

A BOOK OF
Drawing, Limning, Washing
Or Colouring of
MAPS and PRINTS:
AND THE

Art of Painting, with the Names and Mixtures of Colours
used by the Picture-Drawers.

OR,

The Young-mans Time well Spent.

In which,
He hath the Ground-work to make him fit for doing any thing by hand,
when he is able to draw well.

By the Use of this work, you may Draw all parts of a Man, Leggs, Armes,
Hands and Feet, severally, and together. And Directions for
Birds, Beasts, Landskips, Ships, and the like.

Moreover

You may learn by this Tract, to make all sorts of Colours; and to Grinde
and Lay them: and to make Colours out of Colours: and
to make Gold and Silver to write with.

How also

To Diaper and Shadow things, and to heighthen them, to stand off:
to Deepen them, and make them Glister.

In this BOOK

You have the necessary Instruments for Drawing, and the use of them,
and how to make Artificiall Pastels to draw withall.

Very Usefull for all Handicrafts, and Ingenuous Gentlemen and Youths.

By Hammer and Hand all Arts doe stand.

Infelix qui Panca Sapit, spernit que Doceri.



L O N D O N.

Printed by *M. Simmons*, for *Thomas Jenner*; and are to be sold at his Shop,
at the South Enterance of the *Royal Exchange*.

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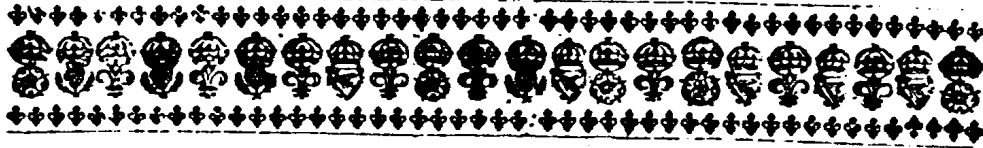
THE TRUE PORTRAITURE OF ALBERTVS DUREVS THE VERIE TOWNE SHAFBERG AND GRAVER OF GERMANE



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A Book of the Art of Dialectic according to Aristotle Durer's Latin (1509) and German (1510) editions. The German edition is the one shown here.

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Of necessary Instruments for Drawing.



Or Implements these are the onely necessary ones; Pens made of Ravens quills because they are the best to draw faire, and shadow fine, and smal Charcoals, black-lead, white-lead, red-lead, a feather, and a pair of Compasses.

The use of these Instruments.

Char-coal.

FOR your Charcoals, They must be slit into small slender peeces, and then sharpened at the point: You may chuse your Charcoals thus, they are finer grain'd then others, and smooth when they are broken, and soft, and they have a pith in the middle of them, which is the best token to know them by: The use of them is to draw over your drafts first withall, because if you should draw it false at first, you may easily wipe it out, which you cannot so well doe with any other thing.

Black-lead.

Your black-lead is to draw over that againe which you drew before in Char-coal, because this will not wipe out under your hands when you come to draw it with your pen; and if you shall draw it with your pen before this, your Charcoal would furry your pen that you could not write with it, and besides you cannot so well mend your faults with a pen as with a black-lead, for what you doe with your pen you cannot alter, but wherein you erre with your black-lead, you mend it with your pen.

Pen.

The pen is the finisher of your work, with which you must be most exact, knowing it is unalterable, therefore you must be sure your worke is right before you draw it with your pen.

Black-chalk.

Black-chalk is to draw on blew-paper with, which is not to be used till you be pretty perfect in drawing.

White-lead.

White lead is to doe the lightest parts of that you draw before with black Chalk.

Compasses.

Your Compasses are not to be used constantly, for they will spoyle you that you cannot draw without them, but onely when you have finisht your drawing with Char-coal, you may measure if it be every where right, before you draw it with your black-lead.

Feather.

