, try if it is even, in the same Manner as you did before it was papered; and, if D is too heavy for E, or E for D, paste a bit of Paper on the lightest End, within the Kite, till it is exactly poised.

The nicest point remaining is that of properly placing the Loop, to which you are to fasten the Cord to fly it. For want of this being done as it should be, many a good Kite has got into Disgrace, and at last fallen a Victim



Victim to the Rage of the ignorant Artist, in whom was the sole Fault, and not in the Kite itself. I shall endeavour to explain this Matter as clearly as possible.

If your Kite is five Feet high, take about eleven Feet of Twine. With the Point of your Compasses make a Hole, close to the Straighter, in the Bandage G, which is nearest to A. Pass your Twine through that Hole, and bring it through another on the other Side of the Straighter. Pull it through exactly half Way the Length of the Twine, and fasten it, by tying it close down. Then make two other Holes, close to the Straighter in the Bandage G nearest to B, and, when the Ends of the Twine are carried through, there fasten them in such a Manner as may leave no Room to fear the Knot slipping when the Wind shall act upon the Kite. Thus your Loop will have a proper Angle.

The next Thing to be considered, of no less Consequence than the former, is on what Part of the Loop to fasten the End of your Cord, when you intend to raise the Kite. Most young Artists are apt to fasten it too low; In this Case, let the Kite be ever so

good, it will never mount to its proper Height, and is with great Difficulty raised at all; for the Wind then acts almost as much downwards as upwards: Whereas, when the End of your Twine is fastened to the Loop at only a *few* Inches from the upper Bandage G, the Kite is no sooner off the Ground, than it bends its Head towards you, and lies as it were *upon* the Wind, which forces it up into the Air, tugging at a great Rate for more Twine, which you must not deny it, but let out freely, so long as it continues mounting.

The TAIL, when properly made, is a great Ornament to the Kite, as well as a principal Assistant in its performing its Office. If the Tail is too short, it will no sooner be off the Ground, than it will turn, pitch on its Head, and at once be totally demolished: If it is too long and heavy, it will prevent its mounting to its proper Height. The general Rule for the Length of the Tail is *seven* Times that of the Kite; but then it must not be made in that heavy slovenly Manner, in which we frequently see it done. It should be made of the same Twine with which you fly your Kite, and the Papers should not be  
more

more than twice doubled, about two Inches long, and the same Distance asunder.

Many an experienced Artist, after having brought his Kite to the utmost Perfection, and seen it mounted so high in the Air as to be but just visible, to the Wonder and Admiration of his surrounding Spectators, has, all on a sudden, seen the Tail drop off, the Kite whirled about in the Air, and at last precipitated headlong to the Earth, when, to his insurmountable Disgrace and Ridicule, both Kite and Twine have been for ever lost. To prevent such heart-breaking Calamities, take Care to run the End of the Tail-Twine round the Straighter, and *within* the Cords at B; and when it is thus properly fastened, it can never fall off.

It is a general Rule among the Kite-making Artists, (and, let me tell you, it is founded on the true Principles of Mechanics) that the lighter the Kite is, the higher it will fly, and the less the Twine will belly. I have long practised this Art, and can therefore say a great deal from Experience.

I have raised many a Kite without any Addition of Ornaments, into the high Regions



gions of the Air, which has attracted the Wonder and Admiration of many Gentlemen and Ladies, whom Curiosity drew round me. I have heard them tell each other, that small Things might be compared with great ones, without the least Reason for Contempt; since, even from the Amusements of Boys they were led to behold Trifles with the highest Sensations of Pleasure.

Whenever I found this particular Notice taken of my Kite, I always pulled it in, and I have constantly found these Gentlefolks wait with Patience to take a close View of what they before had seen only at a great Distance. In these Cases, I doubted not, as soon as I brought it into Hand, they would admire the due Proportion of the Bender to the Straighter, the judicious Situation of the Loop, the Length and Neatness of the Tail, and the just Regularity and Uniformity of the Whole. But, alas! instead of receiving the expected Encomiums, the Gentlemen have only said, “Why, you Rogue, you  
“ have got no Stars on your Kite.” The Ladies have laughed at what the Gentlemen  
said



said, and I left by myself sulky and disappointed.

I was one Day making my Complaints on this Subject to my Father, who, I verily believe, is the greatest Man that ever existed, when, after a short Pause, he made me this Answer: “ *Mike*, I am not at all displeased  
“ with your Observation; but you do not  
“ yet know, that Convenience and Simplicity are not the Idols of the present Age.  
“ The Enquiries of the Generality of the  
“ World are only after Show and Parade,  
“ and, without these, Merit is of little  
“ Worth. Take my Advice: Add a few  
“ glaring *Stars* to your Kite, and you will  
“ draw around you a greater Number of Admirers, however indifferent such a Kite  
“ may be, than ever you will be able by the  
“ best you can finish in a plain Manner.”

