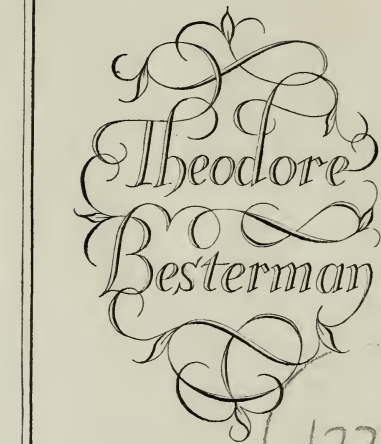

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P. S.

The Excellency of The PEN and PENCIL.

London Printed for Rich: Jones & Dorman Newman and are to be sold at their shops at the Golden Lyon and Chyrurgions Armes in Little Brittaine.

THE EXCELLENCY OF THE PEN and PENCIL,

EXEMPLIFYING

The Uses of them in the most Exquisite and Mysterious Arts of

DRAWING, ETCHING, ENGRAVING, LIMNING. } PAINTING in OYL, WASHING of Maps & Pictures.

Also the way to Cleanse any Old Painting, and Preserve the Colours.

Collected from the Writings of the ablest Masters both Antient and Modern, as Albert Durer, P. Lomantius, *and divers others.*

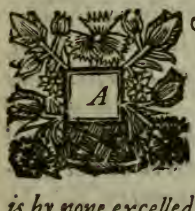
Furnished with divers Cuts in Copper, being Copied from the best Masters, and here inserted for Examples for the Learner to Practice by.

A Work very useful for all Gentlemen, and other Ingenious Spirits, either Artificers or others.

LONDON:

Printed by *Thomas Ratcliff* and *Thomas Daniel*, for *Dorman Newman* and *Richard Jones*, and are to be sold at their shops in *Little Britain*, near the Lame Hospital Gate, at the Chyrurgeons Arms, and at the Golden Lyon. 1668.

To the
READER.



Among the many Operations of Mysterious Nature, the Intellectual Part of Man hath no equal: Among the multifarious Productions of Man's Understanding, the Art of LIMNING *is by none excelled; whether We consider the Grandeur of Spirit therein expressed, or the Ingenious Delight thereby acquired. What Ray of the Great Creator's Image is more conspicuous in the Soul of Man, than that of Intense Desire to produce Creatures of his own? And wherein is that Inclination so compleatly answered, as by Delineating the Workmanship of God in Artificial Resemblances contrived and wrought by his proper Wit? Nor can any Satisfaction equal what is derived from the Perfection of these Designs. Are the Proportions exact? How strongly do they attract the Eye? Be the Shadowings accurate? How strangely do they affect the Mind? But if the Artist hath stoln so much of* Promethean *Fire as to add the Excellency of Life to*

well-disposed Lineaments, representing the Native Air and sprightly Gesture of the Person in vive; *How unspeakably doth he gratify both?*

To exercise this Faculty and comply with this Fancy in Man, is this little Tract compiled, in Five Books.

The First *lays down the Primordial Rudiments of the Art of* Drawing *with the Pen and Pastils: In a due and orderly Method proposing the Description of Man's Body in its distinct parts, presenting sundry Draughts of them in the plain Circumferential Lines, and giving Directions for the Proper Shades, as of Naked Bodies, so of Drapery; by Instructions and Copies so easy and intelligible, that the meanest Capacity need not doubt to undertake the Drawing of that Admirable Fabrick, and arrive to the Perfection of this Mystery in exact Symmetry, suitable Proportions, and enlivening Postures, if well perus'd and practised. For which purpose also certain Geometrical Rules, Definitions, and Figures are inserted, to exemplify and adorn this Mistress of Proportion; in the Accomplishing whereof that nothing may be defective, some succinct Advertisements concerning Landskip are added in the Close.*

Having premised these more plain and easy Fundamentals, the Second *proceeds to discover the Secret and Ingenious Skill of* Etching *with* Aqua fortis; *where the most perspicuous and familiar Ground possible is described, and Prescriptions, for carrying on and perfecting that Work, no less Rational annexed. And for as much as some may perhaps take more Pleasure in, or reap more Profit from, that of* Graving;

ving; *you have the Instruments most Necessary in that kind, and the Manner of Using them most Convenient, particularly demonstrated; Together with that abstruse Slight of transferring the Copy upon the Copper.*

But because this alone may seem barely Mechanick, that which suits with the most Gentile, and can not derogate from the most Honourable, is offered in the Third; *where the Requisits for* Limning in Water-Colours *are deposed, the Gums and their Waters in few Words digested, the Colours particularly nominated, and the true way to prepare and compound them specified: All which are but as so many Degrees and Ingredients to approach and accomplish the desirable and ultimate Design of Miniture; for the Practice whereof you are throughly furnished with the Choice of the meetest Light, Position, and Implements at hand, by the particular Description of Drawing a Face to the Life* in Little, *according to its duly methodized Progress at the first, second, and third Sitting; not omitting the Ornaments thereunto perteining.*

And to supply the Fading and Decay of these, the Fourth *delivers Rules and Directions for* Painting in Oyl, *answerable to that depth of Judgement required in that more durable kind of Operation; naming the proper Colours, and declaring its peculiar Utensils, With accurate Instructions how to temper and diversifie the former, for all Complexions and Garments, of what variety soever; and to use the later in the Artificial Painting of a Face, the only Exemplar prescribed, because it includes all the Art and Difficulty of this Science.*

The Fifth, *and last, displays a pretty superficial Experiment; imparting what Colours and other Necessaries are best fitted for the* Washing or Colouring of Maps and Printed Pictures: *And, to help the divers Exigencies that concern this Affair, some Expedients put a Period to the whole Work.*

Plainness and Brevity (which may procure Contempt from the Nice or Vulgar) are sufficient to recommend this Piece to Ingenious Aspirers after any of those Excellencies therein taught; since they have done the Art and Artist Right, in rescuing both, from such obscure Intricacies and voluminous Impertinencies as would discourage the one, or disparage the other: And these Muniments have so justly prevented all Censure, that nothing can suggest the least Imputation of Difficulty but want of Diligence, nor any one surmise it Tedious but the Slothfull.

Farewell.

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Companions, in his carriage in Good Company, in Bad Company, in Solitarinefs, or when he is alone, on a Week-day from Morning to Night, in Vifiting the Sick, on a Dying bed; as alfo the Means how a Chriftian may do this, and fome motives to it. All three by *George Swinnock* M. A. Preacher of the Gofpel late at *Great Kimbel* in the County of *Bucks*.

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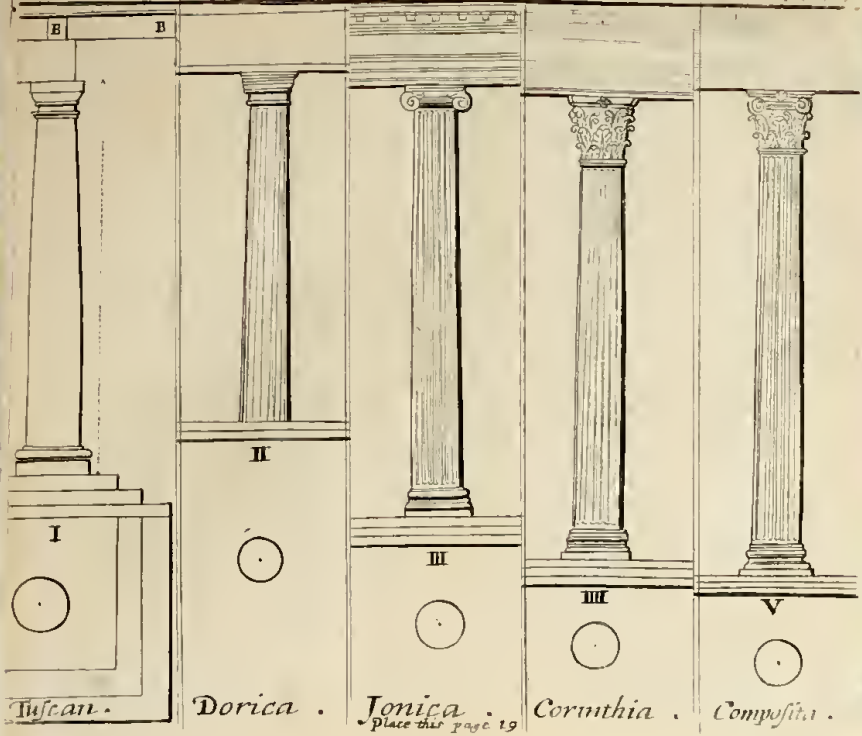

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OF DRAWING.

The First Book.

The Introduction.

DRAWING *consists of several Generall precepts to be learnt of every one that is desirous to attain to Perfection therein; the practice of which requires* Observation, Discretion, *and* Judgement; *in which,* Proportions, Motions, *and* Actions *are with great care and diligence to be followed: And therefore he that will attain to the perfection of this excellent Practice, it is necessary he should not be ignorant of* Mathematical *Demonstration in the Rules of* Geometry *and* Perspective; *of which in this Book you shall receive Instructions. Of all other proportions, the Body of Man hath the preheminence for excellency, from which all other Arts are derived, as many of the learned have concluded; for* Vitruvius *noteth, that the Architect hence took the observations of his Buildings, Man being the first pattern of all Artificial things: and Antiquity hath so graced* Painting, *(as being the chief Mistress of Proportion) so that all other Artificers are called Handy-crafts or Mechanicks.*

CHAP. I.

A description of all the External parts of Man's Body.

SECT. I. *Of the HEAD.*

IN Man's body the higheſt part is the *HEAD*; the fore-part is called the *Forehead*; the turning of the hair, the *Crown*; the root of the hair above the forehead, the *Center*; the parting of the hair, (eſpecially of Women) is called the *Seam*.

The *Forehead* conteineth all the ſpace between the root of the hair before, and the eye-browes: the *Pulſe* is the higheſt part of the forehead, ending with the hair: *Metone* is the ſwelling out in the forehead above the eye-browes: the *Temples* lye betwixt the pulſe, the forehead, and the ear.

SECT. II. *Of the EAR.*

THe *EAR* turns between the temples, the upper part of the cheek, and the root of the hair; by the ſide of the head the lower part is called the *tipp*, in the midſt whereof is the hole where the ſound entreth in.

SECT.

SECT. III. *Of the EYES.*

THE *EYE-BROWES* are thoſe thick hairs at the bottom of the forehead: the *upper eye-lid* is that little part which compaſſeth the upper part of the eye: the *eye* is that round ball which is contained between the upper and lower eye-lids: the *black of the eye* is the round ſpot in the midſt of that little circle, by virtue whereof we ſee, and is called the *apple* or *ſight of the eye*: the outward corner of the eye is next the ear, the inner is toward the noſe; all the ſpace between the upper eye-lid and the outward corner of the eye, and the whole turning of the eye to the upper part of the cheek is called the *caſe* or *hollow of the eye.*

SECT. IV. *Of the NOSE, MOUTH, CHIN, NECK, and THROAT.*

THE *NOSE* is between the cheeks, deſcending from betwixt the eyes, and endeth at the noſtrils which hang out on each ſide at the bottom thereof, each whereof hath an hole or paſſage, whereby we ſmell.

The lower end of the noſe which ſtandeth forward is called the *top* or *point*, the riſing in the midſt the *ridge* or *griſtle*; the upper Cheek is that ſpace between the ear, the hollow of the eye, the noſe,

and the lower Cheek; whereof the part rising towards the eye, is named the *ball*: the lower Cheek is bounded with the upper, the *nostrils*, the *mouth*, the *chin*, to the *throat* and the *neck* under the *ear*: the *Upper lip* is that red piece of flesh above the mouth.

The *MOUTH* is that division between the upper and neither lipps, which is red like the other; that concavity which cometh down from the bottom of the nose to the upper lip, is the *gutter of the nose*.

The *roof* of the mouth is called the *pallat*; the *tongue* is that which moveth in the mouth; the passage between the lungs and the mouth is called the *Wind-pipe*, through which the breath passeth; the *gum* is that piece of flesh in which the teeth are fastned; the four first whereof are called *dividers*, next unto which on each side are the *dog-teeth*; the other five on each side with their roots, are the *grinders* or *cheek-teeth*; so that the full number of Teeth is thirty two.

The *CHIN* or place of the *beard*, is the extremity beneath the lip and the end of the face, whose beginning is the root of the hair.

The hinder part of the head under the crown is called the *nape*, where the hairs grow; behind is the beginning of the neck.

The *THROAT* is between the chin and the beginning of the body or trunk, in the midst whereof is that rising called the *throat-bone*; the concavity of the neck before, between the end of the throat and the beginning of the breast, is the *throat-pit*.

The

The *NECK* is that part behind between the root of the hair and the beginning of the back-bone, which on either side is joyned with the throat, and at the lower end of the neck with the shoulders, whereof the bone in the midst is called *astragalus*, or the bone that knits the neck with the shoulders; the whole trunk or body before containeth the upper fork of the stomack or breast, which begins at the end of the throat-pit.

SECT. V. *Of the FORE-PART of the Body.*

THe fore-part of the body, as the *Breasts* or *Papps*, end with the short ribs, and they are called the part under the papps, and in Women are called *duggs*, the heads of which whence the milk is suckt out are called *Nipples*; the space between the breasts or duggs at the lower fork of the breast is the chest; the *arm-pits* are the hollows under the armes, where the hairs grow.

The Short-ribbs begin at the end of the papps, and reach to the flanks near the belly; the Flanks begin at the end of the breast, and are called the *Waste*; the upper part of the belly lies between the hollow of the breast, the waste above, the navel, and the ribbs; the knitting of the intrails is called the *Navel.*

The *Paunch* lieth between the waste, the privities, and the flanks, and is also called the *Belly*; especially in Women; where the hairs grow under the

belly, is the Privities; the hollow compaſs at the top is called *Corona*, the place which the urine paſſeth through is called the *Hole*, the two little balls that hang under the Yard the *Stones*, the Privities of a Woman are called, *&c.*

SECT. VI. *Of the HINDER-PART of the Body.*

THe hinder part of the body called the *Back* or *Chine* conſiſts of the *ſhoulder-blade*, which is the part behind the ſhoulders end, with part of the chine and loynes; the reſt of the back reacheth down along from the neck to the beginning of the cleft of the buttocks, the loynes lie between the ſhoulder-blades; the *ribbs* and the reſt of the chine to the *reins* or *waſte*.

The *REINES* reach from the loynes to the buttocks, and do properly belong to the part below the Waſte.

The *BUTTOCKS* are that fleſhy part which ſerve us for ſitting.

SECT. VII. *Of the ARMES, HANDS, and FINGERS.*

THe *Arme* contains the ſhoulder, behind which is the back, beginning between the neck and throat, and reacheth to the ſhoulder-blade, behind which place is properly called the *Back*; the part of

of the arme from the elbow upward, is called the *upper brawn* of the arme; the *Elbow* is the bowing of the arme, the inside whereof is the *joynt*; and at the lower part of the arme begins the *Wrist*, where the arme is joyned to the hand, the *palm* is the inside of the hand between the wrist and the fingers, the *thumb* is the biggest and shortest of the fingers.

The *Fore-finger* is next to the thumb, the *middle-finger* is that which stands in the midst, and is longer then the rest; next unto this is the *Ring-finger*, the *Ear-finger* or *Little-finger* is the least and last.

The *joynts* of the fingers are even in number, *viz.* three upon each, except the thumb, which hath but two.

The hinder part of the arme reacheth from the end of the shoulder or arme-pit to the elbow, where the second part of the arme beginneth, reaching to the wrist-joynt.

The back of the hand reacheth from the wrist to the first joynts of the fingers, and is called *Pecten*, the spaces between the joynts are called *Internodi*, which are two upon each finger, except the thumb, which hath but one; in the space between the last joynt and the top of the finger is the Nail, whose bowing is called *Corona*, (I mean where it toucheth the flesh or skin.

The whole hand begins at the wrist, and reacheth to the top or extremity of the fingers.

SECT. VIII. *Of the LEGS, FEET, and TOES.*

THe *LEG* consists of these parts; the *thigh*, which begins at the trunk of the body, and ends at the *knee*; the hollow of the thigh is the inner side below the *privities*; the *knee* begins at the round bone at the end of the thigh, and reaches to the beginning of the *shin-bone*; the *instep* begins at the end of the shin-bone, and reaches to the beginning of the *toes*, and is called the *upper part of the foot*, the *ancle* is that bone which buncheth out on each side between the instep and beginning of the heel.

The *Small of the leg* is the space between the end of the two calves above, and the ancle, instep, and heel below; the *Pit of the foot* is the hollow under the hill or higher bunch of the foot towards the soles.

The *TOES* have also joynts as the fingers, though they be somewhat shorter, and have also *nails* in like manner, and are otherwise called, as 1.2.3.4.5.

The *hinder part of the leg* begins under the buttock, and is called the *thigh*, and endeth at the hinder part of the knee, called the *hamme* or *bending*; the *calves of the legs* begin under the hamme, and are two upon each leg; the outward, which endeth somewhat high; and the inward, which reacheth nearer to the small of the leg, which diminisheth by

by degrees to that part a little above the ancle; the *heel* is that part of the foot which riseth out backwards, reaching from the end of the leg to the bottom of the foot, called the *Sole*, which beginneth at the end of the heel, and reacheth to the top of the toes, containing likewise the spaces between the joynts underneath orderly. Thus much for the External parts of Mans Body; all which are deciphered in the Sculptures following.