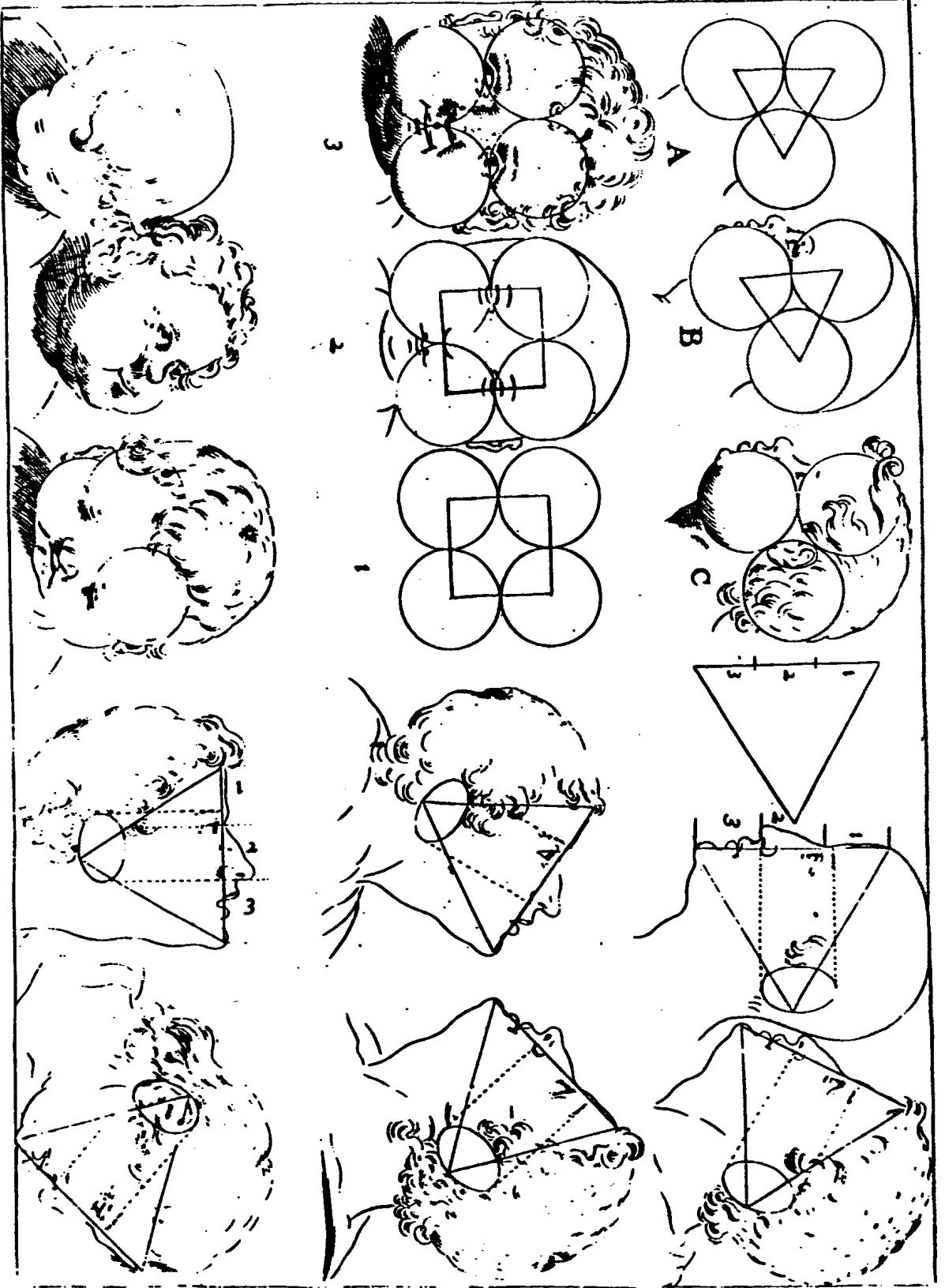
The Feather is to wipe out the Char-coal where it is drawne false, before you draw it againe, and this you must be sure to doe, or else you will be confounded with variety of stroake, so that you shall not know which is the right stroake.