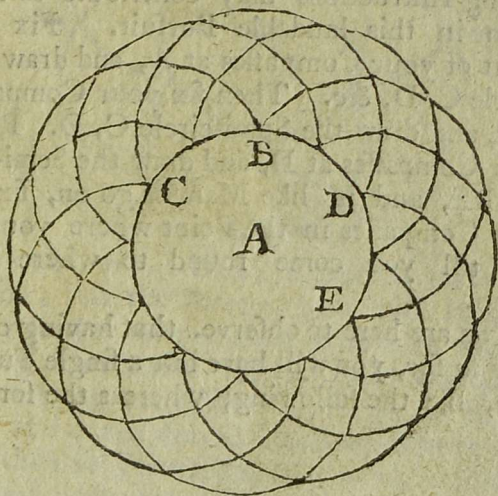
I thought very seriously on my Father’s Advice, and determined to follow it in the best Manner I was able. I have now the Satisfaction of saying, that I can make a Kite in such a Manner, as that, while it is flying, it shall attract the Eyes of every Spectator, and, when it is down, gratify the most luxuriant

riant Taste by the Beauty and Variety of Shape, Colour and Disposition of the Stars. As this is a Point very interesting to the Credit and Satisfaction of the young Artist, I shall be very particular in my Directions and Advice on this Head.

The first and principal Ornament of a Kite are Glass Eyes, the making of which properly requires some Thought and Judgment. Chuse for this Purpose two Pieces of the finest and thinnest Crown Glass, which should be cut round, and but little larger than the Size of the intended Eye. Too small a one looks pitiful, and too large a one is preposterous: However, Reason and Observation will easily settle this Point. When you are fixed on the Size of the Eyes, take your Compasses, and draw two Circles on your Kite, as nearly as possible, on those Parts of the Kite marked in the last Figure HH. Cut out these circular Figures with a sharp Penknife, and lay your Glass Eyes over the Cavities so made. Fasten the Eyes on to the Kite by little Slips of Papers run round the Edges of the Glass; but take Care that no Part of these  
Slips

Slips of Paper hang over the Glafs, fo as to intrude on the Circle.

The next Thing to be confidered is, what Ornament is moft proper to be placed round thefe Eyes; for which Purpofe I would recommend the following Turk's Cap. Cut



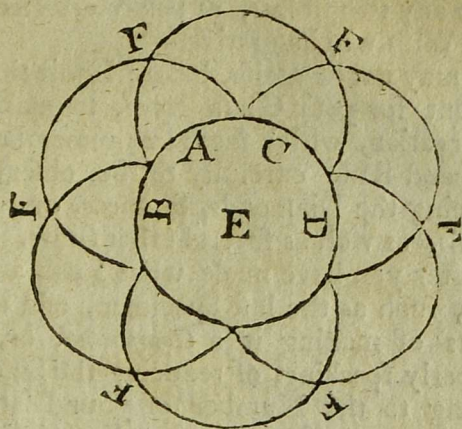
out the blank Circle, and pafte the reft round the Eyes, which will give them a moft beautiful Appearance. Obferve, however, before you



you paste them on, to cut away all the white Paper, leaving nothing but the coloured Star.

As many young Beginners in this curious Science may not, at first View, know how properly to begin drawing this Star, the following Instructions may contribute to assist them in this laudable Pursuit. Fix the Point of your Compasses at A, and draw the Circle C, D, &c. Then fix your Compasses at B, and draw the Semi-circle C, D. Place your Compasses at D, and draw the Semi-circle BE, and in like Manner go on, fixing your Compasses in the Point where you left off, till you come round to where you began.

You are here to observe, that having done only so far, you will have but a single Turk's Cap, like the following, whereas the former



is a double one. Now, in order to make this double, like the former, you will have nothing farther to do, than to observe the following Directions. Place your Compasses between any two of the Points, as, for Example, at A, and draw a Semi-circle from B to C; then fix your Compasses at C, and draw a Semi-circle from A to D. Continue in this Manner, as before, beginning where you left off, till the Whole is compleated. If your Turk's Cap is very large, and you are desirous of making the Diamonds very small,

G

you

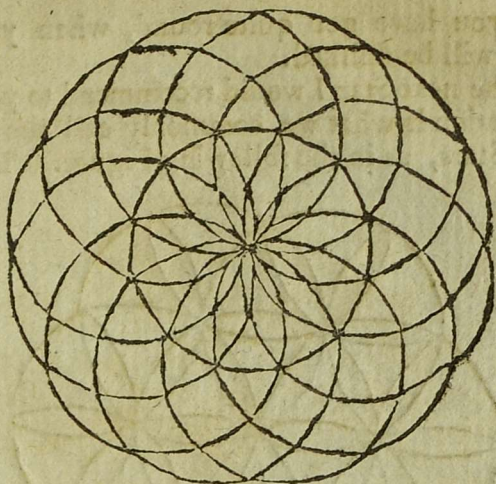
you have only to place your Compasses *between* any two Points, as before directed, and your Wish will be gratified.

It may not be amiss, before I quit this Ornament for your Glass Eyes, to make one Observation, which should be remembered as a general Rule carefully to be observed in reducing the Diamonds, Squares, or Angles, of this, as well as several other Stars.

After you have made what I call a *simple Star*, such as the last Specimen, and are desirous of making it a *Compound*, or, more properly speaking, of reducing the Size, and adding to the Number of your Diamonds, &c. do not trust to your own Eye for the proper Distance between the Points, but divide such Distance nicely with your Compasses; for, if it is not exactly in the Middle, your Star will not be true, consequently it will be good for nothing.