CHAP. II.

Of Actions, Gestures, Decorum, Motion, Spirit, and Grace in Pictures rightly resembled.

SECT. I. *Of Actions or Gestures.*

THese are those that most nearly resemble the life, be it either in laughing, grieving, sleeping, fighting, wrastling, running, leaping, and the like.

Amongst the Ancients, famous for lively motion and gesture, *Leonard Vincent* deserves much, whose custom was to behold clowns, condemned persons, and did mark the contracting of their browes, the motions of their eyes and whole bodies; and doubtless it cannot but be very expedient for an Artist in this kind to behold the variety of exercises, that discover various actions, where the motion is discovered between the living and the dead, the fierce and the gentle, the ignorant and learned, the sad and the merry.

John

John de Bruges was the first inventer of Oyl-painting that deserved excellently in this particular.

SECT. II. *Of the Passions or Complexions.*

MAns Body is composed of the four Elements.
Melancholy resembles *Earth.*
Flegm the *Water.*
Choler the *Fire.*
Blond the *Air*; and answerable are the Gestures and Humours.

Melancholy bodies are slow, heavy, and restrained; and the consequents are anxiety, disquietness, sadness, stubbornness, *&c.* in which horrour and dispair will appear.

Flegmatick bodies are simple, humble, mercifull.

Sanguine bodies are temperate, modest, gracious, princely, gentle, and merry; to whom these affections of the minde best agree, *viz.* love, delight, pleasure, desire, mirth, and hope.

Cholerick bodies are violent, boysterous, arrogant, bold, and fierce; to whom these passions appertain, anger, hatred, and boldness; and accordingly the skilfull Artist expresses these motions of these several bodies, which ought Philosophically to be understood.

Now to proceed according to our promised Method, to the Practical part; and here first the Learner must be provided with several Instruments.

CHAP.

CHAP. III.

Of neceſſary Inſtruments appertaining to Drawing.

1. SAllow coals ſplit into the forms of Pencils, which you may beſt have of thoſe that ſell Charcoal ready burnt for your uſe; theſe are to be prepared by ſharpning them at the point, their uſe is to touch over your Draught lightly at the firſt: you may know Sallow coals from others by the fineneſs of their grain.

2. You muſt alſo have a Feather of a Ducks wing, with which you may wipe out at pleaſure what you deſire to alter in your Draught.

3. Black-lead Pencils, to go over your Draught more exactly the ſecond time.

4. Pens made of a Ravens quill, to finiſh your deſign; which will ſtrike a more neat ſtroke then the common quill: but you muſt be very exact here, for there is no altering what you do with the Pen.

5. A Rule and a pair of Compaſſes with three Points to take in and out; one for Chalk, another for Black-lead, or red Chalk, or any other Paſte. The uſe of the Compaſſes is required in moſt things you draw, which you are to uſe after your out-ſtroke is done, by trying how near your Draught and Pattern agree, and this being only toucht out in Charcoal, you may alter at pleaſure.

6. Paſtils

6. Paſtils made of ſeveral Colours, to draw upon coloured Paper or Parchment, the making whereof is as followeth.

How to make Paſtils of ſeveral colours.

Take the Colour that you intend to make your Paſtil and grind it dry, or rather only bruiſe it ſomewhat fine; to your Colour (whatſoever it be) add a reaſonable quantity of Plaiſter of *Paris* burnt and finely ſifted, mix and incorporate the Colour and Plaiſter together with fair Water till it be ſtiff like Clay or Dough; then take it and rowl it between your hands into long pieces, about the bigneſs of the ſhank of a Tobacco-pipe, then lay them in the Sun or Wind to dry. They being thus dryed are ready for uſe, being finely ſcraped to a very ſmall point; and if they be ſhort, put them into an ordinary Gooſe-quill to lengthen them.

And here note, that you may by this means make Paſtils of what Colour you pleaſe, either ſimple or compounded, if you know what ingredients and mixtures will make ſuch a Colour as you deſire; which you will underſtand in the third Book, where we treat of the Mixture of Colours. And further obſerve, that the Plaiſter of *Paris* is only to binde the Colours together; and therefore according as your Colour or Colours you are to make are more hard or more ſoft, you muſt add the greater or leſſer quantity of Plaiſter.

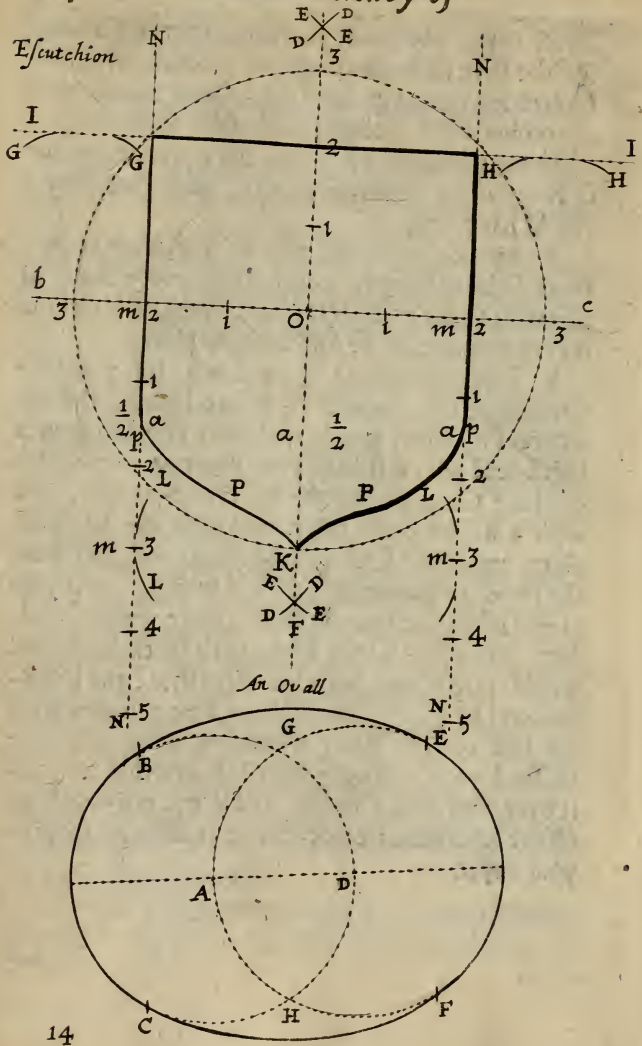
By this means of tempering and mixing of ſeveral Colours together, you may make (indeed) whatſoever

ſoever colour you pleaſe; as all manner of Colours for the Face or Bodie of Man or Woman, all kind of Greens for Landskip, for Rocks, Skies, Sun-beams; all colours for Buildings, with their Shadows.

Theſe Paſtils are very fine and commodious for drawing upon coloured papers, and therefore I would have you,

7. Provide your ſelf alſo of fine Blew paper; ſome light-coloured, other-ſome more ſad; as alſo with Paper of divers other colours, which now is very common to be ſold in many places.

8. Have alwayes in a readineſs by you the Crumbs of fine Manchet or White-bread; the uſe whereof is, when you have drawn any thing with Black-lead that diſliketh you, you may ſtrew ſome of theſe Crumbs upon the defective member, and with a linnen-cloth rub it hard upon the defective place, and it will fetch out the Black-lead, and leave the Paper or Parchment fair and white. It is alſo uſefull when you have finiſhed a piece, either Head, Leg, Arme, or whole Bodie with Black-lead, and would trace it over with Ink to finiſh it, the Black-lead will be ſeen in many places, being thicker then the line of your Pen; wherefore when you have finiſhed your Drawing with Ink, and that dry, rub it over with theſe Crumbs, and it will not only take off the ſuperfluous Black-lead, but all other ſpots of your Paper.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A way to Draw an Escutcheon Geometrically.

FIrst strike a Circle at pleasure, as your occasion requires.

Then strike the Diameter as B C, then set one foot of the Compasses in B, and strike the crooked lines D D and D D, then keeping the Compasses at the same distance, strike the other crooked lines E E and E E, then where they do intersect as F F, there strike the cross Diameter, then divide the upper Semidiameter into three parts, and take two of them, there make the Cross-line, by setting one foot of the Compasses in B, and make the crooked line G G, then at the same distance make the crooked line H H, by setting them in C, then strike the line I I, then measure two or three of those parts, and set off towards B and C, then set the Compasses in K, and strike the lines L L and L L, then set the Ruler in M M and M M, and strike the lines in N N and N N, and divide the lower Semicircle in two equal parts, then set the Compass in O, and strike the lines P P and P P from A A, then measure from M N downwards, five of those parts of the upper measure, then set the Compasses at N 5 and N 5, and strike the lines K P and K P, and you have your desire.

To Draw a Geometrical Oval.

THis Oval is drawn by drawing two equal Circles, then set the Compasses in D, and strike the

the Arch B C, and at the ſame diſtance ſet them in D, and ſtrike the Arch F E, then ſet them in G, and ſtrike the Arch C F, then ſet them in H, and ſtrike the Arch B E.

Some Geometrical Definitions.

1. A Point is void of magnitude.

2. A Line is a length without breadth or thickneſs; and of the three kinds of magnitudes in Geometry, *viz.* Length, Breadth, and Thickneſs, a Line is the firſt.

3. The ends or bounds of a Finite-line are points; but in a circular Line, the points motion returns to the place where it firſt began, and ſo makes the Line infinite, and the ends or bounds undeterminate.

4. A Right-line lyeth equally betwixt his points.

5. A Superficies hath onely Length and Breadth.

6. A plain Superficies is that which lyeth equally between his Lines.

7. A plain Angle is the inclination, or bowing of two Lines the one to the other, the one touching the other, and not being directly joyned together: an Angle commonly ſigned by three Letters, the middlemoſt whereof ſhews the Angular point.

8. If the Lines that contain the Angle be right Lines, then it is called a Right-lined Angle.

9. When a Right-line ſtanding upon a Right-line, makes the Angles on either ſide equal, then either of theſe Angles is a Right-angle, and Right-line which

which ſtands erected, is called a Perpendicular-Line to that wherein it ſtands.

10. An Obtuſe-angle is that which is greater then a Right-angle.

11. An Acute-angle is leſs then a Right-angle.

12. A Limit or Term, is the end of every thing.

13. A Figure is that which is contained under one Limit or Term, or many, *viz.* a Round-line, three Right-lines, four Right-lines, five Right-lines, *&c.*

14. A Circle is a plain figure contained under one Line, called a Circumference.

15. A Diameter of a Circle is a Right-line drawn by the Center thereof, and ending at the Circumference.

16. A Semi-circle is a figure contained under the Diameter, and that part of the Circumference cut off by the Diameter.

17. A Section or portion of a Circle, is a figure contained under a Right-line, and a part of the Circumference greater or leſs then a Semi-circle.

18. Right-lined figures are ſuch as are contained under Right lines.

19. Three-ſided figures are ſuch as are contained under three Right lines.

20. Four-ſided figures are ſuch as are contained under four Right lines.

21. Many-ſided figures are ſuch as have more ſides then four.

22. All-three-ſided figures are called Triangles.

23. Four-ſided figures a Quadrater, a Square is that whoſe Sides are equal, and his Angles right.

24. A Long-square is that which hath right Angles, but unequal Sides.

25. A Rhombus is a figure having four equal Sides, but not right Angles.

26. A Rhomboides is a figure whose opposite Sides are equal, and whose opposite Angles are also equal, but it hath neither Sides, nor equal Angles.

27. All other figures of four sides, besides these, are called Trapez, as such are all figures of four sides, in which is observed no equality of Sides or Angles.

28. Parallel or equi-distant Right-lines are such, which being in one and the same Superficies, and produced infinitely on both sides, do never in any part concurr, but still retain the same distance.

CHAP. IV.

Of the first Practice of Drawing.

SECT. I. *Of Geometrical Figures.*

BEing provided of all necessary Instruments for Drawing, proceed to Practice; and first begin with plain Geometrical figures, such as the *Circle*, *Oval*, *Square*, *Triangle*, *Cone*, *Cylinder*; all which your Rule and Compasses will help you in: but first endeavour to draw them by hand, which with a little practice you may attain. I have my self, by taking a Black-lead Pencil in my hand, and holding it as I do a Pen, and resting the end of my little

little finger upon my paper, turning the paper about with my left hand, and have described a Circle so exact, that a pair of Compasses could not discover an errour: I say, practice the making and drawing of these by hand, for they are all usefull in one kind or other. *Example.*

The *Circle* will help you in all *Orbicular forms*; as, the *Sun* in its glory, the *Moon* either *full* or *crescent*, and infinite other Circular shapes. The *Oval* is a direction for the *Face*, for the *mouth* or *foot* of a *Wine* or *beer-glass*, the *mouth* of a *Well*, &c. The *Square* is assistant to you in confining your Picture you are to copie, and keeping it within bounds. The *Triangle* for the half-face, as in the Figures following you will easily discern. The *Cone* will help you in drawing of *Flute-Colasses*, now much in fashion; as also in *Spire-Steeples* and tops of *Towers*. The *Cylinder* will be of good use in drawing of all manner of *Columns*, *Pillars* and *Pilasters*, with their *Ornaments*. These (indeed) are so usefull, that hardly any thing can be effected in which they they are not ingredient.

And now, since it falls in my way so opportunely, I will insert the sign of the Five orders of Architecture, that you may know them when you see them either painted, or built in Brick or Stone.

Place here the Five Columns *of Architecture.*

SECT. II. *Of the second practice of Drawing.*

HAving practised these Figures, proceed to the drawing of *Cherries*, *Pears*, *Apples*, *Apricocks*, *Peaches*, *Grapes*, *Strawberries*, *Peascods*, *Butterflies*, and such like.

SECT. III. *Of the third Practice.*

IMitate *Flowers*, as *Roses*, *Tulips*, *Carnations*, &c. Also Beasts; first the more heavy and dull, as the *Elephant*, the *Bear*, the *Bull*, the *Goat*, the *Sheep*, &c. Then them more fleet and nimble, as the *Stag*, the *Hart*, the *Nag*, the *Unicorn*, and the like. Then practice *Birds*, as the *Eagle*, the *Swan*, the *Parrot*, the *King-fisher*, the *Partridge*, the *Pheasant*, and such like. Then *Fishes*, as the *Whale*, *Salmon*, *Herring*, *Pike*, *Carp*, *Thornback*, *Lobster*, &c. Of all which there are Books to be bought at very reasonable rates.

SECT. IV. *Of the fourth Practice.*

IMitate the Body and Parts of the Body of Man; in the practice whereof beware of the common errors usually committed, as of drawing the Head too

too big for the Body, and others the like; which to prevent, you have here presented to your view the *Heads*, *Noses*, *Mouthes*, *Hands*, *Arms*, *Feet*, *Legs*, *Bodies*; also *whole Figures* of *Men*, *Women*, and *Children* in several postures, being Copies of the best Masters extant, with Rules and directions for Drawing every particular member of the bodie, and that I would have you now to practice, you having gone sufficiently forward with the others before noted.

CHAP. V.

Directions for Drawing the Body of Man or Woman.

SECT. I *General Rules for Drawing the Face.*

IN Drawing the Face, observe its motion whether forward, upward, downward, or sideways, by your Eye; touch lightly the features where the Eyes, Nose, Mouth, and Chin should stand, and then go over them more perfectly. The Circle, Squares, and Triangles that are used in a Face, serve to guide your judgement where to place the several features.

Observe diligently the principal Muscles of a Face, these appear most in an aged man or womans face.

There is usually a three-fold proportion observed

in a Face: 1. From the top of the Fore-head to the Eye-browes: 2. From the Eye-browes to the bottom of the Nose: 3. From thence to the bottom of the Chin; but in some the Fore-head is lower; others Noses are longer.

The Distances between the Eyes, is the length of one Eye in a full face; but in a three-quarter, or side-face, the distance is lessened answerable.

The Nostril ought to be plac'd exactly against the corner of the Eye.

In a fat Face you will perceive the Cheeks swell, in a lean Face the Jaw-bones stick out, and the Cheeks fall in.

A smiling countenance is discerned by the Mouth, when the corners of the Mouth turn up a little.

A frowning countenance is discerned in the Fore-head, Eye-browes, bending and somewhat wrinkling about the top of the Nose, *&c.*

SECT. II. *To draw a Fore-right Face.*

MAke the form of a perfect Oval divided into three equal parts by two Lines; in the first part place the Eyes, in the second part the Nostrils, and in third part the Mouth.

Note, that the Eyes must be distant one from the other the length of one of the Eyes, and that their inner corners be perfectly over the out-side of the Nostrils.