Having these Implements in readinesse, The first practise of a Drawer must be readily to Draw Circles, Ovals, Squares, Pyramids, &c. And the reason of exercising you first in these, is, because in these you will be fitted for the performance of other bodies; as for example, your Circle will teach you to draw Sphericall bodies, as the Sun, Moon and Stars, and the most Flowers, as the Rose, Dazy, &c. the most Vessels, as Cups, Basons, Bottles, &c. the Square will fit you for all manner of compartiments, plots, buildings &c. your Pyramids for sharpe Steeples and Turrets, &c. your Oval for Faces, Shields, &c. for it is impossible to draw the body of a Picture before you can draw the Abstract.

When you can do these, practise to draw Trees, Bals, Candlesticks, Pillars, a Cherry with a leaf, &c. but be sure you be perfect in the out-stroake, before you goe to draw the shadow within.

How to make Artificiall Pastiles to draw withall.

TAKE a great Chalk-stone, and make deep furrowz, or holes in them, two or three inches long, and so wide that you may lay in each a quill, then take white Chalk



Chalk ground very fine, temper it with oyl or wort, and a little new milk, and make papp thereof, then poure it into the furrows of Chalk, and in a short time you may take them out and roul them up, or let them lye in them till they are quite dry, and then take them and scrape them into a handfom form; you may temper lake with burnt Alabaster for a red, and so for others; having regard to some colours that will binde over-hard, which must have a little water put to them in their grinding.

Directions in Drawing of a Face.

FOR the better assisting you in the drawing of a face, you may make use of this direction; when you have drawn the circle of the Face (which you must doe at first with a plain Circular line, without making any bendings in or out, till you come towards the finishing of it) you may make a stroak downe from that place of the forehead which is even with the chin, coming down where you should place the middle of the Nose, and the middle of the mouth; observe that this stroak must be struck that way which the Face should turne, either to one side, or strait right, and then this stroak will exceedingly helpe you to place the features rightly, that they may not stand all awry, but directly one under another; when you have made this stroak, you may make another stroake acrossse to guide you for the even placing of the eyes; that one be not higher then another. Now if the face turne downwards, the stroake must be so struck that the eyes may turne answerable with the face downward, when you have done that make another stroake for the length of the Nose, where the end of the Nose should come, and another stroak for the mouth, that it be not made crooked, still observing to make all the stroakes to turne one way, either up or downe, according as the face turns; for if the face turne up or downe, the Eyes, Nose, and Mouth must turne with it: when you have made these stroakes rightly, proceed to the placing of the features as in the rules before.

There is this three-fold equall proportion usually observed in a Face; 1 From the top of the forehead to the eye-brows; 2 From the eye-brows to the bottome of the nose; 3 From thence to the bottom of the chin: but this proportion is not constant, for sometimes the forehead is lower then at other times, and some mens noses longer, other shorter, and therefore this rule is not alwayes to be observed, but onely in a well proportioned Face. The distance between the two eyes is just the length of one eye, if it be a full face, but if it turne any thing aside then that distance is lessned accordingly; the nostrill ought not to come out further then the corner of the eye in any face, and the mouth must be placed alwayes between the eyes and the chin, just under the mouth.

Further Directions about a Face.

BECAUSE the greatest difficulty, and principall part of this Art lies in the lively drawing of a Face, I thought good to adde these further Directions to make you the more perfect in the drawing of it.

1 If you would rightly draw a Face, that it may resemble the patterne you draw it from; you must in the first place take notice of the Visiognomy or Circumference of a face, whether it be long or round, fat, or lean, big, or little, that so you may be true in the first place, to draw the right visiognomy, or bignesse of the Face, which if it be a fat face you shall perceive the cheeks to make the side of the face to swell out, and to make the face look as if it were square; if a lean face the jaw bones will thicke out, and the cheeks fall in, and the face will look long and slender; if it be neither too fat, nor too lean, the face will be round for the most part.

When you draw the utmost Circumference of a face, you must take in the head and all with it; otherwise you may be deceived in drawing the true bignesse of a face.