There

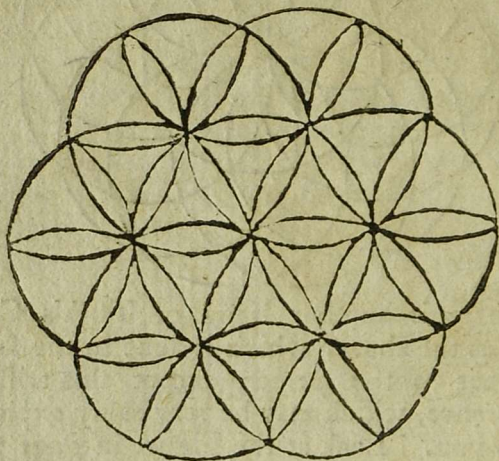




There is another Kind of Turk's Cap, such as the above, which is done in the same Manner as the former, except this trifling Difference, which may be very easily explained to you. Look at the Figure in Page 71; after you have drawn the first Circle, by fixing your Compasses in A, apply them to the Point B, and, instead of drawing only the Half Circle CD, continue the Circle quite through it, which will thereby become a complete Circle. Go on in this Manner  
 G 2 till

till you have got quite round, when your Star will be finished.

The next Star I would recommend to your Attention is what we commonly call the Seven Stars, as in the following Figure. This



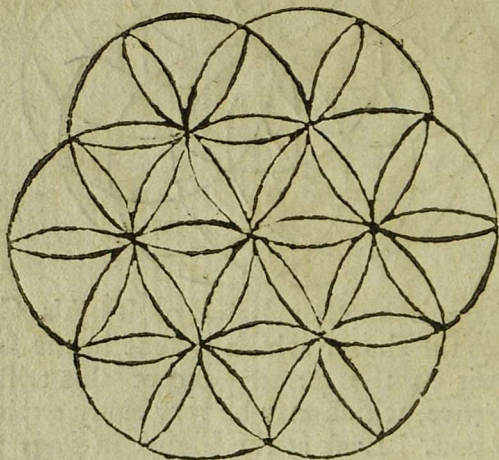
likewise is very easily drawn, and much in the same Manner as the last, however different it is in Appearance. This will be best explained by the Figure in Page 73. You there see the single Turk's Cap. You must draw this Figure first; but be sure you remember

member not to leave them Half or Semi-circles, as they are there, but continue them through the Center E, till they join. The only Thing then remaining to complete this Star, and which only makes the Difference between the Turk's Cap and the Seven Stars, is to fix your Compasses in either of the Parts marked F. Draw a Half Circle, beginning at F on the Right-Hand, passing through the Center at E, and ending at F on the Left-Hand. Begin again where you left off, and so on, till you have gone quite round, when you will have the Star represented in the last Figure. If this is properly coloured, it has a magnificent Appearance.



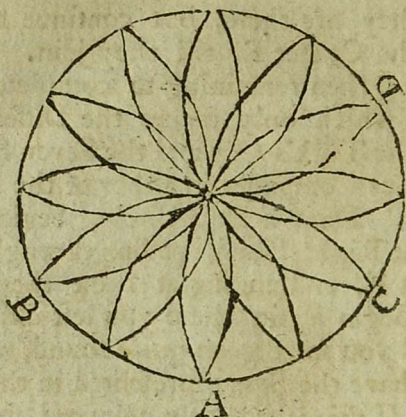
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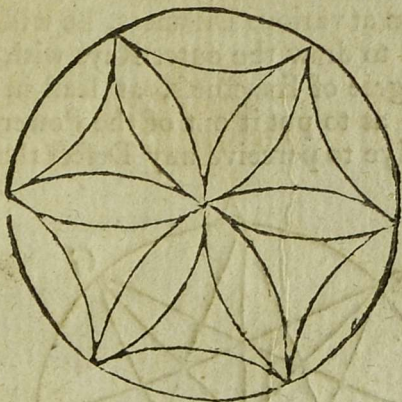
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This is called a Twelve-pointed Star from its having so many Points, and is very easily drawn. Fix your Compass in the Center, and draw the outward Circle. Then fix your Compasses at A, and draw the Semi-circle BC; place your Compasses at C, and draw the Half Circle AD. In this Manner proceed all round, when you will have a six-pointed Star. In order to bring it to a twelve-pointed Star, you will have nothing more to do, than to fix your Compasses exactly in the Middle between any two Points, and proceed

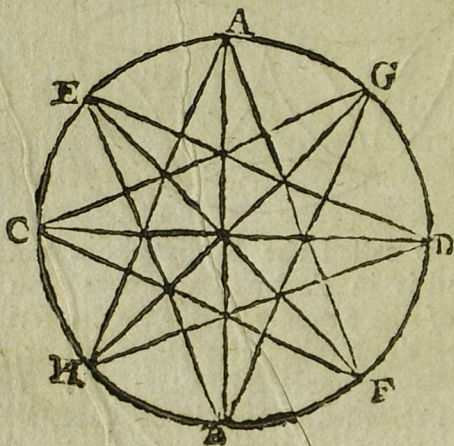


as before. In the same Manner you may make eight-and-forty points thereto, or as many more as you please: But this should be attempted only when the Star is very large, and great Care must be taken, otherwise the fine Points in the Center will be little better than a Blot.