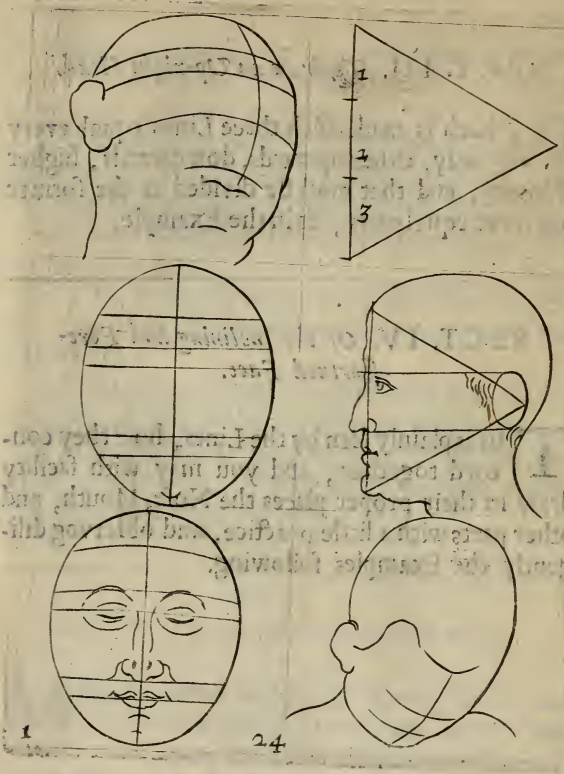
SECT.

SECT. III. *To draw an Up-right Head.*

WHich is made with three Lines equal every way, either upwards, downwards, higher or lower; and that muſt be divided as the former into three equal parts, as in the Example.

SECT. IV. *Of the Inclining and Foreſhortned Face.*

THis is plainly ſeen by the Lines, how they concord together, and you may with facility draw in their proper places the Noſe, Mouth, and other parts with a little practice, and obſerving diligently the Examples following.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In these Formes you must be very perfect, it being a Rule that in most Faces you may have occasion to make use of: for of all the parts of Mans bodie the Face is the most difficult. But having got the Proportions with their Measures, you will be able (which way soever a Face turns) to form it out, whatever proportion your Face is you are to imitate, so must your Out-stroke be formed; whether long, round, fat, or lean.

Because presidents are most usefull, I have here thought good to give you the forms of several Eyes more at large, by which you may with more ease know the truth of their Proportions.

As also Ears, which are exactly to be known; and then the forms of several Noses and Mouthes; all which are taken from eminent Masters, as *Palma* and others. [*In the following Page.*]

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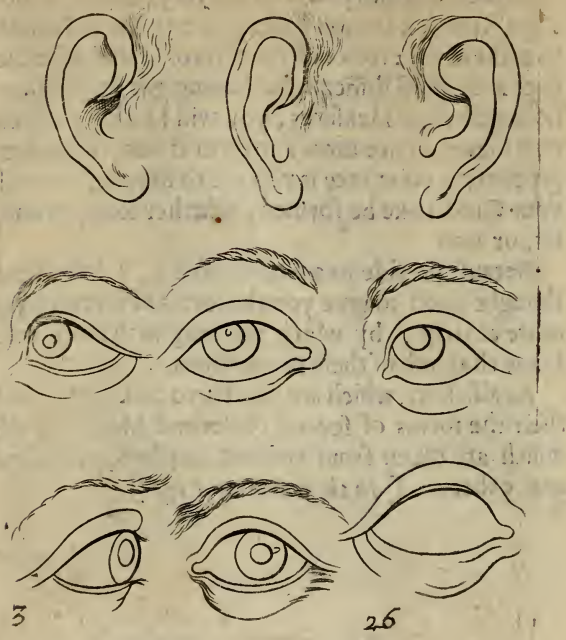
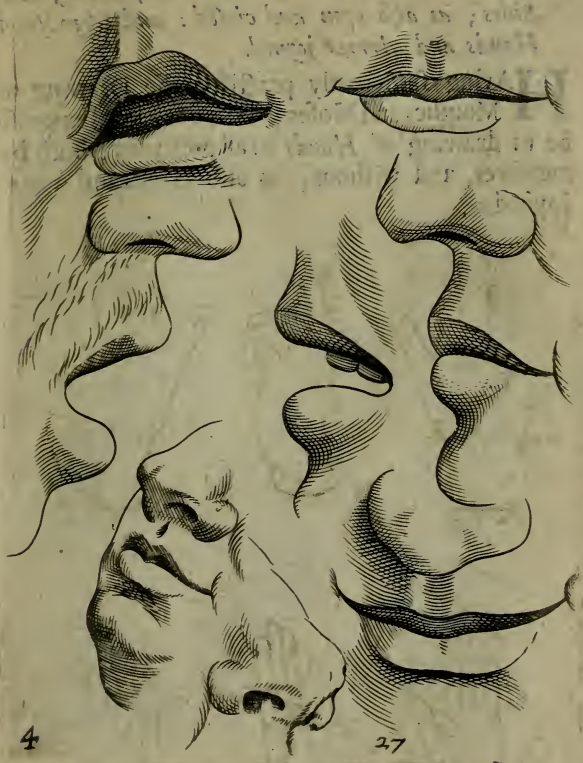


SECT V. *Of the Nose, Mouth, and Chin.*

THe *Nose* is the most eminent part of the Face; in which observe the hollowness, roundness, and the Nostrils, as they appear in these several Figures borrowed from *Violet*.

1. Describe a Semi-circle downwards.
2. Make the Holes of the *Nose*.
3. The addition of the Nostrils.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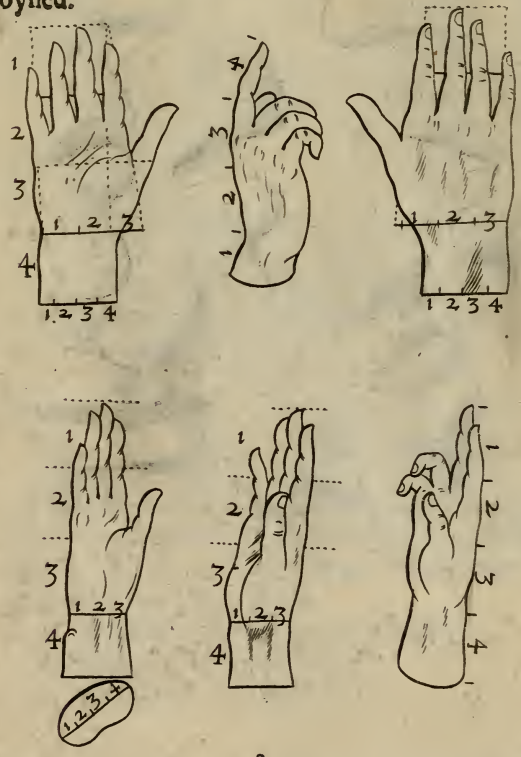
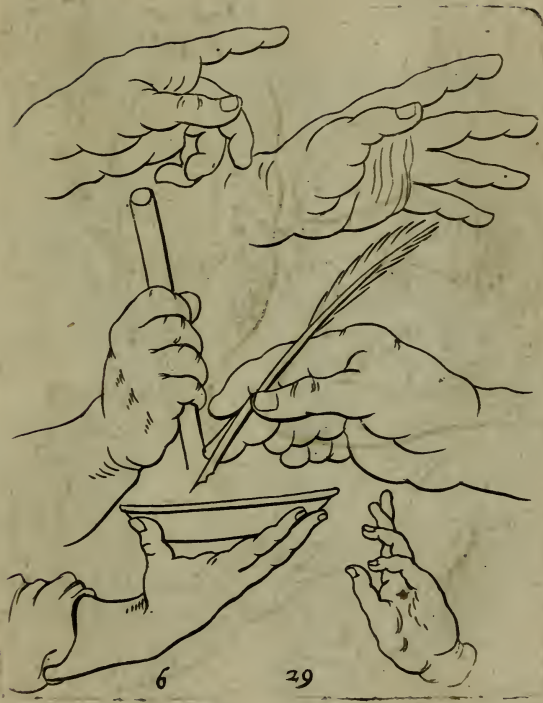
SECT. V. *Of Hands, both Palm, Back, and Sides; as also open and closed: and likewise of Hands and Armes joyned.*

HAving sufficiently practised the Drawing of Mouthes and Noses, let your next exercise be in drawing of *Hands* in all positions, both by measures, and without; as also Hands and Armes joyned.

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SECT. VI. *Of Feet in several positions, both with and without measures, as also of Feet and Legs joyned together.*

BEing expert in the Drawing of *Hands* and *Arms*, proceed to the Drawing of *Feet* in all postures, both with and without measures; which having attained, exercise your self in Drawing of *Legs* and *Feet* joyned together, as before you did of *Hands* and *Arms*; that so you understanding the particulars of the whole Bodie, you come with the more judgement to that great difficulty of Figures of the whole Bodie of Man. To help you therein, I have set before you the easiest and truest Rules that the best Masters of Proportions have published, with a Discourse of their true Measures: which will be the more easie, if you seriously weigh the foregoing Chapter, treating of all the external parts of Mans bodie, for then you will have occasion to observe it; but first exercise your self in following these examples of *Feet*, as also of *Feet* and *Legs* joyned together. [*See the 2. following Pages.*]

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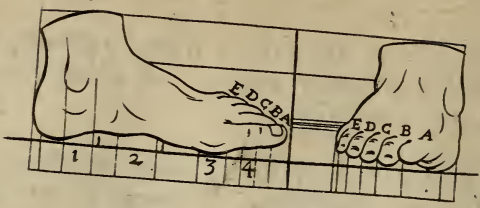

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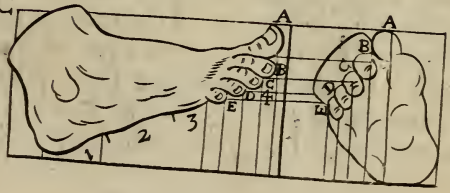

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SECT. VII. *Of the Back, Breaſt, Secret members, Thighs, Shoulders*, &c.

HAving ſufficiently practiſed the Drawing of the ſeveral Limbs of Man and Woman, as *Head*, *Mouth*, *Noſe*, *Hands*, *Arms*, *Feet*, and *Legs*; proceed next to the drawing of the other parts of the Bodie: as the *Back*, *Belly*, *Shoulders*, *Breaſt*, *Secrets*, and *Thighs*, therein following the example of this noble Maſter *Palmas*, in the following Figure.

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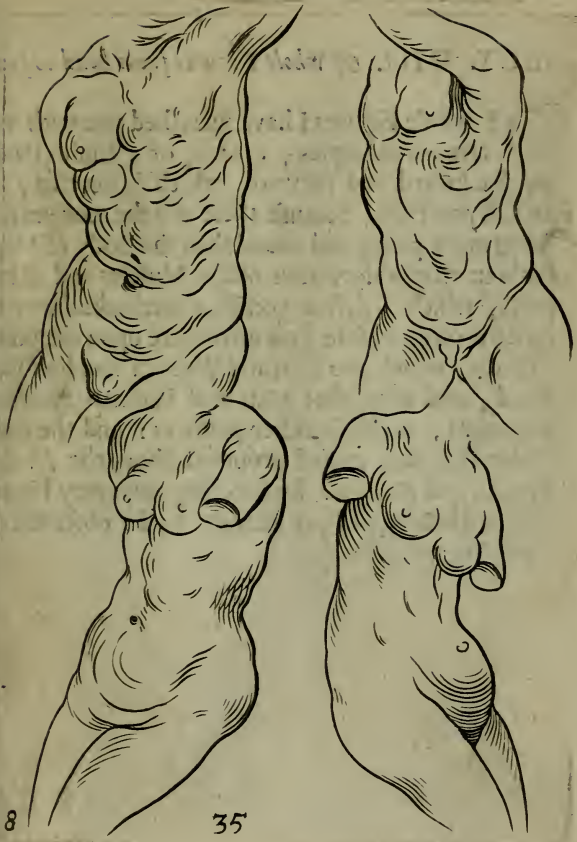
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SECT. VIII. *Of whole Figures from head to foot.*

OF whole Figures I have furniſhed you with variety of examples; as firſt, of a Child ſtanding backward and forward, which is neceſſary to be firſt practiſed, becauſe theſe are the more eaſie, being more plump and round then the Body of Man, without that obſervation of the Muſcles and other parts, which I deſire you in a methodical way to imitate often before you adventure upon the other Figures, which are Man and Woman ſtanding forward, and after that Man and Woman ſtanding backward, as alſo in other poſtures: and the ſame order that was at firſt propoſed about the *Heads*, *Hands*, and *Feet*, *&c.* by touching out every Figure firſt with Charcoal, is exactly to be obſerved in theſe Figures alſo.

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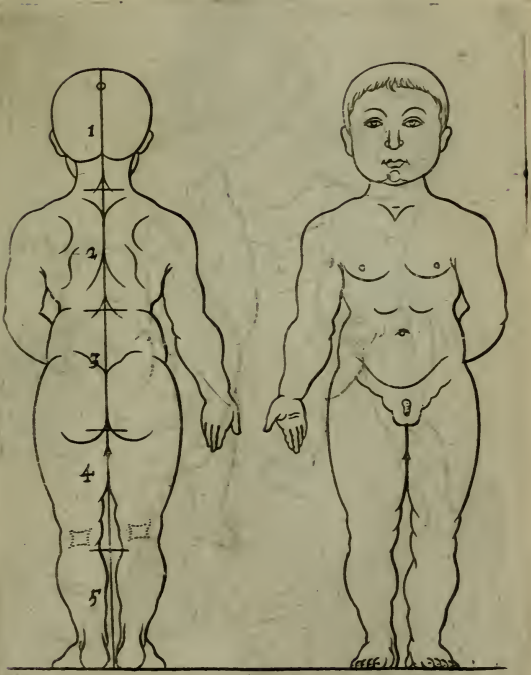
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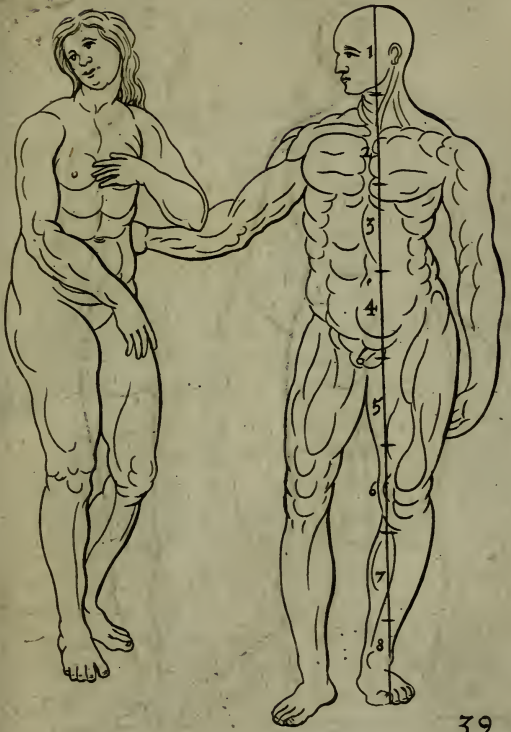

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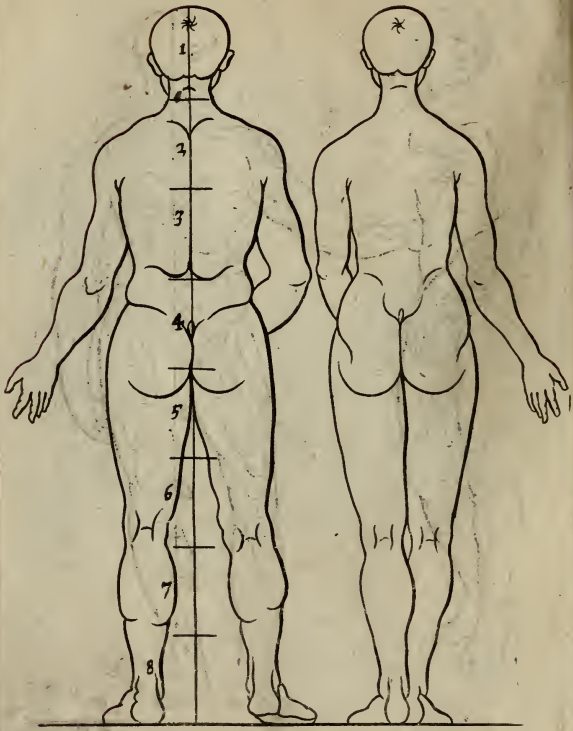

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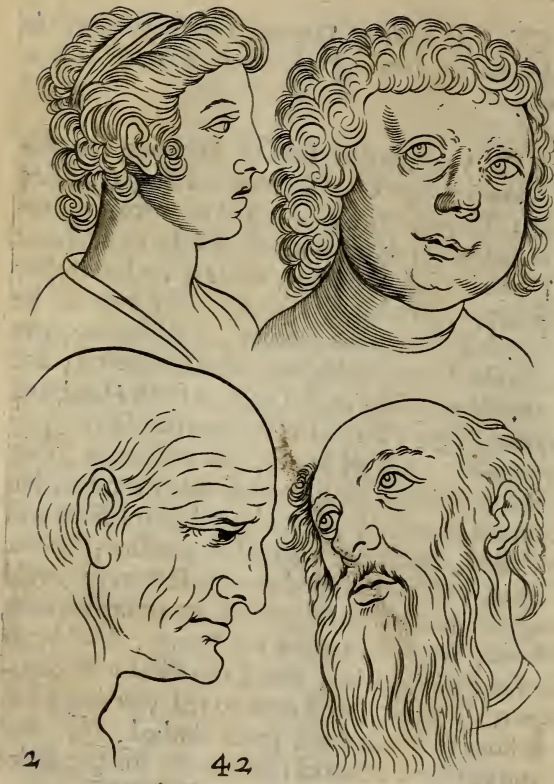
SECT. IX. *Rules of Symmetrie or Proportion to be observed in Drawing the Whole Body of Man or Woman.*

FOR your further help in Drawing the following Figures, take notice of these necessary Rules: Begin at the *Head*, and so proceed by degree, as your pattern directs; and be carefull that your parallel *Joynts, Sinews*, or *Muscles* be directly opposite; also that the Motion of the Bodie be answerable one part to another, and that the parts and limbs of the bodie have a due symmetrie; not a great *Arme*, and a small *Leg*; or a small *Hand*, and a great *Finger*, &c. Let not one part be too long for another. Of all which, you must know, that at first you will be apt to commit many errours, but be not disheartned; proceed, and your labour will not be lost, experience is gained by practice; be but diligent, and you will find more ease then you could imagine: at first all things that are attainable seem difficult; we have a good old saying, *Nothing is hard to a Willing mind*, and I can speak it by experience. I might spend time to tell you many stories how to proceed to Figures clothed, *&c.* but if you can draw a Naked figure well, for the order of Garments, you will be able to do that with ease.