2 You must diligently, and judiciously discern and observe all the master touches which give life to a face, and discovers the graces or disposition of the minde, (vvherein lies the vvhole grace of the vwork, and the credit of the vworkman) as you shall discern a smiling countenance most easily in the mouth, vvhhen the corners of the mouth turne up a little; a frowning countenance is easiest discerned in the forehead,



head, eye-brows bending, and somewhat wrinkling about the top of the nose, between the two eye-brows; a stay'd and sober stay'd countenance, is best discerned in the eye, when the upper eye-lid comes somewhat over the ball of the eye; a laughing countenance is easily discerned all over the face, and so is a angry wrathfull countenance, by extraordinary frownings; also there are some touches about the eyes and mouth which gives life and spirit to a face, and Spirit to a face, which you must diligently observe, and you shall by little and little finde out, in good Masters workes which you should chiefly desire to imitate, and not botchers.

Generall Rules for the Practise of Drawing.

1. **H**AVING your charcoal neatly sharpned, you must at the first in drawing of a face, lightly draw the out-stroak, or circumference of the face just according to the bignes of your pattern, making it to stand fore-right, or to turn upwards or downwards according to your patterne, then make some little touches vwhere the features as the Eyes, Nose, Mouth, Chinne, should be placed, not drawing them exactly at the first, and having thus exactly pointed out the places where the features should bee: begin to draw them more exactly, and so proceed, till the face be finished, and then make the hair, beard, and other things about it; In making of a side face you need not at first exactly draw the nose, mouth and chin that stand in the out-most line, but onely make it at first but a bare circumference, turning this way, or that way, according as the pattern doth, and then make the mouth, nose and chin to come out afterwards, in the right places and just proportion.

2 The Circles, Squares and Triangles that are made in the Print, about a face, are to guide your apprehensions the more readily to the framing of one, that being as it were led by a line, you may the more easily know whereabouts to place the features, as eyes, nose, mouth, &c. which when you are able to doe without them; these are of no use at all, but onely to guide you at the first to the placing of them.

3 In the third place you must be sure to place the musles in their right and proper places; by the musles I meane all the shadows that are caused by some dents, or swellings in the face, and be able to find out the reason of every musle, that so you may proceed to work with the more judgement; you shall perceive the musles most in an old and withered face, and you must first draw the principall of them, and then you may the more easily draw the lesser within; you must be very exact in the right placing of them, or else you spoyle your draft be it never so good.

4 Observe to make the shadows rightly, and be sure not to make them to darke, where they should be faint, for if you doe you can never recover it to make it light again, and so the whole face will be mar'd, and appear unhandsome; the shadows are generally fainter and lighter in a faire face then in a swarthy complexion: when you have finisht your draft, you will do very well to give here and there some hard touches with your pen where the shadows are darkest, which will adde a great life and grace to your drawing.

When you have finisht the face, then come to the ears and haire, wherein you must observe this rule, having drawne the out-line of it, you must first draw the principal Curles, or master-strokes in the haire, which will guide you with ease to doe the lesser curls which have their dependance on them; always make your curle to bend, and turne exactly according to the patterne, that they may lye loose and lasse, and not look as if they were stiffe, stubborne and unplyable: When you have drawne the curls rightly you must in the last place strike in the loose haire which hang carelessly out of the curls.

When you can draw a face (which is the principall thing in the Art) then goe to hands and arms, legs and feet, and so to full bodies of men and women, which are the most difficult things, which if you can attaine to performe, with a well grounded selecity, nothing then will be difficult to you, but will be most easie as flowers, birds, beasts, flippes, or any other thing that is to be drawne by hand.

Of Drawing Hands and Feet.

BUT to come particularly to hands and feet, which you ought to spend sometime about before you come to the whole bodies, because they will be too difficult for you to enter upon till you have pretty well practised your hand in the drawing
of

of other things, more especially hands and feet, which are the most difficult members of the body to draw, next the face; by learning of which you will the more easily attain the rest, with lesse difficulty and greater perfection, and it is for certain a thing of most singular commendation and estimation, lively and exactly to draw a hand, which hath so many varieties of posture and action, and you will finde it a very difficult thing to imitate it in every one of them, in the spirit and life of them, without some lameness or imperfection.