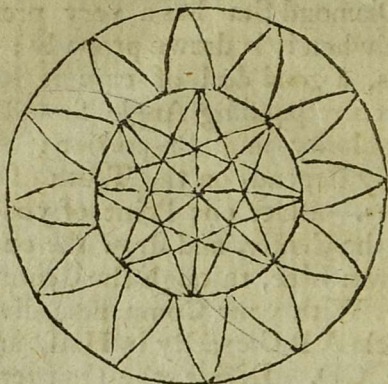
This is called the Radiated Six pointed Star, and is in Fact nothing more than the Center of the Seven Stars before described. You may draw this in the same Manner, and afterwards cut out the Center Star. I own this is like cutting a Pair of Boots a little above

above the Ankle, in order to make them into Shoes; for every good Artist will be as saving of his Paper, as a Shoemaker is of his Leather. I would therefore recommend him to make it in this Manner. After he has made it a Six-pointed Star, in the Manner described for the above, to fix his Compasses much beyond the outer Circle of the Star, and, by trying them at various Distances, he will soon be enabled to draw the outer Rays with a tolerable Degree of Exactness, at least in such a Manner, as to put it out of the Power of a common Eye to perceive any Defect therein.



The Diamond Star has a very pretty Appearance when it is drawn properly; but, to effect this, a good deal of care is requisite, as every corresponding Angle should have a due Regularity and Proportion: All this principally depends on the Truth of the two first Lines. Place one Point of your Compasses in the Center, and draw the outer Circle. Draw a Line, through the Center, from A to B. With your Compasses, divide the Semi-circle A B C exactly in Half, and draw the Line CD. Divide the Quarter Circle AC, and draw the Line EF. Do the same with the Quarter Circle AD, and draw the Line GH. Thus the Star will be divided into eight equal Parts. Then draw the Line from B to G, from G to C, and so on, till the whole is finished; for there is nothing more to be done, after the Circle is equally divided into eight Parts, than to draw Lines from one Point to another, skipping two Points at each Time, as will be plainly seen by the young Artist, even on the first Trial.





This I call a Compound Star, it being composed of two Stars. There needs but little Description of this, that in the Center being the Diamond Star, and the outer Rays no more than a twelve-pointed Star, which is drawn in the same Manner as that already described in Page 78, only by lifting the Pen over the inward Circle.

There are innumerable other Compound Stars, which I shall here omit for the Sake of Brevity, that I may not make my Work too expensive to young Artists. When he has made himself Master of those I have here described,

scribed, there are hardly any he will not be able to take off almost at first View, and his own Ingenuity will prompt him to invent others himself.

The colouring of a Star is a very material Article, and the Materials for this Purpose must be nicely managed; but this I shall speak of more largely in its proper Place. I shall only at present observe, that no Point or Square in a Star should be left White, or painted Black, both these having a very disagreeable Effect; and the Colours should be so varied, that two of a Sort may not be near each other. If your first Point, Square, or Angle, is Red, let the next be Blue, the next Yellow, then Green, and the next Purple. Be very sparing of your Gold, which should be used only, if at all, in a small narrow Circle round the Extremity of a Star.

The Disposition of the Stars on the Kite is another Thing to be considered. Too many make a Kite heavy, and prevent its flying properly. The two Stars, which surround the Glass Eyes, should be well finished, as being in the most conspicuous Part. Three other large ones should be placed at III, as marked in

in the Figure, Page 58, and two others somewhere about KK; but observe that the Star at the lower I should be smaller than the two above it, and between these, on different Parts of the Kite, should be placed Stars not above one Fourth the Size of the others. Take Care, when you paste these on the Kite, that the Kite is not thrown out of its Balance, which, if that should be the Case, must be remedied as before directed.

The last thing to be considered is the Flying the Kite, which is the Reward of the Artist's Labour. For this Purpose he should chuse a fine Day, when it is not likely to rain, and a gentle Breeze prevails. The Place, in which he intends to raise his Kite, should have neither Trees nor Houses in its Neighbourhood, nor yet large Rivers or Ponds; for, should an Accident happen, which is frequently the Case with the best Artist, by the breaking of the Twine, he may then have some Chance to recover his Loss. Having observed the Course of the Wind, and properly fastened the Twine to the Loop, get at least fifty Yards Distance from the  
Kite,



Kite, holding the Stick, round which the Twine is rolled, in your Hand. Let an assistant Artist hold up the Kite, and when a Breeze springs up, run a few Yards, the Assistant taking Care to clear the Tail from entangling in Weeds of any Kind. If your Kite is good, and you wait patiently for a favourable Opportunity to start, you need not run far. As soon as you find your Kite can maintain itself in the Air, run no more, but put out your Twine leisurely, till you come to the End of it. When you have so done, sit down on a Stile, but by no Means in the Grass, and enjoy the Rewards of your Labour.