And



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And now, having brought you thus far in Practice, and given you a more exact order to proceed with so many several Examples more than larger Volumes have produced; which you having well followed, and attained to some reasonable measure of Proportion, you may now proceed to that which may be more profitable, if you first practice those things that may be easily shadowed with a Pen, and that will fit your hand for Etching with *Aqua fortis*, which shall be perfectly taught in the next Chapter; wherein you have the mixture of the Ground to Etch upon, the order how to prepare your Copper, and how to order your *Aqua fortis*, what Instruments you are to use about the same, and how to take off your design on the Plate; which is an experimental Rule practised by the best Etcher in *England*, namely Mr. *W. Hollar*.

SECT. X. *The Proportion of the Body of Man.*

FOR your further information, and to direct your judgement in Drawing of whole Bodies, observe these following Proportions.

A Man standing, from the top of the Head to the bottom of the Feet, is eight times the length of the Head.

The Arme hanging straight down, it reacheth within a span of the Knee.

A Hand must be the length of the Face, the Hand spread abroad must cover the Face, and no more.

Note, that in Drawing a Figure standing, you must

must first draw that Leg which the Body stands firmest upon; otherwise your Figure will yield one way or other, as it were falling.

A Mans Armes extended is the just length of the whole Body.

The like proportion is observed for Women, and therefore one example serves for both.

The Proportion of a Child, according to our learned Author *Lomantius*, consists of five lengths of the Head; according to the Figure expres'd in our Discourse, for an example to the Practitioner.

CHAP. VI.

Of Shadowing, and Rules to be observed therein.

THE out-lines of any Draught or Picture give the Symmetrie or Proportion, which is enough to a good judgement: So the Figures before in this Book have only the out-lines, and those are best to practise first by: I say, the Out-lines shew the Proportion to a good judgement; but the Lines and Shadows give the lively likeness. In Shadowing therefore of any Picture you must observe these Rules following.

RULE I.

Cast your Shadows alwayes one way, that is, on which side you begin to shadow your Figure, either on the right or left side, you must continue so doing through your whole work. As in the figure of a Man, if you begin to shadow his left Cheek,

Cheek, you must shadow the left side of his Neck, the left side of his Armes, the left side of his Bodie, the left side of his Legs, *&c.* Except the light side of the Figure be darkned by the opposition of some other body standing between the light and it. As if three Men were standing together, that Figure which stands in the middle must be darkned by the foremost, except the light come between them.

RULE II.

All Shadows must grow fainter and fainter, as they are farther removed from the opacous body from whence they issue.

RULE III.

In great Windes, where Clouds are driven to and fro several wayes; as also in Tempest at Sea, where Wave opposeth Wave; here contrary shadows must concur, as striving for superiority: here in such cases you must be sure to supply the greatest first, and from them, according to your judgement, supply the lesser; practice and imitation of good Copies will be your best director.

RULE IV.

All Circular bodies must have a Circular shadow, as they have a Circular form, and as the object of light which causeth shadow is Circular.

CHAP.

CHAP. VII.

of Drapery, *and Rules to be observed therein.*

AS in Naked figures you draw the Outlines first, the like you must do in *Drapery*, leaving room within for your greater and lesser folds; then draw first your greater folds, and then break your greater folds into lesser contained within them: the closer the Garment sits to the bodie, the smaller and narrower must the folds be. Shadow your folds according to the directions of the last Chapter; the innermost harder, and the outer more softer. As in *Shadowing*, so in *Drapery*, good copies of Prints instruct best; yet take these general Rules following.

RULE I.

Continue your great folds throughout your Garment, and break off your shorter at pleasure.

RULE II.

The finer your *Drapery* is, the fuller and sharper must your folds be, and the shadows the stronger, but yet sweet.

RULE III.

That part of any Garment that sits close to the body, as the Doublet of a Man, the Breasts of a Woman, and the like, you must not fold at all; but rather with your sweet shadow represent the part of the bodie that lies under the Garment, as a Womans Breast, with a sweet round shadow, *&c.*

CHAP. VIII.

of Landskip, *and Rules to be observed therein.*

Landskip is that which expresseth in Picture whatsoever may be beheld upon the Earth, within the *Species* of Sight; which is the termination of a fair Horizon, representing Towns, Villages, Castles, Promontaries, Mountains, Rocks, Vallies, Ruines, Rivers, and whatsoever else the eye is capable of beholding within the *Species* of the Sight. To express which, and to make all things appear in Draught or Picture according to true proportion and distance, there are several Rules to be observed, of which take these few following.

RULE I.

In every *Landskip* shew a fair Horizon, the Sky either clear or overcast with Clouds, expressing the rising or setting of the Sun to issue (as it were) from or over some Hill, or Mountain, or Rock; the Moon or Stars are never to be expressed in a fair Landskip, but in a Night-piece, I have often seen it, as in a piece of our *Sarinus* being taken by night, and in others. As an Astronomer with his Quadrant taking the height of the Moon, and another with his Cross-staff taking the distance of certain Stars, their Man standing at a distance with his Dark-lanthorn, to see their Degrees when they had made their observation; these things, as taking of the Partridge with the Loo-bell, and the like, become Night-pieces very well.

RULE

RULE II.

If you expreſs the Light of the Sun in any Landskip, be ſure that through your whole work you caſt the light of your Trees, Buildings, Rocks, Ruines, and all things elſe expreſſed within the verge thereof thitherwards.

RULE III.

Be ſure in Landskip that you leſſen your bodies proportionably according to their diſtances, ſo that the farther the Landskip goeth from your eye, the fainter you muſt expreſs any thing ſeen at diſtance, till at laſt the Sky and the Earth ſeem to meet, as the Colours in a Rainbow do.

There are many excellent pieces of Landskip to be procured very eaſily; as alſo of Landskip and Perſpective intermixed, which pieces to me were ever the moſt delightfull of any other; and ſuch I would adviſe you to practiſe by; they, if they be good, being the only helps to teach you proportion of Bodies in any poſition, either near or a-far off.

I might here ſpeak further of *Damasking*, *Antique*, *Friſco*, *Groteſco*, *Tracery*, and the like; but theſe are things that when you are expert in good Draught, as (by diligent practice and following the Rules and Examples before delivered,) I hope (by this time) you are, theſe things will come of themſelves, and indeed, no ſooner heard of or ſeen, but done. And thus I conclude this firſt book of Drawing with the Pen and Paſtils, and ſhall now proceed to the ſecond Book, which teacheth the Art of *Etching* and *Graving*

OF ETCHING and GRAVING.

The Second Book.

CHAP. I.

Of Etching with Aqua fortis.

THere are several wayes for *Etching*, and several Grounds of divers colours, used by several men, I shall deliver here onely one, and that so familiar, easie, and true, that I believe there is not a better Ground, nor a more accurate way performing the work intended, than that which shall be here taught; it being the only way, so many years practised, and to this day continued by that unparallel'd designer and incomparable Etcher in *Aqua fortis*, Mr. *Hollar*; the manner of performing the whole work is as followeth.

SECT. I. *To make Mr.* Hollar's *Ground, and how to Etch in Copper, and what Instruments ought to be used in the practice thereof.*

TAke three parts of *Virgins wax*, one part of *Asphaltum*, one part of the best *Mastick*; if you

you will, you may take away a third part of the *Asphaltum*, and put instead thereof as much refined *Rosin* that is transparent and clear, for this will be better to see through the Ground, to stop up what you have occasion for. Beat your *Asphaltum* and *Rosin* together to powder, and put your *Wax* into a clean Pipkin that hath never been used before, and set it over a gentle fire, and let it boyl; then pour in the *Asphaltum* and *Rosin* into it, and mingle them all together. Then take a Porenger or such like thing full of clean water, and pour that boyling stuff when all is melted into the water, but pour not out the dregs, then when it is cold work it up into a coal or ball; and when you are to use it, then take a clean rag and double it, that no dregs or knots may come through the rag, and tie it fast with a piece of thread; so is your Ground prepared.

SECT. II. *How to prepare your Copper.*

YOur Copper must be well planisht, that it may lie level; and before you lay on the Ground, take your Plate, and with a Charcoal well burnt coal it over with very clean water; then wash it off with clean water never used before, and set it sloping to run off; when it is dry, then scrape some Chalk fine all over it, and with a very clean fine rag rub it over; but let not your fingers touch upon the Plate, till you have put the Ground on, which you must lay on thus.

SECT. III. *How to lay the Ground upon the Plate.*

PUt into some fire-pan some small-coal or coal-fire, for charcoal is too hot, then lay down the Copper over that, so as the fire may have air; then take your Ground, it being in a cloth as aforesaid, and rub up and down the Copper, so as it sufficiently may cover the Plate, not too thin nor too thick; then take a Ducks feather of the wing and smooth it as well as possibly you can all one way, and then cross and cross until it lie well to your eye; but take heed that your Copper be not too hot, for if it lie until the Ground smoak all the moisture of the Ground is burnt away, and that will spoil your piece in Etching, because the Ground will break or fly up; this done, let your Plate be cold, then grind some White-lead with Gum-water, and note, that as much Gum as the bigness of a Cherrry-stone will serve for a piece of White-lead as big as a Nutmeg; but you must understand, that you must put so much water that the white may be of convenient thickness to spread on the Copper.

Then you must have a large Pencil or small Brush, as the Painters use, of the bigness of a Walnut, or more especially for a large Plate, and with that strike over the Plate cross twice or thrice, till you see it smooth.

Then you must have another Brush larger then the first, but very smooth, made of several Squirels tails, with that you may smooth gently the White, which

which you could not do with the other Brush, and then let it lie till it be dry.

SECT. IV. *How to transfer your design upon the Copper.*

THen take your design or Copie after which you are to work, scrape on the back-side thereof some red Chalk all over, then go over that by scraping some soft small-coal till it mingle with the chalk, then take a Hand-brush or great Pencil that is very stiff, and rub it up and down till it be fine and even, and so lay down the design on your Plate, and with a blunt Needle or Point draw over the out-stroke; you must have several Needles, some bigger, and some finer, put them into a pencil-stick of the length of a writing-pen, and on the other end keep one Pencil to wipe away the Ground that your Needle fetches off when you work. To blunt your Needle point you must do thus, blunt it on a Table, or on the back-side of a Copper plate, still holding the point downward, and carry your hand circular that you keep the point round; the finest Needles you must sharpen upon a fine Whet-stone, and still turning it betwixt your fingers as you whet it, as the Turners do their work, to keep it round, then after smooth it upon a Table-book leaf; and as you work you need not scratch hard into the Copper, only so as you may see the Needle go through the Ground to the Copper, and alwayes when you leave your work wrap your Plate up in paper, lest

your Plate get ſcratches, which it will be apt to do, and the Ground will be apt to be corrupted lying open in the air, and the moiſture drawn out of the Ground, and the ſame inconveniency will accrue by letting your Ground lie too long upon your Plate before you finiſh, three or four moneths time will eat out the moiſture of the Ground, and in Etching it will ſeem broad and deep, and when you think it eaten enough, you will find it to be eaten little or nothing: in Winter time wrap your Plate in a Blanket as well as Paper when you leave your work; if the Copper get froſt, it will cauſe the Ground to riſe up from the Copper in the eating with the *Aqua fortis*.

SECT. V. *How to Wall about your Plate about with Wax, to lay on your* Aqua fortis, *and to finiſh your Work.*

YOur Plate being prepared, your Ground laid on, and your Deſign transferred upon your Plate; when you are going to Etch, then take green Wax and melt it in ſome little pipkin, and with a Pencil cover round about the edges of the Copper; firſt, with the hot Wax ſtick it round about the Plate as a wall to keep in the *Aqua fortis*, that it may ſtick faſt, let the ſame be of Green wax alſo, which draw out into long pieces of the thickneſs of ſtrong paſte-board, and as broad as a knife, then faſten it about the edges with a little ſtick being broad on the end, and ſharp edged, and with it thruſt

thrust down the Wax to make it stick, then if your work be fine, take of *Aqua fortis* the third part of an ounce, and break it with your other water that hath been used before twice or thrice, and take at least two parts of the old to one part of the new. In case you have no *Aqua fortis* formerly used, take good Wine-vinegar to mix with your *Aqua fortis*, but if your work be course, you may use your three pence the ounce Water only; and for such things as you will have fine and sweet, you must first pour out your *Aqua fortis* into some earthen dish, then wash off the *Aqua fortis* with clean water, and let it be dry, then melt some Candle-grease with a little Ground, and with a Pencil cover those things you will have to lie faint, then pour on your *Aqua fortis* again as oft as you see need; then melt your Ground the same way you laid it on, and with a linnen rag wipe clean your Plate, and so is your work finished.

CHAP. II.

Of GRAVING.

SECT. I. *Of necessary Instruments belonging to Graving.*

HE that will undertake the Art of Graving, must know how to Draw, and hatch with a Pen; which, I doubt not, but he that hath observed the former Rules can do.

1. *Of*

1. *Of your Oyl-ſtone.*

The firſt thing you are to do, is to provide a good Oyl-ſtone, which you may have of thoſe that ſell ſeveral Tooles for the *Goldſmiths*; which, let be very ſmooth, not too hard nor too ſoft, and be ſure it be without pin-holes. Now to fit your ſelf aright, you are to reſolve what kind of Graving you will follow; if you follow Picture or Letter-work, that is a work more curious than the *Goldſmiths*: Armes and Letters are upon Silver or Pewter, and accordingly your Gravers muſt be ſhap'd.

2. *Of Gravers.*

Goldſmiths Gravers are crooked, that they may more readily come at hollow work, but for Copper-pictures or Letters the beſt Gravers are the ſtraight, which chuſe thus; Take a File and touch the edge of the Graver therewith, if the File cut it, it is too ſoft and will never do you good; but if the File will not touch it by reaſon of the hardneſs, it will ſerve your occaſion, although ſuch a Graver be apt at firſt to break ſhort off, after a little uſe by whetting it will come to a good temper and condition, as by experience I have found; though ſome ignorant of what they have writ, would puzzle you about altering the temper.

SECT.

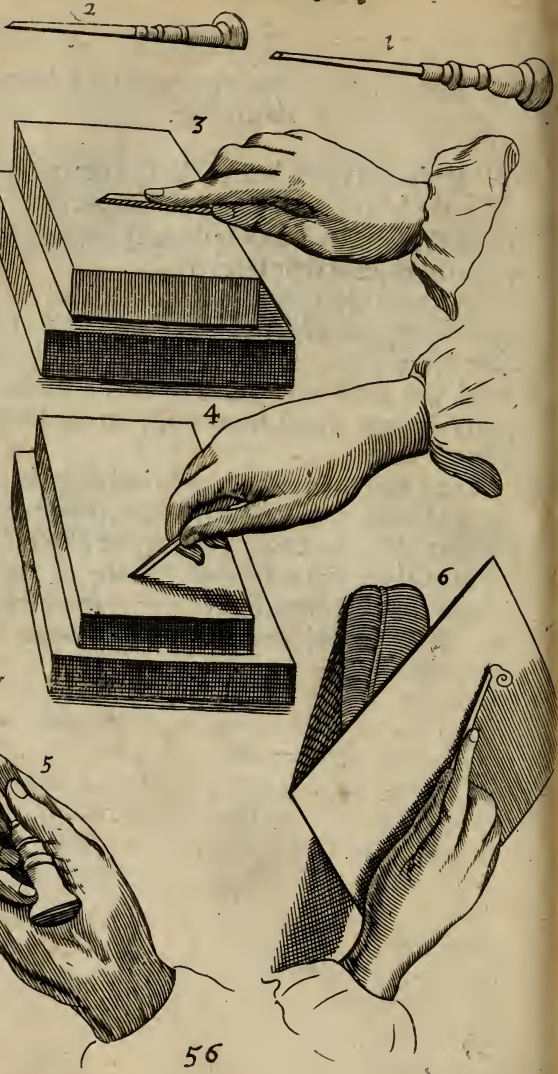
SECT. II. *The several wayes of holding the Graver.*

LEt the end of the haft of the Graver rest against the ball of the thumb, and let the fore-finger guide the Graver, which is done by resting steadily upon the point of your Graver.