The actions and postures of the hand are so various, that I can give you no certain rule for the drawing of them, onely take this for a generall, when you first draw it with charcoal, you must not draw it exactly, that is to say, to make all the joynts or vaupes, or other things, to appear but onely lightly and faintly; to touch out the bignes of the hand, and the manner of the turning of it with faint touches, and not with hard stroakes; then if you have done that right, part the fingers asunder, or close, according to your pattern, with the like faint stroake; then marke that place where any of the fingers do stand out from the others, and make a faint resemblance of it: having so done, if you perceive your draft to be right, proceed to draw it more perfectly, and make the bending of the joynts, the rib-bone, and other principal things, somewhat exactly. And lastly goe over it again, and draw every small bending or swelling of the fingers, and make the nails, knuckles and veins, so many of them as appear, and every thing else that you can discern. Observe this rule in all your drawings, that before you come to draw your draft with Black-lead, or other thing, you must blow off the loose dust of the coal off from your drawing, or faintly to whisk over your drawing with a feather, that so you may leave it faint, so that you must but just perceive your stroakes, and by this means you will the better see how to draw it againe with your black-lead, otherwise you would not be able to discern your stroaks.

For the proportions of a hand, you have it sufficiently set downe in the print, by lines and figures, which shews the equalities of proportion in a hand, and how many equall measures there are in it, which you should endeavour to be acquainted with, that so you might know when a hand is well proportioned, with just and equall distances; but I would you should take notice of this rule, or exception, according as the hand turns one way or other, the proportions must be shortened, according as they appear to the eye; as you shall see in the fore-shortning of the hand in the print; so much as the hand turns away from our sight, so much it looses of its ordinary proportion, and is made to shorten unto that proportion that the eye judges of it, nay sometimes a whole finger, sometimes two or three, or more, is lost to our sight, by the turning of the hand another way from us, and so they must be holy left out, and not made. For feet there is not so much difficulty in the making of them, as in hands; and in drawing of them, you must proceed to the same way that was shewed for the making of hands. When you can draw hands and feet pretty well, then goe to arms and legs, wherein is little difficulty; when you can draw the hands and feet, afterwards proceed to whole bodies.

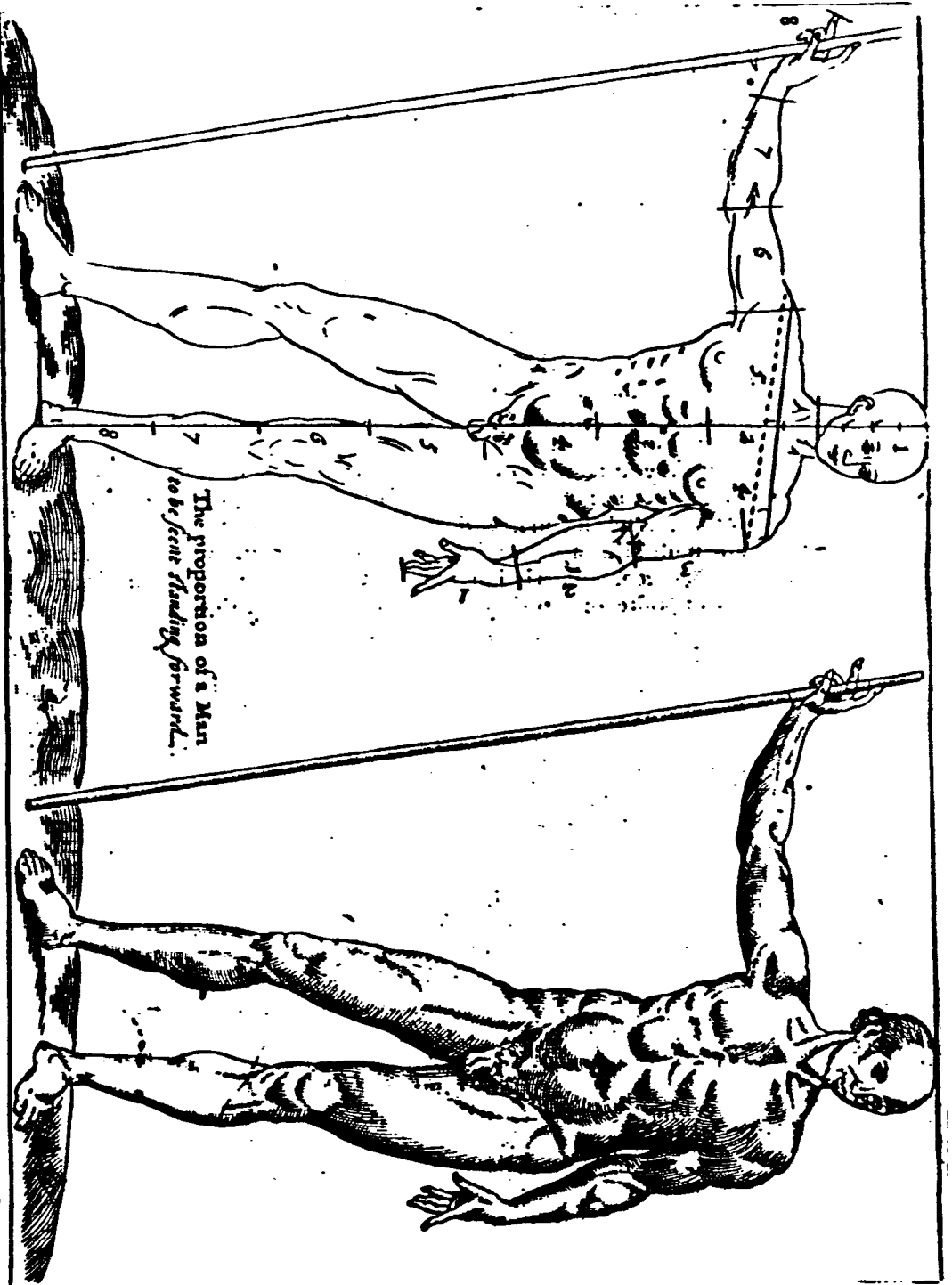
Of Drawing the whole body rules to be observed.