I cannot conclude this Essay without taking Notice of the idle Custom of some unthinking Artists, who, when their Kite is raised, are very fond of sending up Messengers, as they call them, which are Pieces of Paper with a Hole in the Middle: These are run over the Stick, and so on to the Twine, when the Wind forces them up to the Kite. This, however is very wrong; for the Wind acting strongly on the Paper, though small,

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lowers

lowers the Kite prodigiously, which should by all means be avoided. The Custom of flying Kites by Night, with a Piece of lighted Charcoal at the End of the Tail, is of so dangerous a Nature, that he who attempts it ought for ever to be excluded the Honours of this noble Science.

OF THE  
PREPARATION  
OF  
COLOURS, &c.

**B**EFORE any young Artist attempts to colour either his Drawings or Stars, it will be absolutely necessary he should have some Idea of the Nature and Properties of Colours, that he may know how to prepare them. After depriving myself of a whole Month's Holidays, which other Boys would have spent in Idleness or Play, I am enabled to give the youthful and industrious Artist some valuable Directions. To this Month's Labour, I have added my own Observations, as they occurred to me in the Progress of my colouring some Hundreds of Stars and Pictures, in those leisure Hours, which a School always affords a Youth who is ambitious to excel.

The first Thing to be considered is *Gum-Water*: to make which, take an Ounce of



the whitest Gum Arabic, and Half an Ounce of clear white Sugar-Candy. Dissolve these in a Quart of Water, and add to it, if you think proper, a little Coloquintida. The Use of this last Ingredient is only to keep the Flies from spoiling your Work, if it should be exposed abroad in the Air; for, where this is used, Flies will not come near it. When your Gum-Water is thus prepared, pass it through a fine Sieve, or a Piece of Muslin, and keep it in a Bottle so stopped that no Dirt may get in. Pour but a little of it out at a Time, when you want to use it; for, should it get dirty or foul, it would spoil the Brightness of your Colours.

*Alum-Water* is a useful Article; for with this you may wash the Drawings or Stars you intend to paint, which will so fix the Paper, that the Colours will not sink in when you lay them on, but will rather tend to brighten them. It is made in the following Manner: Boil four Ounces of Alum in a Quart of Rain or River Water till the Alum is dissolved, and let it stand twenty-four Hours; after which strain it off for Use. It is proper here to remind you, that, if your  
Paper

Paper is very thin and loose, let it be washed with the above Water four or five Times, observing to let it dry every Time, and that it be perfectly so, before you attempt to lay any of your Colours upon it.

Let us now proceed to enquire into the Nature of the various Colours used in painting of Stars and Drawings. As to *White*, I have already observed, that it is by no Means to be left in Stars intended for Kites, as every Portion should be filled up with some other Colour, than that of which the general Body is composed; and, in Drawings, where it is sometimes necessary, the Colour of the Paper will always answer the End, especially if it is well glazed, without any other Assistance.

### Of YELLOWS.

The first of this Kind is a Straw Colour, and is made of Flour of Brimstone, which of itself is fine enough to mix with Gum-Water. Yellow Oker will make another good pale Yellow; but, in illuminating of Prints, it is a Colour of rather too much Body to be used for that Purpose, unless it is well ground with Gum-Water. For a deep

Yellow, Dutch Pink is generally used, as is English Pink for a lighter Shade. With respect to colouring of Stars, Gamboge is always to be preferred, as it is a most beautiful Colour, and of a strong Body.

### Of REDS.

The best Colour of this Class, for painting of Stars, is Vermillion ; but this is too heavy to be used on Drawings or Prints. *Crimson* is represented by Carmine ; but great Caution should be used in buying it, which should never be done by Candle-light, as it will then be impossible to discover what is truly of the right Colour, there being a great deal of it of so different a Shade from the real Crimson, as to be worth nothing. A *transparent Purple*, either more red, or nearer the blue Colour, as shall appear necessary for painting different Prints or Drawings, may be made in the following Manner : Take a Pint of Stale Beer, in which boil one Pint of rasped Brazil Wood, and half an Ounce of Campeachy or Logwood, till the Liquor is heightened to the Colour you desire, which you must try by dipping a Piece of Paper into it.

If



If you then find it too Red, add a Quarter of an Ounce of Logwood to the Brazil Wood, and you will find it much nearer to the Purple than the former. In like Manner you may humour any Degree of Purple, as you put more or less Logwood to the former Composition ; after which fix the Colour with a little Alum. This will produce such clear Purples, as no Mixtures of solid Reds and Blues possibly can, though Purples are frequently made by uniting those two Colours.