You must also provide a Bag of Sand to lay your Plate upon, on which you may turn your Plate at ease every way: And note, that with your left hand you must turn your Plate as the stroaks you grave do turn, which is not easily attained without diligent care.

You Copper plates ready polished do often come from *Holland*, or else you may have them prepared by several in *England*; you may be directed how to have these Plates by most *Printers* of Plates in *London*, and therefore I forbear to trouble you or my self about directing you how to prepare Plates for your use.

SECT.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SECT. III. *The forms of Graving-tools, as also the manner of Whetting your Graver.*

THe upper part of this figure will shew two sorts of Graving-tools, the one formed square, the other lozeng: the square Graver makes a broad and shallow stroke, or hatch; and the lozeng makes a deep and narrower stroke. The use of the square Graver is to make the largest strokes, and the use of the other is to make the strokes more delicate and lively. But I preferre a Graver made of an indifferent size betwixt both these two, which will make your strokes, or hatches, show with more life and vigour, and yet with sufficient force, according as you shall manage it in your working: The forms of which will appear in the 1. and 2. figures.

The 3. figure shews you how to whet the two sides of your Graver, which is to be done in this manner following; you must have a very good Oyl-stone smooth and flat, and having powred a little Sallad-oyl thereupon, take the Graver, and laying one side of it (that which you intend shall cut the Copper) flat upon the stone, whet that side very flat and even; and to that purpose have an especial care to carry your hand stedfast, and with an equal strength, placing your fore-finger very firm upon the opposite side of your Graver, to the end that you may guide it with the more exactness: then turn the very next side of your Graver, and whet that in the like manner, as you did the other; so that

that there may be a very ſharp edge for the ſpace of an inch or better; then turning uppermoſt that edge which you have ſo whetted, and ſetting the end of your Graver obliquely upon the ſtone, carry your hand exactly even, to the end that it may be whetted very flat and ſloping, in the form of a lozeng, making to the edge a ſharp point, as the figure 4. ſhews you.

It is very neceſſary that you take great care in the exact whetting of your Graver; for it is impoſſible that you ſhould ever work with that neatneſs and curioſity as you deſire, if your Graver be not very good, and rightly whetted.

I cannot demonſtrate it ſo plain and fully by figures, and diſcourſe, as I would: if you have acquaintance with an Artiſt in this way, you may eaſily underſtand in a ſhort time.

SECT. IV. *The manner how to hold and handle your Graver.*

THe uppermoſt part of this figure deſcribes to you the form of two Gravers, with their handles, fitted for the whetting. They that uſe this Art, do before they make uſe of them, commonly cut away that part of the knob or bowl that is at the end of their handles, which is upon the ſame line with the edge of their Graver, to the end it may not hinder them in their graving, as the figure 2. ſhews you.

For if you work upon a large plate you will find that

that part of your handle (if it be not cut away) will ſo reſt upon the copper, that it will hinder the ſmooth and even carriage of your hand in making your ſtrokes or hatches; alſo it will cauſe your Graver to run into the copper in ſuch ſort, that you ſhall not be able to manage it at your pleaſure.

The 5. figure deſcribes to you the way of holding your Graver; which is thus, place the knob or ball of the handle of your Graver in the hollow of your hand, and having extended your fore-finger towards the point of your Graver, laying it oppoſite to the edge that ſhould cut the copper, place your other fingers on the ſide of your handle, and your thumb on the other ſide of the Graver, in ſuch ſort that you may guide your Graver flat and parallel with the plate; as you may ſee in the figure.

And be very carefull that your fingers do not interpoſe between the plate and the Graver, for that will hinder you in carrying your Graver level with the plate, ſo that you cannot make your ſtrokes with that freedom and neatneſs, which otherwiſe you may. This I think fit to give you notice of, becauſe the skill of holding your Graver is that which you muſt firſt perfectly learn.

SECT. V. *The manner of holding your hand in Graving.*

HAving deſcribed the way of holding your Graver, the next thing is to ſhew you how to guide your Graver upon the plate in making of your ſtrokes,

ſtrokes, which are ſtraight or crooked; that you may work with the more eaſe and convenience, you muſt have a ſtrong round leather Cuſhion fill'd with ſand or fine duſt; let it be made about half a foot broad in the diameter, and three or four inches deep; lay this upon a table which ſtandeth faſt and firm: then lay your plate upon the cuſhion, as is deſcribed in the 6. figure.

When you are to make any ſtraight ſtrokes, hold your Graver as is directed in the former Section; and if you will have your ſtrokes deeper or broader in one place than in another, in that place where you would have them deepeſt you muſt preſs your hand hardeſt; but eſpecially in making of a ſtraight ſtroke, be carefull to hold your plate firm and ſtedfaſt upon the cuſhion.

And if you make any crooked or winding ſtrokes, then hold your hand and Graver ſtedfaſt; and as you work turn your plate againſt your Graver; for otherwiſe it is impoſſible for you to make any crooked or winding ſtroke with that neatneſs and command, which by this means you may, if you do not move your plate, and keep your arm and elbow fixed or reſted upon the table.

If as you are working your Graver happen to break often on the point, it is a ſign it is tempered too hard; to help this take a red hot charcoal, and lay the end of your Graver upon it, and when you perceive your Graver to wax yellowiſh, dip it in the water: If your Graver become blunt without breaking, it is a ſign it is nothing worth.

After you have graved part of your work, it will be

be neceſſary to ſcrape it with the ſharp edge of a Burniſher, carrying it along even with the plate, to take off the roughneſs of the ſtrokes; but in ſo doing take heed of making any ſcratches in your work.

To the end you may better ſee that which is graven, they commonly roll up cloſe a piece of a black Felt or Caſtor, liquored over with a little Oyl, and therewith rub the places graven: And if you perceive any ſcratches in your plate, rub them out with your Burniſher: and if you have graved any of your ſtrokes too deep, you make them appear fainter with rubbing them with your Burniſher.

SECT. VI. *How to take off any Picture, or Map-letters, &c. upon your Copper.*

TAke your Plate and heat it over the fire, and having a piece of yellow Bees wax, put into, and tyed up in a fine Holland rag, try if your Plate be hot enough to melt your Wax, if it be, lightly wipe over your plate with that wax, until you ſee it be covered over with wax, but let it be but thin; if it be not even, after it is cold you may heat it again, and with a feather lay it even, which at firſt you will find a little difficult.

Now if what you are to imitate be an exact copy, you muſt note it muſt ſtand the contrary way in the plate, and therefore your beſt way will be to track it over in every limb with a good Black-lead Pencil, eſpecially if it be an old picture, which having done, take an old Ivory haft of a knife, and placing your

picture exactly on your copper, the face downward, take your haft and lightly rub over your print, and you ſhall perceive the perfect proportion remain upon the wax that is upon the plate; then take a long Graver, or another piece of ſteel grownd ſharp, and with the point thereof go over every particular limb in the out-ſtroke, and there will be no difficulty to mark out all the ſhadows as you go to engrave your work, having the proportion before you.

And it will be more ready, if alſo you note your ſhadows how far they be dark, and how far light with your black-lead, before you rub it off; but a learner may be puzzeled at firſt with too many obſervations.

At firſt you will find ſome difficulty for carrying your hand, and for the depth of your ſtroke you are to engrave; but take this experiment in your firſt beginning; learn to carry your hand with ſuch a ſlight, that you may end your ſtroke with as light a ſtroke as you began it, and though you may have occaſion to have one part deeper or blacker than another, do that by degrees; and that you may the more diſtinctly do it, obſerve your ſtrokes that they be not too cloſe nor too wide: and for your more exact obſervation, practice by thoſe prints that are more looſly ſhadowed at firſt, leſt by imitating thoſe dark and more ſhadowed, you be at a loſs where to begin or where to end; which to know, is only got by practice: Thus for Pictures.

Now for Letters, if copies, every word and letter muſt be either writ with ungumm'd Ink, or elſe gone over with Black-lead, and rubb'd on the plate

plate when it is waxed, as before; but if a Map or other Mathematical Instrument, every circle, square, or perpendicular must be drawn over as before, or else you cannot exactly imitate the same; but if you be to cut any Face, Armes, Instruments, or Map not to be printed, then if you black over the back-side, as you are directed for your design in Etching, that will serve your turn; onely for Etching you use a mixt ground, and for to Engrave you onely use wax.

And thus, in a plain style, I have given you an account of the whole mysterie of *Engraving*.

OF LIMNING IN WATER-COLOURS.

The Third Book.

THE practice of *Limning* is a quality commendable in any person, and a practice meet for the Noblest personage of what quality soever; I shall say no more in the praise of it, it may speak for it self, but come immediately to shew you the manner how to perform it; therein following the Rules now practised by the most eminent Masters in that faculty: and first, I shall begin in this as in the other parts of this Book, what things are to be in a readiness prepared for the practice of it.

CHAP. I.

Of necessaries belonging to Limning.

TO the Limning in Water-colours there belongs several thing, as *Gumms* of several sorts, and *Waters* made of them, a *Grinding-stone* and

and *Muller*, several *Colours*, *Liquid Gold* and *Silver*, several *Sizes* to lay Gold, *Parchment* of the finest, as of *Abortive Skins*, *Pencils* of divers sorts; of the making and preparing all these in their order, and then to their use.

SECT. I. *Of Gumms and Gum-Waters used in Limning.*

THe principal Gum is *Gum-Arabick*, get the best that may be, which you shall know by the *whiteness* and *clearness*; if it be yellowish, of an Amber colour, it is naught.

To make Gum-water hereof, do thus, take a clean earthen Vessel, Pan, Dish, or the like, put therein the fairest Spring-water you can procure, then take a quantity of Gum-*Arabick*, and tie it in a fine clean Linnen cloth, as in a bag, and hang this in the middle of the water, and there let it rest till the Gum be dissolved; if you find your water be not stiff enough of the Gum, put more Gum into your cloth, and let that dissolve as the other did; if it be too stiff, add more Water: of this Gum-water it is absolutely necessary you have alwayes by you two sorts, one strong, the other weak; and of these two, you may make a third at pleasure; preserve these in clean Glasses for your use.

Of GUM-LAKE.

Gum-Lake is a compounded Gum made of many ingredients, as of *whites of Eggs* beaten and strained,

of *Honey*, *Gum of Ivy*, *strong Wort*, these ingredients mingled together will at last run like an Oyl, which at last will congeal and be hard. Trouble not your self to make it, but buy it readie made; chuse it as you do the Gum-*Arabick*, by the clearnes, and then you need not fear it.

To make Water thereof, use it in all respects as you did your Gum-*Arabick*, by tying it in a cloth and dissolving it in fair water: of this water also have of two sorts, a weaker and a stronger.

Of GUM-ARMONIACK.

Of this Gum you may make a Water, that whatsoever you write therewith you may lay in *Gold*.

The manner of making the Water is thus; take your Gum and grind it with the juice of Garlick as fine as may be, thereunto add a few drops of weak water of Gum-*Arabick*, making it of such a thickness as you may conveniently write with it with a pen.

With this liquor write what you will, and let it drie, but not too long, for if you do, the Gold will not stick, and if you lay on your Gold too soon, it will drown it. When you would lay your Gold upon it being drie, do thus, get a Gold-cushion, which you may thus make; take a piece of Calves-leather rough, and get a board about six inches long, and five inches broad, upon this board lay some woollen cloth four or five times double, and over all your Leather with the rough side outwards, nailing the edges of the leather to the sides of the board; so is your Cushion made.

Upon this Cushion lay your Gold-leaf, and with a knife

a knife that hath a very sharp edge, cut your Gold upon your Cushion into pieces, so that it may quite cover what you have written, then breathe upon your writing, and with a piece of white Cotton-wool (breathing upon that also) lay it upon your Gold and it will take it off from your Cushion, which press down hard upon your Writing, and it will there stick; then with other Cotton-wool dry, wipe away the loose Gold, and your Writing only will remain, which when it is through drie you may burnish with a Tooth, and it will shew fair.

Of LIQUID GOLD or SILVER.

You may with *Liquid Gold* or *Silver* Draw or Write any thing with the Pen or Pencil, as with any other liquid colour; I could shew you how to make it, but to make a small quantitie it is not worth the while, neither will it quit the cost; therefore I would advise you to buy it readie prepared, which you may do where you buy your Colours, or of some *Gold-beaters*, who make it of their cuttings of the ragged edges of their Gold.

When you use it do only thus, put into your Shell a drop or two of fair water, and with a clean Pencil temper up so much Gold as will serve your occasion at that time, with which Write or Draw what you will; then about two or three hours after, the longer the better, burnish it by rubbing hard upon it with a Dogs-tooth, and it will be pure Gold; this is the best and easiest way of laying Gold that I know of.

SECT. II. *Of your Grinding-ſtone and Muller.*

GEt a ſtone of *Porphery* or *Serpentine*, or rather a *Pebble*, (if you light of one large enough) is beſt of any other. But in ſhort, get as good an one as you can, which your *Marblers* in *London* may help you to; keep this and your Muller alwayes very clean and free from duſt.

SECT. III. *Of Colours.*

THere are ſimply ſix, *viz. White*, *Black*, *Red*, *Green*, *Yellow*, and *Blew*; to which we may add *Browns*, but they are compounded.

Of either of theſe there are ſeveral ſorts, the names whereof, and the manner of ordering of them ſhall be ſhewed in the enſuing Chapter.

CHAP. II.

Of Colours uſed in Limning: their names, and how to order them.

SECT. I. *Of the Names of Colours, and how every Colour is to be prepared; whether Grownd, Waſh'd, or Steep'd.*

BLACKS.	WHITES.	REDS.
Cherry-ſtones burnt.	*Ceruſe.*	*Red-Lead.*
Ivory burnt.	*White-Lead.*	*Lake.*
Lamp-black.		

GREENS.

GREENS.	BLEWS.	YELLOWS.
Biſe.	*Indico.*	Engliſh *Oker.*
Pink.	*Ultramarine.*	*Maſticote.*
Sap-green.	*Biſe.*	BROWNS.
Cedar-green.	*Smalt.*	*Umber.*
		Spaniſh *Brown.*
		Colen's *Earth.*

Theſe are the principal Colours uſed in Limning, I have omitted many others, but they are ſuch that are not fitting for this Work, which I ſhall ſpeak of when I come to teach how to *Waſh* Maps and printed Pictures, for which uſe thoſe Colours I have omitted are only uſefull.

Of the Colours here mentioned, uſefull in Limning, they are to be uſed three ſeveral wayes, *viz.* either *Waſhed*, *Grownd*, or *Steeped.*

The Colours to be only *Waſhed* are theſe:

Biſe.	*Cedar.*	*Red-Lead.*
Smalt.	*Ultramarine.*	*Maſticote.*

To be *Steeped*, only *Sap-green.*

The Colours to be *Waſhed* and *Grownd*, are theſe:

Ceruſe.	*Pink.*	Spaniſh *Brown.*	
White-Lead.	*Indico.*	*Ivory*,	
Lake.	*Umber.*	&	*black.*
Engliſh *Oker.*	Colens *Earth.*	*Cherry-ſtone*	

SECT.

SECT. II. *Of those Colours that are to be Grownd, and how to Grind them.*

I Have in the last Section told you what Colours are to be Grownd, which Washed, and which to be Steeped; it resteth now, to shew you how to Grind those Colours that are to be grownd; I shall not run over every Colour particularly, but shew you how to grind one Colour, which take as an example for all the rest.

For our example in grinding of Colours, let us take the original of Colours, *viz.* Ceruse, or White-lead, there is little difference between them, only one is refined, the other not.

To grind it do thus; Take a quantitie thereof, or of any other Colour to be grownd, being cleansed from all manner of dirt or filth, which you must first scrape off; then lay the Colour upon your Stone, and with your Muller bruise it a little, then put thereto fair spring-water, and between your Muller and Stone grind the Colour well together with the water till the Colour be very fine, which when you find to be enough, have in a readiness a great Chalk-stone, in which make certain troughs or furrows, into which pour your Colour thus grownd, and there let it rest till it be thorough drie, then take it out and reserve it in papers, and those papers in boxes, for your use. This order you are to observe in all Colours that are to be Grownd.

SECT.

SECT. III. *Of those Colours that are to be Washed, and how to Wash them.*

AS in the Grinding of Colours I gave you an instance but in one for all the rest, the like I shall do for those Colours which are to be *Washed*; I will make my instance in *Red-lead*, which you are to Wash in this manner.

Put a quantity thereof into a clean earthen dish, and pour thereto fair water, stirring the colour and water together with your hand or otherwise, then let it stand a while, and you shall see a filthy greasie scum arise and lie above the water, with other filth; pour this water quite away, and put other clean water to the Colour, and stir it about again, pouring away the water (if foul) the second or third time; then add more water, and stir the Colour about again till the water be thick and troubled; but yet free from filth, then gently pour this troubled water into a second earthen dish, leaving in the first dish all the dregs.