*Of BLUES.*

The first and best bright Blue we have is Ultramarine, which gives a Spirit to all Paintings in which it is used ; but the Price of it is so high, that it is never used for Stars, and seldom even in many of the best Prints. Prussian Blue is the next in Beauty to Ultramarine ; but it will not long retain its Colour when mixed with Gum-Water, and therefore improper for our Purpose. The next Colour to the former for Brightness, is that which we call Blue Bise, which, though it is a Colour of Body, will flow pretty well in the Pencil, if it be well washed, which must be done in  
the

the following Manner. Put three or four Ounces of it into a Quart of Rain Water: Then stir it, and pour off the Water immediately. Let it settle to the Bottom of every Cup or Glass you pour it into; after which pour off the Water, and in a Day's Time you will have the Colour dry, and as fine as you can wish. Indigo makes a fine Blue, when it is ground and washed with Gum-Water, by Means of a Stone and Mullet. If you use it for Stars, you cannot have it too strong; but I mean not so strong as to prevent it running freely from the Pencil, and lying smooth on the Paper without appearing in Lumps. If you use it for the Colouring of Prints, you may lighten or darken it to your Mind; by using a greater or less Quantity of Gum-Water therewith; but, before you touch your Drawing or Print with it, try its Strength upon a white Dutch Tile; for it runs freely in the Pencil, and may be too strong for your Design, which you should always be aware of, when a flowing Colour is to be laid over the dark Shade of a Print, as it will much aggravate its Blackness, and even make it appear quite black.

## Of BLACK.

I have already observed, that Black is by no Means to be admitted among the Colours for the Use of Stars: I shall therefore only speak of it for the Purpose of Prints, in even which, if they are good, it should be cautiously admitted, it being so heavy a Colour, as to hide the beautiful Strokes of the Engraver, unless done with great Care. I am here speaking of what they call Ivory-Black, which must be pure and well ground. Many prefer a strong Tincture of good Indian Ink, while others make Use of Ivory-Black, prepared in the following Manner. Let your burnt Ivory be well ground in Gum-Water, and then beat the White of an Egg very well, till you find a Kind of oily Liquor settles to the Bottom. Mix the Liquor with as much of the Ivory-Black as you think necessary to make it run freely in the Pencil, and it will afford an extraordinary Gloss. If the Object is shining, such as the Wings of some Beetles, mix some of it with a little White upon a Dutch glazed Tile, till you find it light enough to relieve the Shade. Then make another lighter



lighter Shade, which, being used on the brighter Part of the Subject, will produce the Effect you desire.

### *Of* GREENS.

Greens are by all allowed to depend upon the Yellow and the Blue, and, by the Help of the one or the other Colour, may be formed any Green we please. The Gamboge is one of our first Yellows, which, with the Preparation of Verdigrease, may be made to produce five or six Sorts of Greens, according as the Gamboge abounds, or is less in Quantity. If the Gamboge abounds, it will form a tolerable Oak Green; and, being still more mixed with the Verdigrease Green, it will form a Grass Green. As for the Verdigrease itself, it produces a fine blueish Green, flows easily in the Pencil, and may even serve as an Ink to write with. As the Method of preparing this Colour is not much known to the Generality of young Artists, I shall here inform them in what Manner it is to be done.

Take three Ounces of common Verdigrease, break it a little, and boil it gently in a Pint of White-Wine Vinegar, observing to  
 stir

stir it continually. When you perceive it to boil, add a little Tartar broken, and keep your Mixture stirring till you find the clear Liquor of such a Colour as you could wish; that is, of a fine transparent Green, with a blue Cast. The State of the Colour may be known, by dipping in a Stick and touching a Piece of Paper with it.

When you have a Colour to your Mind, pour it through a Linen Cloth into an open Vessel, and set it to cool. When it is quite cold, keep it in a close Vessel for Use, pouring out a little at a Time as you want it; for, when it is exposed to the Air, it will soon dry, but is reducible again by common Water.

When you prepare this liquid Colour, do not use the distilled Verdigrease, for it will not answer the End you propose. Take Care you make it strong enough; for it is not to be strengthened afterwards, without the Trouble of boiling afresh, though it may at any Time be made as faint as you please by adding common Water thereto.

Sap-Green is a Colour like that of an Oak Leaf, if it be used thin with common Water; for

for this, as well as the former, wants no Gum: However, if it is used strong, it produces a very dark Green. You may try your Colour first on a white Dutch Tile, and, by thinning it with Water, reduce it as you please; but you may brighten it very much, by adding to it a little of the liquid Verdigrise.

Sap-Green is made in the following Manner: Take the Flowers of the blue Flag Iris, or Flower-de-luce, and press them while there is any Juice to be got from them. Boil this Juice in a glazed Pipkin, till it grows thick, adding a little Alum to it, when it will make a very useful and lasting Green.

Remember, in the Boiling of any Juice, &c. in order to make Colours, to use an earthen glazed Pipkin; for, if you boil them in Vessels of Metal, you will sometimes be much disappointed in your Expectations.

There is another Method of producing a Sap-Green, which is gained by taking the Juice of Buckhorn Berries; and, though that Juice simply will yield only a dark Purple, of a very base Hue, yet, by adding Tartar to it, it will turn to a good Sap-Green,  
and



and may be brought to a good Consistence by boiling.

These are the principal Discoveries I have made in the Preparation of Colours, and which, as I before observed, have deprived me of the sportive Enjoyments of many a Holiday. However, it may be necessary here to observe, that I would not advise those young Artists who make Use of Colours only for Stars, or now and then to ornament a Print or Drawing, to be at the Trouble and Expence of preparing their own Colours, since it will be much cheaper for them to buy them in Shells at the Colour Shops, which are fit for immediate Use, with the Assistance of their own Gum-Water only. I design these Instructions only for those who dip deeply into the Science, and who cannot be contented with a superficial Knowledge of any Thing they have in Pursuit.

To every one, these Cautions seem to be necessary: Take Care to have as many Pencil Brushes as Colours, if you intend to be nice; and always observe to wash the Colours well out of them, by dipping them in Water, and squeezing them well with your Fingers till no

Colour is seen to proceed from them, before you lay them by after Use, otherwise they will get hard and be no longer serviceable.

I do not presume to offer this to young Artists as a complete Treatise comprehending every Thing that can be said on the Subject; but thus much I will venture to say, if they follow the Directions here given, they may possibly find it more useful to them, being both concise and cheap, and collected from natural Experiments, than many other Books of ten Times the Price.

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## C O N C L U S I O N.

**B**EFORE I take Leave of my little Pupils, I shall lay before them a few Passages of History, from which they may form Designs for capital Pieces of Drawing. If my little Disciples should be at a Loss how to plan a Picture from these authenticated Scraps, it will be no Wonder; but, after they have gone through this Work with Assiduity and Patience, and imitated such Historical Drawings as may have fallen into their Hands, they will then find this to be no difficult, rather a pleasing

pleasing Task, and I have with the more Pleasure embraced this Opportunity, as nothing of the Kind has ever yet appeared in the most extensive Works of this Nature. In the mean Time they may read them, perhaps to Advantage, merely as Matters of Entertainment and Improvement.

1. The *Athenians* being at War with the *Peloponnesians*, the Oracle had promised the Victory to the *Athenians*, if their King should fall by the Hand of a *Peloponnesian*. The Enemy, being informed what the Oracle had declared, gave a general Charge to their Soldiers not to kill *Codrus*, who was then King of the *Athenians*. *Codrus*, however, one Evening advanced beyond the Trenches in the Habit of a Wood-Gatherer, and began to cut several Boughs. Some *Peloponnesians* happening to be engaged in the same Office, met him. Coming immediately to Blows, he wounded several of them with his Bill; but, being overpowered, he fell under their Strokes. The Prophecy being thus fulfilled, the *Athenians*, inspired with additional Strength and Courage, marched to Battle without Hesitation, and sent a Herald to



demand the Body of their King. The *Peloponnesians*, understanding what had happened, fled; and the victorious *Athenians* decreed heroic Honours to the Memory of *Codrus*, who had voluntarily sacrificed his Life for the Good of his Country.

In Order to design this Picture, as well as the following, in a proper Manner, I would advise the Artist not to confine himself too much in the Size of his Paper, and never make it less than a Quarter of a Sheet. To draw Historical Pieces in Miniature is the Work only of an experienced Artist. This Design should consist of *Codrus* engaging the Wood-cutters, and sinking under their Blows. The most difficult Matter here will be to represent the natural Attitude of the Body in such Circumstances. For this Purpose, let two of his Intimates make a sham Fight, (but take Care they do not fight in Earnest) and from them copy the desired Position. When the principal Figures are finished, he may then draw the Representation of a Wood, and embellish it with Beasts, Birds, &c.

2. *Aristides* and *Themistocles*, differing widely in their political Principles, were violent Enemies.

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Enemies. Upon the Invasion of the *Persians*, taking Hold of each other, and going out of the City, they put down their Hands, with their Fingers twisted together, into one Place, and at once cried out, “ Here we lay down “ our Enmity till we finish the War against “ the *Persians*.” Having thus spoken, they took up their Hands again, and untwisted their Fingers, as if something had been there deposited. Then filling up the Pit, they returned to the City, and continued in Harmony during the whole War. This Unanimity of the Generals chiefly contributed to the Overthrow of the Enemy.

Great Care must here be taken in representing the stooping Posture of the two Generals. To preserve the due Proportions of Nature in such a Posture requires great Care, Skill, and Judgment.

3. *Polemon*, the *Athenian*, was a very debauched young Man. One Day, agreeable to a Resolution he had before taken, having intoxicated himself with much Liquor, he crowned his Head with Flowers, and then staggered into the School of the Philosopher *Xenocratus*, who was then arguing in Defence

of Temperance. The more the unthinking Youth endeavoured to interrupt his Discourse, the more strenuously the Philosopher pursued it; till at last *Polemon*, being obliged to hear it, became so sensible of his Error, that from that Moment he began to reform, and made a firm Resolution to live better for the future. He succeeded so well in his Endeavours, that in a little Time he became the first Disciple of *Xenocratus*, whom he afterwards succeeded.

The principal Figure here is that of a drunken Man, crowned with Flowers. The Face shall be in full Front, that you may give him such a silly Countenance as is peculiar to People much intoxicated with Liquor. His disordered Dress, and tottering Position, should be expressive of his Situation. The other Parts of the Design contain nothing difficult.

4. *Philip*, King of *Macedon*, falling to the Ground by Accident, and seeing the Extent of his Body marked in the Dust, cried out, " Good Gods, what a little Space does a Man fill in this Universe ! "

There is nothing very difficult in this Design. Take Care, however, that you place the



the King in a proper Attitude, and fill his Face with Surprize. Mind that the Sun is placed in such a Part of the Piece, as may cast the Shadow properly, which last cannot be done to a Nicety without much Care and Attention.