Into the second bason put more fair water, and with your hand stir about the Colour as before; do thus two or three times, and take (if your Colour be very foul) a third earthen dish, and add more water, and keep stirring, till at last the water become clear, and the Colour remain fine at the bottom of the dish; pour away your water gently, and you will find some Colour remaining and sticking to the edges of the dish, which when it is dry, you may

(with

(with a feather) ſtrike away like flower, which reſerve as the choiceſt and pureſt of all; if in a pound of this Red-lead you have an ounce of good indeed, prize it, for it is troubleſome to procure. The other, which is not altogether ſo pure, may be ſerviceable for ſome uſes, though not for all. What hath been ſaid of this Colour is to be underſtood of all other that are to be waſhed; therefore for Waſhing of Colours let this ſuffice.

SECT. IV. *Of Colours to be Steeped.*

I Said (among the Colours before mentioned) there was only *Sap-green* to be Steeped, though in Colours to waſh Maps and Prints there are many, but of theſe, when we come to ſhew how to Waſh Maps, *&c.* To Steep your *Sap-green* do thus, take a quantity thereof and put it into a Shell, and fill the ſhell with fair water, to which adde ſome fine powder of Allum to raiſe the colour; let it thus ſteep twenty four hours, and you will have a very good *Green.*

SECT. V. *Of thoſe Colours that are Waſhed and Grownd, how to temper them in your ſhells when you are to uſe them.*

YOu having all Colours both *Grownd* and *Waſhed* by you in a readineſs, when you begin any

any piece you must temper them as followeth, for which take one example for all.

Take any Colour, a small quantitie thereof, and put it into a clean shell, then add thereunto a drop or two of Gum-water, and with your finger (being clean) work it about the sides of the shell, and there let it stick till it be dry; when the colour is dry in the shell, draw your finger over it; if any Colour come off, you must add stronger Gum-water to it. But, if when your Colour is dry in the shell, it glitter or shine, it is a sign there is too much Gum in it; therefore remedy that by tempering your Colour up again with fair water only, without any Gum.

There are some Colours, as *Lake*, *Umber*, and other hard Colours, which when they are dry in the shell will crack, and look like parched ground in a drie Summer; to such colours as these, when you temper them for use, add to them a small quantity of white sugar-candy in fine powder, which temper with your Colour and fair water with your finger in the shell till the Candy be dissolved; and this will keep them from peeling when you have laid them on your Work.

Note here, that these Colours following, *viz. Umber*, Spanish-*Brown*, Colen-*Earth*, *Cherry-stone* and *Ivory-black* are to be burnt before they be Wash'd or Grownd.

To burn any of them do thus, put the Colour into a Crucible, such as *Gold-smiths* melt their silver in; if you will, cover the mouth thereof with clay, and set it in a hot fire, there let it rest till it be red hot; when the Colour is cold you may Grind or Wash it according to former Directions. SECT.

SECT. VI. *Of Pencils, and how to chooſe them.*

YOu are in the next place to furniſh your ſelf with *Pencils* of all ſorts; which how to chooſe do thus, take a Pencil and put the hairy end between your lips, wetting it a little by drawing it through your lips, being moiſt, two or three times; ſo that the Pencil being large will come to a point as ſmall as a hair, which if it do, it is good; but if it ſpread, or any extravagant hairs ſtick out of the ſides, they are naught; you may try them by wetting in your mouth, and attempt to draw a line on the back of your hand.

SECT. VII. *Of Compounded Colours.*

OF the the ſix ſimple Colours before named, together with the *Browns*, many others may be compounded for *Faces of all Complexions*, *Garments*, *Landskips*, *Building*; for *Birds*, *Fiſhes*, *Beaſts*, and what not? I will ſhew how to compound ſome, and by thoſe you may by practice find out and invent infinite more, I ſhall inſtance in theſe following. As,

A Violet.
A Lead-colour.
Flame-colour.
Scarlet.
Light-green
Purple.
A Bay-colour.
A Murrey.

To

To make a *Violet-colour.*

Indico, *White*, and *Lake* make a good Violet-colour; you may make it lighter or darker at pleasure, as you may all other compounded Colours.

Lead-colour.

Indico and *White* make a Lead-colour.

Colour for *Flaming fire.*

Red-lead and *Masticote*, heightned with *White.*

Scarlet-colour.

Red-lead, *Lake* and *Vermilion*, very little or no *Vermilion*, for it is not good in Limning.

Light-green.

Pink and *Smalt*, with *White* to make it lighter, if you require it.

A Purple-colour.

Indico, Spanish-*brown*, and *White.*

A Bay-colour.

Spanish-*brown* and *White.*

A Murrey-colour.

Lake and *White* make a Murrey-colour.

Of these infinite others may be made, but I leave them to your own ingenuity to find out, which with little practice you will soon do. The next thing you shall be informed in, is how to prepare your Table for Limning, and fit all things for your work, which shall be declared in the next Chapter.

CHAP.

CHAP. III.

How to prepare a Table for a Picture in small for Limning, to make choice of your Light, the manner of Sitting in respect of Position and Distance, and what necessary Instruments are to lie by you when you are at work.

WE now draw pretty near to our intended purpose, *viz.* Miniture or Limning to the life in Water-Colours: but

SECT. I. *How to prepare a Table for a Picture in small.*

GET pure fine Paste-board, such as the ordinary playing Cards are made of, you may have of what size and thickness you please, and very finely slick'd and glazed, at the *Card-makers:* Take a piece of this Paste-board of the size you intend your Picture, then take a piece of Parchment of the finest and whitest you can get, which are the skins of abortives or cosslings, cut a piece of this skin of equal bigness with your Paste-board, and with thin white Starch new made paste the Parchment to the Paste-board, with the out-side of the skin outermost; lay on your Starch very thin and even; then your Grinding-stone being made very clean, lay the Card thereupon with the

the Parchment-side downwards, and as hard as you can, rub the other side of the Paste-board with a Boars tooth set in a stick for that purpose, when it is through drie it is fit to work upon.

SECT. II. *Of your Light.*

CONcerning your *Light*, let it be fair and large, free from being shadowed with trees or houses, but a clear sky-light, let it be a direct light from above, and not a traverse-light; let it be a Northerly and not a Southerly light, for the Sun shining either upon you, your work, or the partie sitting, will be very prejudicial; as your room must be light, so let it be also close and clean. And observe, that you begin and end your work by the same light.

SECT. III. *Of the manner of Sitting.*

LEt your Desk on which you work be so situate, that when you sit before it your left arme may be towards your light, and your right arme from it, that the light may strike in sideling upon your Work. Thus for your own sitting.

Now for the manner of the parties sitting that is to be Drawn, it may be in what posture he or she shall design; but let the posture be what it will, let it not be above two yards off you at the most, and level with you; but if the partie be tall, then above.

Mark well when the party that ſits moveth, though never ſo little, for the leaſt motion of the body or face, if not recalled, may in ſhort time cauſe you to run into many errours.

The Face of a party being finiſhed, let him ſtand and not ſit to have his poſture drawn, and that at a farther diſtance than two yards, *viz.* four or five yards.

SECT. IV. *Of ſuch neceſſaries as are to lie by you while you are at Work.*

1. YOu muſt have two ſmall Sawcers or other *China*-diſhes, in either of which there muſt be pure clean Water; the one of them is to waſh your Pencils in being foul, the other to temper your Colours with when there is occaſion.

2. A large, but clean, fine and dry Pencil, to cleanſe your work from any kind of duſt that may by accident fall upon it: ſuch Pencils they call *Fitch-Pencils.*

3. A ſharp Pen-knife to take off hairs that may come from your Pencil, either among your Colours or upon your Work, or to take out ſpots that may come to fall upon your Card.

4. A Paper, having a hole cut therein, to lay upon your Card to cover it from duſt, and to reſt your hand upon, to keep the ſoil and ſweat of your hand from ſullying your Parchment, and alſo to try your Pencils on before you apply them to your Work.

Work. Let your Sawcers of Water, your Pen-knife and Pencils lie all on your right hand.

5. Have a pretty quantitie of Carnation (as some call it,) or Flesh-colour, somewhat lighter than the Complexion of the party you are to draw, tempered up in a shell by it self with a weak Gum-water. If it be a Fair complexion, White-lead and Red-lead mixed. If a Swarthie or Brown complexion, to your White and Red-lead add a quantitie of Masticote, or *English*-Oker, or both if occasion be. But whatever the Complexion be, be sure you temper your Flesh-colour lighter than the partie; for by often working upon it you may bring it to its true colour, it being first too light; but if it be first too sad, there then is no remedy.

6. Having prepared your Flesh-colour, take a large Shell of *Mother of Pearl*, or a *Horse-Mussel-Shell*, which any *Fisherman* will help you to, and therein (as *Painters* in Oyl dispose their Colours upon their Pallat for their working of a Face, so must you) place your several Shadows in this Shell in little places one distinct from another.

Note, that in all your Shadows you must use some White, wherefore 1. lay a good quantitie of White by it self, besides what the Shadows are first tempered with. 2. For *Red* for the Cheeks and Lips, temper Lake and Red-lead together, some use Vermilion, but I like it not. 3. For your *Blew* Shadows, as under the Eyes, and in Veins, *&c.* Indico and White, or Ultamarine and White. 4. For your *Gray*, faintish Shadows, take White *English*-Oker and Indico, or sometimes Masticote. 5. For

Deep shadows, White, *English* Oker, and Umber. 6. For *Dark-shadows* in mens Faces, Lake and Pink, which make an excellent fleshy shadow. Many other Shadows you may temper up, but these are the chief; your own judgement, when you look upon the partie to be Drawn, will best direct you, and inform your fancie better than a thousand Words.

Thus are you absolutely prepared of all necessaries, it is now fit time to go to work; and first we will begin with a Face.

CHAP. IV.

Of the Miniture or Limning of a Face in Water-Colours.

HAving all things in a readiness, according to the directions before delivered, upon that part of your Card where you intend the Face of your picture to be, lay that part of the Card over with your Colour that you have before prepared, answerable to the Complexion of the partie; it being well tempered, pretty thin, with a Pencil bigger than ordinary, spread your Colour very even and thin, free from hairs or other spots, in your Pencil, over the place where you are to make the Face of your Picture. The Ground being laid, you may begin the Draught, the partie being ready to sit. Now to the finishing of a Face there will require three Operations or Sittings at the

the leaſt. At the firſt ſitting you do only dead Colour the Face, and this takes about two hours time. At the ſecond ſitting you are to go over the Face more curiouſly, obſerving whatſoever may conduce to the graces or deformities of the partie to to be Drawn, together with a ſweet diſpoſe and couching of the Colours one within another, and this ſitting will take up ſome four or five hours. At the third ſitting you may finiſh the Face, this takes up ſome three hours time; in which you perfect what was before imperfect and rough, in putting the deep and dark ſhadows in the Face; as in the Eyes, Eye-brows hair, and Ears, which things are the laſt of the Work, and not to be done till the Hair-curtain or the back-ſide of the Picture, as alſo the Drapery be wholly finiſhed. Of theſe three ſittings or operations we ſhall make three Sections, as followeth: Then in the next Chapter ſhew how the Drapery and other ornaments are to be performed: then in the next Chapter ſomething of *Landskip* in Miniture, or Limning, and ſo conclude.

SECT. I. *At the firſt Operation or Sitting.*

YOur Ground for the general Complexion being laid, the firſt work at your firſt ſitting muſt be to draw the Porphile or out-lines of the Face, which you muſt do with Lake and White mingled; draw it very faintly, ſo that if you miſs of

your Proportion you may alter it with a deeper mixture of the same Colour.

The proportion of the Face being drawn, add to the former colour some Red-lead, temper it to the colour of the Cheeks, Lips, *&c.* but faintly, for (as I said before) you cannot lighten a deep Colour when you would. You must now put in the Red shadows in their due places, as in the Cheeks, Lips, tip of the Chin, about the Eyes, the tip of the Ears, and about the roots of the Hair. All these Shadows must be put in, not with the flat of the Pencil, but by small touches, after the manner of Hatching; in this manner going over the Face, you will cover your ground with these and the following shadows. In this Dead-colouring you need not be over-curious, but strive to imitate Nature as near as may be, the roughness of the Colours may be mended at the second Operation.

Having put in your Red shadows in their due places, put in next your faint Blew shadows about the corners and balls of the Eyes, and your Grayish blew shadows under the Eyes and about the Temples; work these sweetly and faintly all over by degrees, heightning your shadows as the light falls; as also those harder shadows in the dark side of the Face, under the Eye-browes, Nose, Chin, and Neck, with some stronger touches in those places than on the light side of the Face. Bring all your Work together to an equal roundness, and give perfection to no particular part at this time, but view your object well, and see how near you hit the Life, not only in seeming likeness, but in roundness boldness of posture, colouring, and such like. Having

Having wrought your fainter ſhadows into the Red ones before laid, you may now have a touch at the Hair, diſpoſing of it into ſuch curls, folds, or form as ſhall beſt grace the picture, or pleaſe the partie. You muſt only draw the Hair with ſome colour ſuitable to the life, fill up the empty and void places with colour, and deepen it ſomewhat more ſtrongly than before in the deepeſt ſhadowed places. And let this be your firſt operation.

SECT. II. *At the ſecond Operation or Sitting.*

AT the ſecond ſitting let the partie ſit in the ſame place and poſture as he did at the firſt ſitting, then obſerve and delineate with your Pencil thoſe varieties which Nature affords you; and as you did them but rudely before, you muſt now with the ſame Colours, in the ſame places, by working drive and ſweeten the ſame Colours one into another, ſo that no lump of Colour, or any rough edge may appear in your whole work, and this work muſt be performed with a Pencil ſomewhat ſharper then that which you uſed before, ſo as your Shadows may be ſoft and ſmooth.

Having made this progreſs in the Face, leave it for this time, and go to the back-ſide of your Picture; which is ſometimes a piece of Landskip, but moſt commonly a Curtain of blew or red Sattin. If it be of blew Sattin, temper as much Biſe in a ſhell as will cover a Card, let it be moiſt, but well bound with Gum; then with a Pencil draw the Porphile or

out-line of your Curtain, as also of your Picture, then with a large Pencil lay over carefully, but thin and aery, the whole ground you mean to lay with Blew; then afterwards again with a large Pencil, as before, lay over the same again with a substantial bodie of colour; in doing of which you must be expeditious, keeping your Colour alwayes moist, letting no one part thereof be dry till you have covered the whole.

If your Curtain be Crimson, then trace it out with Lake, and lay the ground with a thin colour, then where your strong lights and reflexions fall, there lay your lights with a thin and Waterish colour, and while the ground is yet wet, with a strong and dark colour tempered reasonable thick, lay the hard and strong shadows close by the other lights.

After you have thus laid the back-side of your Picture with Blew, or Red, or any other Colour, lay your Linnen with a fair White, and the Drapery likewise flat of the colour you intend it.

Then repair to the Face again, and view your object well, and see what shadows are too light or too deep for the Curtain behind, and the Linnen and Drapery may somewhat alter the propertie to the eye, and make the Picture appear otherwise than it did when there was only the colour of the Parchment about it; I say, view your object well, and endeavour to reduce each Shadow to its due perfection: then draw the lines of the Eye-lids, and shadow the entrance into the Ear, the deepness of the Eye-browes, and those more eminent notes and marks

marks in the Face, and these must be done with a very curious and sharp Pencil.

The Face done thus far, go over the Hair, heightning or deepning it as it appears in the life, casting over the ground some loose hairs, which will be pleasing, and make the Picture stand as it were at a distance from the Curtain.

To shadow your Linnen, use Black, White, a little Yellow, and less Blew; the Black must be deepned with Ivory-black, with which mix a little Lake and Indico. And thus far have we proceeded at the second operation.

SECT. III. *At the third Operation, or Sitting.*

THe third and last operation of the Face will be wholly spent in giving of strong touches where you see cause; and in observations necessary for the rounding of the Face, which will better be seen how to perform now, than before the Curtain, Drapery, and Linnen were laid. In this last sitting observe very diligently and exactly whatever may conduce to similitude, which is a main thing, as Scars or Moles in the Face, *&c.* casts of the Eye, circumflexions or windings of the mouth. Thus much for the third operation and finishing of the Face.

CHAP.

CHAP. V.

Of Drapery, and other ornaments belonging to a Picture in Miniture.

THE Face being compleatly finiſhed, and the Apparel rudely put on, let us now come to ſhew how to ſettle them in their right geers, (as the ſaying is,) as alſo to put on ſuch Ornaments as are uſual in Pictures of this nature. And theſe ſhall be expreſſed in the Sections following.

SECT. I. *Of Drapery in Limning.*

HAving laid a good, fat, and full Ground all over the Drapery you intend to make; if Blew, then all over with Biſe ſmoothly laid: the deepning muſt be Lake and Indico, the lightning White, very fine, faint, and fair, and in the extreme light places. What hath been ſaid of this *Blew Drapery*, the like is to be underſtood of all other Colours.

It is rare to ſee Drapery expreſſed by lightning of of it with fine ſhell-Gold, with which it muſt be hatched and waſhed, what a luſtre it gives to well-coloured Drapery, either Crimſon, Green, or Blew, but much more if with the Ground it ſelf you mix Gold when you lay it on.

SECT.

SECT. II. *Of other Ornaments in Picture.*

1. IF the Body you are to draw be in Armor, lay liquid Silver all over for your ground, well dryed and burnished, shadow it with Silver, Indico, and Umber; work these shadows upon the Silver as the life directs you.

2. For Gold Armor, lay liquid Gold as you did the Silver, and shadow upon it with Lake, *English* Oker, and a little Gold.