5. *Ptolemeus*, the *Theban*, was so accustomed to send no one away empty-handed that came to ask his Charity, that when a poor Soldier in Distress came to implore his Assistance, the General, having nothing else to give, pulled off his Shoes, and presented them to the distressed Man, saying, “ My Friend, take these, and make the most you can of them; for I would rather go barefooted, than you should starve.”

Little need be said on this Design. In the Countenance of the Soldier, while he is receiving the Shoes from the General, must be painted Sorrow and Distress, while the Looks of the General must be expressive of Benevolence and Humanity.

6. After the bloody Battle of *Pedewardin*, which the *Germans* gained over the *Turks*, among the Prisoners was a Janizary, who much lamented the Loss of his Turban. The  
German

*German* Soldier who had picked it up, happened to be near him, and hearing him express his hopeless Wishes to have it restored, very generously returned it to him: at the same Time thus addressed him in the *Turkish* Language; “ You are a Soldler, and so am  
 “ I; We ought to treat each other as *Bro-*  
 “ *thers.*” The Janizary, full of Joy at this unexpected Mark of Generosity, and being unwilling to shew less Marks of Grandeur of Soul, received the Turban with one Hand, and with the other presented his Musket to the *German*, saying, “ If we are Brothers, I  
 “ have no Need of this Instrument of Death,  
 “ which, but a little while since, was employ-  
 “ ed against my Enemies, and might have  
 “ been fatal to you.”

The young Artist will here be at no Loss to find Matter to cover his Paper. Men in Arms, *Turks* and *Germans*, may fill every Part of it but the Center, in which must be represented the *Turk* receiving his Turban from the *German* with one Hand, and surrendering his Arms with the other. Take Care to infuse into their Countenances the different Passions arising from their different Situations.

7. *Brutus* and *Cassius*, after having made some Conquests, met at *Sardis*, where they agreed to march against *Anthony* and young *Cæsar*. Here one Evening, *Brutus*, as he was sitting pensive, and revolving the Transactions of his Life, the Memory of *Cæsar* occurred to him, now perhaps not as a Traitor; a Tyrant, or Usurper; but as one he loved and murdered, an Apparition appeared to him, (as he imagined) which told him he was his evil Genius, and would meet him at *Philippi*; to which *Brutus* calmly answered, "I will meet thee there."

Here is a copious Field, in which the young Artist may exert every Power of his Genius. *Brutus* and the Apparition afford two capital Figures. *Brutus* must be drawn reclining on a Couch, half raised; leaning on one Hand, with the other lifted up in Surprise. The most difficult Part of the Work will be to fill his Face with that Horror which the Artist himself would be supposed naturally to represent in the same Situation. If he has seen the Tragedy of *Hamlet*, in which the Ghost addresses the young Prince, let him take that for his Pattern on this Occasion; or rather, let him



him imitate some good Drawing of this Kind.

8. *Pyrrhus*, King of *Epirus*, after being defeated by the Romans, retired to *Tarentum*, and was slain at *Argos*, a City of *Greece*, by a large Stone thrown on his Head, from the Walls, by the Hand of a Woman, whose Son he was upon the Point of killing in the Attack.

This will form a very pretty Picture, and fill up every Part of the Paper: The Representation of a Castle may be made to cover one Half of it. Under the Castle must be drawn the Figure of *Pyrrhus*, clad in Armour, and sinking under the Blow of a falling Stone on his Head. Near him, the Figure of a warlike Youth, with whom he is supposed to have been fighting, and who stands astonished at the sudden Fate of *Pyrrhus*. Over the Countenance of the King must be thrown the Appearance of Insensibility, arising from the Blow he is supposed to have received; but an Air of Majesty and Dignity should be preserved. On the Top of the Castle, directly over the Head of *Pyrrhus*, you must place the Figure of a Woman

man, in an Attitude that will shew it was from her Hand the Stone fell, and in whose Countenance you may perceive the different Passions of Joy and Terror. The rest of the Ground may be occupied by the Efforts of contending Soldiers ; but take Care you do not incumber the Living by placing too many dead Men at their Feet.

Let not the more aged and experienced Reader imagine, that I am not aware of the Objections that will be made to my CONCLUSION, “ that it is infinitely above the Capacities of Children, and therein differing from the former Part of my Plan.” To such I shall be short in my Answer : The Genius and Capacities of Children are seldom put to the Stretch, and, if they in due Time perform the usual Tasks imposed on them at School, nothing more is required of them : But, if you hit upon the Mode of making them consider as an *Amusement* what you regard as an *essential Point*, Wonders may be often produced. Here Genius will have its full Scope, unfettered of the tedious Rules laid down by some self-interested Teachers ;  
and,

and, if among a thousand of my Infant Readers, I should be instrumental in producing only ten Artists, I shall be satisfied that my Labour has not been in vain. It is by no Means to be expected, that the most *expert* among them should give all that Expression I have here recommended to the different Faces in the preceding Hints for Designs; but let even the *dullest* of my little Pupils remember this sure, certain, and infallible Rule, that there is *nothing* in human Life, however impracticable it may at first View appear, that may not be *forced* to give Way to *unwearied Diligence, Application, and Resolution.*

F I N I S.