3. For Pearls, your ground must be Indico and White; your shadows Black and Pink.

4. For Diamonds, lay a ground of liquid Silver, deepen it with Cherrystone and Ivory-black.

CHAP. VI.

Of LANDSKIP.

THE bounds and limits of *Landskip* are inexpressible, they being as various as fancy is copious; I will give you only some general Rules for painting of Landskip, and so conclude this third Book.

In painting of any Landskip alwayes begin with the Sky, the Sun-beams, or lightest parts first; next the Yellow beams, which compose of Masticote and White; next your Blew skies, with Smalt only. At your first colouring leave no part of your ground

ground uncovered, but lay your Colours smooth and even all over. Work your Sky downwards towards your Horizon fainter and fainter, as it draws nearer and nearer to the earth, you must work your tops of Mountains and objects far remote, so faint that they may appear as lost in the Air: Your lowest and neerest Ground must be of the colour of the earth, of a dark yellowish brown Green, the next lighter Green, and so successively as they lose in their distance they must abate in their colour. Make nothing that you see at a distance perfect; as if discerning a Building to be fourteen or fifteen miles off, I know not Church, Castle, House, or the like; so that in drawing of it you must express no particular sign, as Bell, Portcullis, or the like; but express it in colours as weakly and faintly as your eye judgeth of it. Ever in your Landskip place light against dark, and dark against light, which is the only way to extend the prospect far off, occasioned by opposing light to shadow; yet so as the shadows must lose their force in proportion as they remove from the eye, and the strongest shadow must alwayes be neerest hand.

OF

OF PAINTING in OYL.

The Fourth Book.

Painting in Oyl is of most esteem of any other Painting, and indeed it requireth the greatest judgement in the performance, of any other kind of Painting. I shall (according to the weakness of my ability) deliver unto you such Rules and directions, as being well minded and practised, may in a short time make you a good proficient therein: Presupposing you have read the three foregoing Books, especially the First and Third, and that you understand Draught of any kind; and also the nature (if not the manner of working with) Water-colours, yet at least have read the Rules there delivered concerning the use of them, you may fall to practise the Painting in Oyl; in which observe the directions following.

CHAP.

CHAP. I.

Of the Names of your Colours, and how to Grind and order them.

Names of the Colours in Oyl.

BLACKS.	WHITES.	GREENS.
Lamp-black.	*White-Lead.*	*Verdigreaſe.*
Seacoal-black.		*Terra vert.*
Ivory-black.		*Verditer.*
Charcoal-black.		
Earth of Colen.		

BLEWS.	REDS.	YELLOWS.
Biſe	*Vermilion.*	*Pink.*
Indico.	*Red-Lead.*	*Maſticote.*
Smalt.	*Lake.*	Engliſh *Oker.*
Ultamarine.	India *Red.*	*Orpiment.*
	Ornotto.	Spruſe *Oker.*

Spaniſh *Brown, Burnt Spruſe, Umber.*

Theſe are the chief Colours that are uſed in Painting in Oyl, the moſt part of which are to be grownd very fine upon your Stone with a Muller, with Linſeed-Oyl: ſome muſt be Burnt before they be Grownd; others muſt be only temper'd upon the Pallat, and not grownd at all.

The Colours to be burnt are theſe:

Ivory, Spruſe, Oker, and *Umber.*

The

The Colours that are not to be Grownd at all, but only tempered with Oyl upon your Pallat, are these: *Lamp-black, Verditer, Vermilion, Biſe, Smalt, Maſticote, Orpiment, Ultamarine.*

All the reſt are to be Grownd upon your Stone with Linſeed-Oyl; only White-Lead, when you are to uſe that for Linnen, you muſt grind it with Oyl of Walnuts, for Linſeed-Oyl will make it turn yellow.

Thoſe Colours that are to be Burnt, you muſt put them into a Crucible, ſuch as *Gold-ſmiths* melt their Silver in, cover the mouth thereof with clay, and there let it burn red hot, when it is cold you muſt grind it upon your Stone with Oyl.

CHAP. II.

Of your Eaſell, Straining-frame, Cloth, Pallat, Pencils, and Stay.

I Might here deſcribe the form and faſhion of your *Eaſell* and *Pallat*, but I think I need not; for he that ever ſaw a *Painter* at work, muſt needs ſee theſe two Inſtruments, but what they are I ſhall here deſcribe.

An *Eaſell* is a frame made of wood, not much unlike a Ladder, only the ſides are flat, and full of holes on either ſide, to put in two pinns to ſet your Work upon higher or lower at pleaſure; it is broader at the bottom than at the top, and on the back-

back-side there is a Stay, by the help of which you may set in the middle of any room, more upright or sloping at pleasure; when you do not use it, you may clap it together and set it behind any door, or hang it against any wall out of the way.

A *Pallat* is a thin piece of wood, and is necessary to be about twelve or fourteen inches long, and nine or ten inches broad, in form of an egge, at the narrower end whereof is a hole made also of an oval form, about an inch and a half in length, and an inch broad; this hole is to put in your thumb of your left hand, upon which you must alwayes hold it when you are at work; out of the side of your Pallat neer unto the thumb-hole is cut a notch, by the side of which the Pencils which you hold in your left hand also may come through, by which means you may take any of them out, or put another in at pleasure. These Pallats ought to be very thin and light, especially at the broad end, but toward the thumb-hole somewhat thick, yet not above half a quarter of an inch; the best wood to make them of is Pear-tree or Walnut-tree.

A *Straining-frame* is nothing else but a frame made of wood, to which with nails you must fasten your Cloth that you are to paint upon; of these Frames you should have of several sizes, according to the bigness of your Cloths.

By your Cloth I mean *Cloth primed*, I could teach you how to prime it, but it is a moiling work, and besides, it may be bought ready primed cheaper and better than you can do it your self. Few Painters (though all can do it) prime it themselves, but buy it ready done.

Pencils,

Pencils, what they are I need not tell you, but what sorts there are I will, because I shall have occasion to call them sometimes by their names in the Discourse following. There are of all bignesses, from a pin to the bigness of your finger.

There are several sorts, thus called:

Ducks Quill fitched.	*Goose Quill fitched.*
Ducks Quill pointed.	*Goose Quill pointed.*
——— *Bristle.*	——— *Bristle.*
Swans Quill fitched.	*Bristle Pencils*; some in Quills, others in Tinn-cases bigger than Quills, and others in Sticks.
Swans Quill pointed.	
——— *Bristle.*	
Hairing, or Jewelling-Pencils.	

Your *Stay* or *Mol-stick* is nothing else but a stick of Brazeel or such like wood that will not easily bend, about a yard in length, at one end whereof tie a little ball of Cotton hard in a piece of Leather about the bigness of a Chesnut; this stick when you are at work you must hold also in your left hand, and laying the end which hath the leather ball upon your cloth or frame, you may rest your right arm upon it all the while you are at work. Thus being furnished with all manner of Colours, and other necessaries here described, you may begin to practise when you please; we will begin with a Face, in which observe the directions in the following Chapters.

CHAP. III.

How to order your Colours upon your Pallat, and how to temper Shadows for all Complexions.

DIſpoſe your ſingle Colours upon your Pallat in this order, laying them at a convenient diſtance one from another, ſo that they be not apt to intermix. Firſt lay on your Vermilion, then Lake, then burnt Oker, *India* Red, Pink, Umber, Blacks, and Smalt: lay the White next to your thumb, becauſe it is oftneſt uſed, for with it you lighten all your Shadows; next to your White lay a ſtiff ſort of Lake: this done your Pallat is furniſhed with the ſingle Colours belonging to a *Face*; then for the tempering of your Shadows to all Complexions, obſerve the following Directions.

1. *For a Fair Complexion.*

Take a little White, and twice as much Vermilion, and as much Lake, temper theſe well together upon your Pallat with the flat blade of your knife; lay aſide by it ſelf on your Pallat the greateſt quantity of this to be uſed for the deepeſt Carnation of the Face.

Put more White to that which remains, and temper that well with your knife, and being well tempered lay ſome of that aſide alſo for your lighter Carnation.

To

To the remainder add yet more White, and temper it upon your Pallat till you have brought it to the lightest colour of your Face.

Your Carnations being thus tempered, and orderly laid upon your Pallat, prepare your faint Shadows. For which,

Take Smalt, and mix it with a little White, which may serve for the Eyes; lay aside the greatest quantity, and to the rest add a little Pink, this well tempered and laid by it self will serve for the faint greenish shadows in the Face.

Now prepare your deep Shadows; for which take Lake, Pink, and Black, of each a like quantity, temper all these together.

If the parties Face you are to draw, or the Picture you are to copie do require the Shadows to be redder than what you have tempered, then add a little more Lake; if yellower, add a little more Pink; if blewer or grayer, add a little more Black.

This done, your Pallat is prepared with Colours for any fair Face.

2. *For a more Brown or Swarthy Complexion.*

Lay your single Colours on your Pallat as before, and in like manner temper them, only amongst your White, Lake, and Vermilion, put a little quantity of burnt Oker, to make it look somewhat Tawny.

Amongst your heightnings temper a little yellow Oker, onely so much as may just turn the Colours.

For your very faint and very deep Shadows, the ſame as before.

3. *For a Tawny Complexion.*

The general Colours muſt be the ſame as before, only the Shadows are different, for you are to prepare them of Umber, and burnt Oker, which ſhadow will fit theſe Complexions beſt; if the ſhadow be not Yellow enough, add more Pink to it.

4. *For an abſolute Black Complexion.*

Your dark Shadows muſt be the ſame as before; but for your heightnings, you muſt take White, burnt Oker, Lake, and Black, put but a little White in at firſt, but work it up by degrees, till you come to the lighteſt of all, as you did the contrary Colours for a fair Complexion.

Here note, that the ſingle Colours at firſt laid upon your Pallat being tempered together according to the former directions, ſerve for ſhadows for all Complexions.

Thus much concerning the diſpoſing and ordering of your *Pencils*, and what *Pencils* you are alwayes to have in your hand all the while you are painting of a Face.

CHAP. IV.

what Pencils are usefull for the Painting of a Face, and how to dispose them.

EVery *Pencil* must have a stick of about nine inches long put into the Quill thereof, the farther end of which stick must be cut to a point.

When you are to begin any Face or other picture, lay together two Ducks-quill-fitch-Pencils, and two Ducks-quill-pointed-Pencils, also two Goose-quill fitched and two pointed, two Bristles both alike; one Swans-quill fitched, and another pointed; then a larger Pencil than any of these, which no Quill will hold, and therefore they make cases of Tinn to put them in, you must have one of these Fitched, as also a Bristle of the same bigness.

Your Pencils being in a readiness, when you are to use them, your Pallat being upon your thumb, you must take your Pencils in your right hand, and put the ends of their sticks into your left hand, keeping (when you work) the hairy ends at a distance, one from touching another, lest the Colours in them intermingle.

Your Pallat of Colours being prepared, and your Pencils and Molstick also in a readiness, you are to use them as is hereafter taught.

CHAP. V.

How to Paint a FACE in Oyl-Colours.

YOur Cloth being ready primed, and ſtrained upon your Frame, take a knife, and with the edge thereof ſcrape over your Cloth, leſt any knots or the like ſhould be upon it which may diſtyme your Work.

Your Cloth being ready, draw forth your Eaſell, ſetting your Frame & Cloth upon it at a convenient height, ſo that you ſitting upon a ſtool, (level with the party you draw) may have the face of the picture equal, or ſomewhat higher than your own. Then ſet your Eaſell according to your light, which let be the ſame as I have deſcribed in *Limning*, namely, a Northerly light, free from ſhade of trees or houſes, but let it come in on your left hand, and ſo caſt the light towards the right hand.

All things being now in a readineſs, let the party you are to draw ſit before you in the Poſture he intends to be painted, about two yards diſtant from you.

Then with a piece of Chalk pointed, draw the proportion of the Face upon the Cloth, with the place of the Eyes, Noſe, Mouth, Ears, Hair, and whatſoever the poſture affordeth the Eye; here is no curioſity in this, only ſee that you keep a good *decorum*, if you miſs a good deal, the Colours will bring all to rights; but I ſuppoſe you know already whether

whether the design will make a Face proportionable to the parties. And so of that no more.

Your Design being drawn in Chalk, take one of your Swans-quill-pointed-Pencils, and some of your lightest Colour, and begin with the lightest parts in the Face, as the *heightning of the Forehead*, the *Nose*, and the *Cheek-bone* of the lightest side: when you have done the lightest parts, do the mean parts next; that is, those parts not altogether so light as the other, as the *Cheek-bone* of the fore-shortning or dark side, the *Chin*, and *over the upper Lip*; and so proceed gradually till you come to the Reddest parts of all.

Then lay your faint Greenish shadows in convenient places, and where you see cause to moderate harder shadows; but you must have a care you put not Green shadows where Red are required.

Thus all your faint or light beginnings being put in, take one of your Goose-quill-pointed-Pencils, or one of your Ducks-quill-fitched, and begin at the Eyes to shadow with Lake, because you may easily overcome it if it should chance to be wrong: I do not mean you should go all over the *face* with Lake, but trace out these parts of the Face therewith, as the *Eyes*, *Nose*, *Mouth*, *Compass of the Ear*, &c. This tricking or tracing out of these parts with Lake is to be done before you lay on any Colour, wiping it lightly over with a linnen rag, to prevent the overcoming of the other Colours.

Having thus put in all your Colours both light and dark, take a great Fitch-pencil, either that in the plate, or that in the stick, and sweeten the Co-

lours therewith; by sweetning, is meant the going over these several Shadows thus laid with a clean soft Pencil, which with orderly handling will drive and intermix the Colours one into another, that they will appear as if they were all laid on at once, and not at several times. If this great fitch'd Pencil be too big, you may use a lesser; but note, that the bigger Pencils you use, the sweeter and better your Work will lie; and it is as easie to handle a great Pencil as a little one, if you use your self to it.

At your Second sitting (for this is enough at once) begin again with your clean Pencils of such bigness as the piece you are to work upon does require. Then the party sitting in the same position, and at the same distance as before, the light also being the same, Observe well the party, and see what defects you find in the Work at your first sitting, and amend them; then heighten or deepen your Shadows according as you see occasion.

This done, take a Goose-quill Bristle and put in the Hair about the Face, and rub in the greater Hair with the greater Bristle, and heighten it up with your Goose-quill Pencil.

CHAP.

CHAP. VI.

Of Garments of several colours, and of their proper Colouring.

THE next thing I shall speak of, shall be of *Drapery* or *Garments*, and the true and proper manner of Colouring of them. And

1. *For a Red Garment.*

For a light-red Garment, first dead-colour it with Vermilion, and when you would finish it, glaze it over with Lake, and heighten it with White.

For a Scarlet.

If you will have your Garment Scarlet, Vermilion it self must be the lightest, and it must be deepned with Lake or *India* Red.

For a Crimson Velvet.

Lay Vermilion, burnt Oker, or *India* Red, for the dead colour, glaze it with Lake, and touch it up with Vermilion.

A sad Red.

Indian Red heightned with White.

Note, that all your deepnings should or ought to be deepned with Black, Pink, and Lake, tempered together.

2. *For*

2. *For Green Garments.*

The beſt Green for holding is Biſe and Pink, heighten it with Maſticote, and deepen it with Indico and Pink.

For Green Velvet.

Lay the dead colour of White with a little Lamp-black, glaze it with Verdigreaſe, deepen it with Indico and Pink, and heighten it with Pink and White.

3. *For Blew Garments.*

Take Indico and White, firſt lay the White in its due places, and then your mean colour, namely Indico and White mixed in their due places, then deepen it with Indico only, and when it is dry glaze it with Ultamarine, which will never fade; you may glaze it with Smalt or Biſe; but Smalt will turn Black, and Biſe will turn Green.

But if you will have a Blew Garment without glazing, lay the ground as before, with Indico and White, heighten and deepen it with the ſame Colours.

4. *For Yellow Garments.*

For a Yellow Garment, Maſticote, yellow Oker, and Umber; lay the dead colour of Maſticote and White in the lighteſt places, Oker and White in the mean places, and Umber in the darkeſt places; when it is dry glaze it with Pink.

If you would not glaze it, uſe only Maſticote heightned

heightned with White, and deepned in the mean ſhadows with Oker, and in the deep ſhadows with Umber.

5. *For Black Garments.*

Let the dead colour be Lamp-black, and ſome Verdigreaſe; when that is dry, go over it with Ivory-black and Verdigreaſe; before you go over it the ſecond time heighten it with White.

6. *For Purple Garments.*

Oyl Smalt, tempered with Lake and White-Lead, heighten it with White-Lead.

7. *Orange Colour.*

Red-Lead and Lake, lay the lighteſt parts of all with Red-Lead and White, the mean parts with Red-Lead alone, the deeper parts with Lake, if need require heighten it with White.

8. *Hair Colour.*

Umber and White for the ground, Umber and Black for the deeper ſhadows, Umber and *Engliſh* Oker for mean ſhadows, for heightning White with a little *Engliſh* Oker.

CHAP.

CHAP. VII.

To temper Colours for ſeveral occaſions.

IN *Landskip*, variety of Colours are required; I will therefore begin with thoſe firſt.

Colours for the Skie.

For the Aiery skie that ſeems a great way off, take Oyl-Smalt or Biſe, and temper it with Linſeed-Oyl, for a Red sky uſe Lake and White, and for Sun-beams or Yellow clouds appearing at Sun-riſing or ſetting, uſe Maſticote and White; for Clouds in a ſtorm, or for a Night-sky uſe Indico deepned with Black, and heightned with White.

Colours for Trees.

For ſome uſe Lake, Umber, and White; for others Charcoal and White, for others Umber, Black, and White, with ſome Green, you may add Lake, and ſometimes Vermilion among your other Colours.

Of ſeveral Greens in Landskip.

For a light Green uſe Pink and Maſticote heightned with White.

For a ſad Green, Indico and Pink heightned with Maſticote.

You may make Greens of any degree whatſoever.

In Painting of Landskip I ſhall ſay nothing here, that

that which I have already ſaid in the Sixth Chapter of the Book of *Limning* being ſufficient.

Things meet to be known.

OYL-Colours if they be not uſed preſently, will have a skin grow over them, and in time will quite dry up; wherefore if you have any quantity of Colours grownd, to keep them from skinning or drying, ſet them in a veſſel of fair water, three or four inches under water, and they will not skin nor dry.

If your Grinding-ſtone be foul, grind *Curriers* ſhavings upon it, afterwards crumbs of bread, and it will fetch off the filth.

If your Pencils be foul, dip the ends of them in Oyl of Turpentine, and ſqueeze them between your fingers.

When you work in Oyl, let a little pot of Oyl ſtand by you, into which dip your Pencil, and ſtreak it by the ſide of the pot, and the Colour will go out that is within it, and you may uſe it with another Colour.

The Diſcovery.

How to Cleanſe any Old Painting, ſo as to preſerve the Colours; with cautions to thoſe that through ignorance have in ſtead of Cleanſing, quite Defaced or irrecoverably loſt the Beauty of good colours in an Old piece of Painting.

To Cleanſe any old Picture in Oyl.

TAke your pureſt white Wood-aſhes you can get, and ſift them very well in a fine lawn ſieve; or elſe ſome Smalt, which is as ſome call it Powder-blew, and with a fine Spunge and fair water waſh the Picture you intend gently over, but be ſure you have a great care of the Shadows; for by the ignorance of many perſons many good Picture hath been abuſed; but having carefully waſh'd it, as before mentioned, take ſome of theſe Verniſhes, of which there be ſeveral, but ſome are more prejudicial than others, therefore chooſe thoſe which may upon occaſion be waſh'd off again.

As Gum-water purely ſtrain'd, or pure Size-gelly, or the whites of Eggs well beaten; all theſe will waſh off.

Your common Verniſh will verniſh over any dark part of a Picture.

But your diſtill'd Verniſh is the beſt of all; this will not waſh off.

But obſerve, that when you have waſh'd the Picture,

ſture, you muſt dry it very well with a clean cloth very dry before you verniſh it.

Divers there be which have pretended to be well skill'd or knowing in the Cleanſing of Pictures, and skill in Painting, and have undertaken the ſpoyling of things they have been unworthy to underſtand; as with Sope, or Aſhes, and a Bruſh, and divers other inventions, by their ignorance to deface and ſpoyl thoſe things which otherwiſe might have been worth great value, and in ſtead of hindering the Painter of his employment, have indeed created them new work.

O F

OF WASHING or COLOURING OF Maps, and Printed Pictures.

The Fifth Book.

TO Wash *Maps* or *Printed Pictures* is nothing else but to set them out in their proper Colours, which to perform well is a very fine thing. I have seen a Printed Picture printed upon fine Parchment, only washed with Water-colours, which could hardly be distinguished from a Limned piece, and there are many now in *England* very excellent at it. If any ingenious spirit that delights in Picture, and hath not time or opportunity to study to be a proficient in Painting in Oyl or Limning, I would advise him to practise this, which is very delightfull, and quickly attained; the manner of performing of it I shall here in this Book teach.

CHAP.

CHAP. I.

What things are necessary to be always ready for Washing of Maps or Pictures.

SECT. I. *Of Colours for Washing.*

HERE note, that all the Colours that are mentioned in the Second Chapter of the Third Book concerning *Limning in Water-Colours*, are all to be used in Washing or Colouring of *Pictures*, wherefore provide your self of those Colours, grind them, wash them, and steep and temper them according as you are directed in that Second Chapter; I say, you must have all these Colours in a readiness; and for Colouring of *Prints* some other Colours, namely these that follow, which how to order I will anon shew you.

Colours to be used in Washing, which are not used in Limning.

BLACKS.	REDS.	BLEWS.
Printers Black, or, Franckford-*Black*, to be had of the *Plate-Printers.*	*Vermilion.* *Rosset.*	*Verditure.* *Litmos.* *Flory.*

YELLOWS. *Gumbooge*, *Yellow-berries*, *Orpiment*.

Also these;

Brazeel and *Log-wood* grownd, and *Turnsoil*.

Of these Colours above mentioned, *Printers Black*, *Vermilion*, *Rosset*, *Verditure*, and *Orpiment* are to be Grownd as is taught in the second Section of the second Chapter of the third Book, page 70. and therefore, I say, Grind them as you are there taught.

Now for the other Colours above mentioned, they are to be ordered several wayes, as followeth. And

1. Of *Litmos*, how to order it.

Take fine *Litmos* and cut it in small pieces, then lay it in steep the space of twenty four hours at least, in a weak Water of Gum-Lake, [*The making of Gum-Lake Water is taught before in the first Chapter of the third Book, pag.* 66.] it will be a pure Blew Water, good to Wash withall.

2. *Of Flory Blew.*

Take *Flory Blew* and grind it with the white of an Egg, [beat the white of the Egg with a spoon in a Porenger till it become a clear Water.]

Flory thus grownd, if you add thereto a little Rosset, it maketh a light Violet-colour.

If you mix with it both Red and White Lead, it maketh a Crane-Feather-colour.

It

It, and Pink, Masticote, or Gum-booge make a fair Green.

3. *Of Gum-booge.*

Take *Gum-booge* and dissolve it in fair spring-water, and it maketh a most beautifull and transparent Yellow.

4. *Of Yellow-Berries.*

Take *Yellow-Berries*, bruise them a little, and let them steep in Allum-water all night, in the morning you will have a very fair Yellow to Wash withall.

5. *Of Turnsoil.*

Turnsoil is made of pieces of Linnen cloth dyed of a kind of Violet-colour.

Take a dish and put some sharp Vinegar therein, together with your Turnsoil, then set the dish over a gentle fire in a chafingdish till the Vinegar boyl and be coloured, then take out the Turnsoil and squeeze it into the Vinegar, to which put a little Gum-*Arabick* to dissolve; it is an excellent good liquor to shadow upon any Carnation or Yellow.

6. *Of Brazeel.*

Take *Brazeel* grownd, to which put a quantity of small Beer, and as much Vinegar, set them in a pan upon a soft fire, and there let it boyl gently a good while, then put therein some fine powder of

Allum to raiſe the Colour, as alſo ſome Gum-*Arabick* to bind it; boyl it ſo long till it taſte ſtrong on the tongue, it maketh a very tranſparent Red.

7. *Of Log-wood.*

If you boyl *Log-wood* grownd in all reſpects as you did your Brazeel, it will make a very fair tranſparent Purple-colour.

SECT. II. *Of other neceſſaries.*

1. *Of Allum-water, how to make it.*

TAke a quarter of a pint of Allum, beat it to powder, and boyl it in a quart of fair Water till it be diſſolved.

With this Water wet over your Pictures that you intend to colour, for it will keep the Colour from ſinking into the Paper, and it will add a luſtre unto the Colours, and make them ſhew fairer; and it will make them continue longer without fading: you muſt let the Paper dry of it ſelf after you have wetted it, before you lay on there Colours, or before you wet it again; for ſome Paper will need wetting four or five times.

But if you intend to Varniſh your Pictures after you have Coloured them, you muſt firſt Size them, that is, rub them over with white Starch new made with a Bruſh very fine, in ſtead of doing them with Allum-

Allum-water, be ſure you ſize it all over, or elſe the Varniſh will ſink through; if your Varniſh be too thick, put into it ſo much Turpentine-oyl as will make it thinner.

2. *How to make Size.*

Take ſome Glew, and let it ſteep all night in water to make it the readier to melt in the morning, then ſet it on a coal of fire to melt, to try whether it be neither too ſtiff nor too weak, for the meaneſt is beſt; take a ſpoonfull thereof and ſet it in the air to cool, or fill a Muſſel-ſhell of it, and let it ſwim in cold water to cool the ſooner; if it be too ſtiff, when it is cold put more water to it, if too weak, then put more Glew to it; and when you uſe it make it luke-warm.

This is to wet your Cloths in, if you intend to paſte your Maps or Pictures upon Cloth, you may uſe white Starch to wet your ſheet, and wring it out and ſtrain it upon a frame, or nail it upon a wall or board, ſo paſte your Maps or Pictures thereon.

3. *How to temper Gold to Write with a Pen or Pencil.*

Take the ſweepings of leaf-Gold, ſuch as *Book-binders* ſweep off their Books, or leafe-Gold it ſelf, and with ſtiff Gum-water, with a pretty deal of white Salt, grind them very well together, and put it into a glaſs, and put a quantity of fair water as will ſufficiently cover it, to make the ſtiff-

water dissolve, that so the Gold may settle to the bottom, and let it stand four or five dayes, then pour away the water and put clean water to it again, if you find the Gold dirty, refresh it again the third time, then pour it away and take clean water again, and a little Salt-Armoniack and great Salt, and put it in a gally-pot, and stop it very close, and let it stand a week, then take it out and put it into a a piece of sheeps-skin when the grain is taken off, tie it up close, and hang it up that the Salt may fret from it; then take the Gold and temper it with the white of an Egg or Gum-water: so use it with Pen or Pencil.

4. *Of Pencils.*

Provide *Pencils* of all sorts, both pointed and fitch; a large Brush to paste your Maps upon Cloth withall; another to Wet your Paper with Allum-water; a third to Starch the face of your Picture withall before you colour it; and a fourth Brush to Varnish withal.

CHAP.

CHAP. II.

Of other Colours for Washing, both Simple and Compounded.

1. *How to make a Green colour of Copper-plates.*

TAke any shreds of Copper and put distilled Vinegar to them, set them in a warm place until the Vinegar become Blew, then pour out that Vinegar into another pot well leaded, and pour more Vinegar upon the Copper, letting that stand until it be of a Blew colour, then pour it into the former liquor; this you may do so often until you have liquor enough, then let the liquor stand in the sun or upon a slow fire till it be thick enough, and it will be a good Green.

2. *To make a Green another way.*

The best is *Cedar-green*, but that is dear, therefore you may take green Bise and steep it in Vinegar, then strain it through a linnen rag, then grind it well with fair water, and put to it a little Honey, and let it be well dryed, and when you use it mix it with a little Gum-water.

3. *Another Green.*

Take the juyce of Rew, and a little Verdigrease,

and a little Saffron, and grind them well together, and use it with a little Gum-water.

4. *For light Greens.*

Sap-greens, *Flower de Bise*, or *Tawny-green*, these need no grinding, only steep'd in fair water, *Verditer* and *Ceruss* mixt with a little *Copper-green*, makes a good light colour.

5. *To shadow Greens.*

Indico and Yellow-berries will do very well.

6. *Greens for Landskips and Rocks.*

Temper your Green with white Pink, Bise, Masticote, Smalt, or Indico, or Ceruss.

Blew Verditer mixt with a few Yellow-berries, make another Green.

7. *To make a Blew.*

There is *Venice*-Ultamarine, but this is very dear; there are Bises of several sorts, deeper or paler; there is Smalt and Verditer; grind any of these with Gum-water.

8. *Of shadowing Blews.*

There is Indico, Litmos, or Flory, take any of these, they need no grinding, steep them in the lees

lees of Sope-aſhes, when you uſe them put Gum-water to them with diſcretion.

9. *To make a Brown.*

Take Ceruſs, Red-Lead, *Engliſh*-Oker, and Pink.

10. Spaniſh *Brown.*

Its a dirty colour, yet of great uſe if you burn it till it be red hot; but if you would colour any hare, horſe, or dog, or the like, you muſt not burn it, but to ſhadow Vermilion, or to lay upon any dark ground behind a Picture, or to ſhadow Berries in the darkeſt places, or to colour any wooden Poſte, Wainſcot, bodies of Trees, or any thing elſe of Wood, or any dark ground on a Picture.

11. *How to make an Orange-colour.*

Red-Lead is the neareſt to an Orange, put a few Yellow-berries into it, makes a good Orange.

12. *A Fleſh-colour.*

Take of White and a little Lake, and ſome Red-Lead mixed, you may make it light or red as you pleaſe, by adding more or leſs White in ſhadowing the Cheeks and other places, if you would have a ſwarthy complexion; and to diſtinguiſh the Mans fleſh from the Womans, mingle a little yellow Oker among your Fleſh.

13. *Co-*

13. *Colours for the Skie.*

Light Maſticote, or Yellow-berries, and White for the loweſt and lighteſt places; red Poſſet, White for the next degree; blew Biſe and White for the other; and blew Biſe for the higheſt, for want of Biſe uſe Verditer; theſe muſt be worked together; you muſt not receive any ſharpneſs in the edge of your Colour, and they muſt be ſo laid on, that you cannot perceive where you firſt began to lay them, you muſt ſo drown them one in another.

14. *To make colours for Precious ſtones.*

Verdigreaſe with Varniſh makes an *Emerald*, and with *Florence* Lake it makes a *Ruby*, and with Ultramarine it makes a *Saphire*.

15. *Colours for Landskips.*

For the ſaddeſt Hills uſe burnt Umber, for the lighteſt places put ſome Yellow to the burnt Umber; and for the other Hills lay Copper-green thickned on the fire, or in the Sun; for the next Hills further off, mix ſome Yellow-berries with Copper-green, and let the fourth part be done with green Verditer; and the furtheſt, fainteſt places with blew Biſe, and for want of that, with blew Verditer mingled with White for the lighteſt places, and ſhadowed with blew Verditer in the ſhadows indifferent thick; the Highwayes do with Red-

Lead

Lead and White, and for variety use yellow Oker, and shadow it with burnt Umber, and you may use it for sandy Rocks and Hills; the Rocks you may do with several colours, in some places Black and White, in other places with Red-Lead and White, and some with Blew and White, and other colours, such as you judge are convenient, and do most resemble Rocks, and let them be pleasant colours; the Water must be black Verditer and White, shadowed with green and with blew Verditer; when the Banks cast a green shadow upon the Water, and when the Water is dark in the shadows, then shadow it with a little Indico and Green thickned, and some blew Verditer.

16. *Colours for Buildings.*

When you colour Buildings, do it with as much variety of pleasant colours as possible can be imagined, yet not without reason, and let discretion rule you in mixing your Colours; in colouring of Buildings you may use sometimes White and Black for the Wall, Conduits, or other things; for Brick-houses and others you may use Red-Lead and White; when many Houses stand together, colour them with various colours as you can; about Buildings use sometimes Umber and White, and sometimes Lake and White, or Red-Lead and White for variety.

17. *How to Shadow every colour in Garments, or Drapery.*

Take this Rule, that every Colour is made to shadow it self, or if you mingle it with White for the light, and so shadow it with the same colour unmingled with White, else take off the thinnest of the colour for the light, and so shadow it with the thickest bottom of the colour; if you will have your shadow of a darker colour, then the colour it self is to shadow the deepest places.

CHAP. III.

General Rules to be observed.

1. SAp-green is only used to shadow other Greens, and not to be laid for a ground in any Garment.

2. Lake must not be shadowed with any colour, for it is a dark Red; but for variety you may shadow it sometimes with Bise, or blew Verditer, which will make it shew like changeable Taffata.

3. Blew Verditer is shadowed with thin Indico.

4. Blew Bise is shadowed with Indico in the darkest colours; Yellow-berries, the natural shadow for it is Umber, but for beauties sake it is seldome shadowed with Umber, but with Red-Lead, the darkest touches with *Spanish*-Brown; and for varieties

varieties ſake its ſhadowed with Copper-green thick, and with blew Biſe or blew Verditer.

What Colours ſets off beſt together.

1. Whites are very uſefull in all colours, and ſets off Black and Blew very well; but Blacks are not much uſed, but upon neceſſary occaſions in ſome things, as your judgement ſhall direct you.

2. Reds ſets off well with Yellows.

3. Yellows ſets off well with Reds, ſad Blews, Greens, Browns, Purples.

4. Blews ſets off well with Reds, Yellows, Whites, Browns, and Blacks; but Blews ſet not off well with Greens and Purples.

5. But Greens ſets off well with Purples and Reds.

SECT. II. *Directions for the Mixing of your Colours.*

TO mix any Colour, be carefull that you make it not too ſad; when you mix your Colours be carefull you put not your Pencils out of one Colour into another, for it will ſpoil and dirty your other Colours, except you waſh your Pencils clean.

When you mix any Colours ſtir them well about the water, being well coloured pour it out into a Shell, and ſtir the reſt of the Colours and mingle them together; pour out the Colour firſt, that you may the better know what quantity of the ſadder will ſerve.

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