1 In all your drawings you must draw it at first with your coal, but very lightly and faintly, for then you may the easier mend it if you draw amisse.

2 In the drawing of a body, you must begin with the head, and be sure to give a just proportion and bignesse to that, because all the body must be proportioned according to the head.

3 At the first drawing of the body with your coal, you must draw nothing perfect or exact before you see that the whole draft is good, and then you may finish one thing after another as curiously as you can.

4 In drawing a body, first draw the head, then the shoulders in their exact breadth, then draw the trunck of the body, beginning at the Arm-pits (leaving the arms till afterwards) and so draw down to the hips on both sides, and be sure you observe the exact breadth of the waste: when you have thus done, draw first that legg that the body stands upon, and afterwards that legg that stands loose, or from the body, and



The proportion of a Man
to be seen standing forward.

In this figure is to be observed that from the top of the head to the sole of the feet is 9 measures of the head and the head is length of the nose. The whole man is divided upon 8 proportional lines. viz. the head figured with 1, forehead 2, height of the nose 3, eye 4, bridge of the nose 5, the ear 6, the mouth 7, the chin 8, the top of the head 9, the crown of the head 10, the top of the forehead 11, and the top of the head 12. Likewise the same 8 measures are to be observed from the end of the fingers of the right hand to the end of the left hand, fingers the breadth of the shoulders contained 2 measures of the head, & the breadth of the face is 3 measures of the face, as appeared in the upshadowed figure.

and last of all draw the armes, and then the hands, either joynd to the body or separated from the body, according to your patterne.

5 In your drawing be sure you place the paralel joynts, sinews and musles, directly oppoite in a strait even line one against the other, as the shoulders, the arme-pits, the wast, the hips, the knees, and so every thing else, that one may not be higher or lower then the other, that the body may not seem crooked or deformed, but every paralel joynt bend &c. may directly answer the other that is oppoite thereunto; and to this end you may strike a strait stroak directly crosse the shoulders to direct you to place them even and strait one against the other, so also you may do in other places, as the arm-pits, wast, hips, thighs, or any other place, where you should place one thing even with the other; for you must have the same care in all parts of the body, as you have in one place where any bendings or members of the body have, or do require a direct opposition one against the other, you may make use of this help and direction.

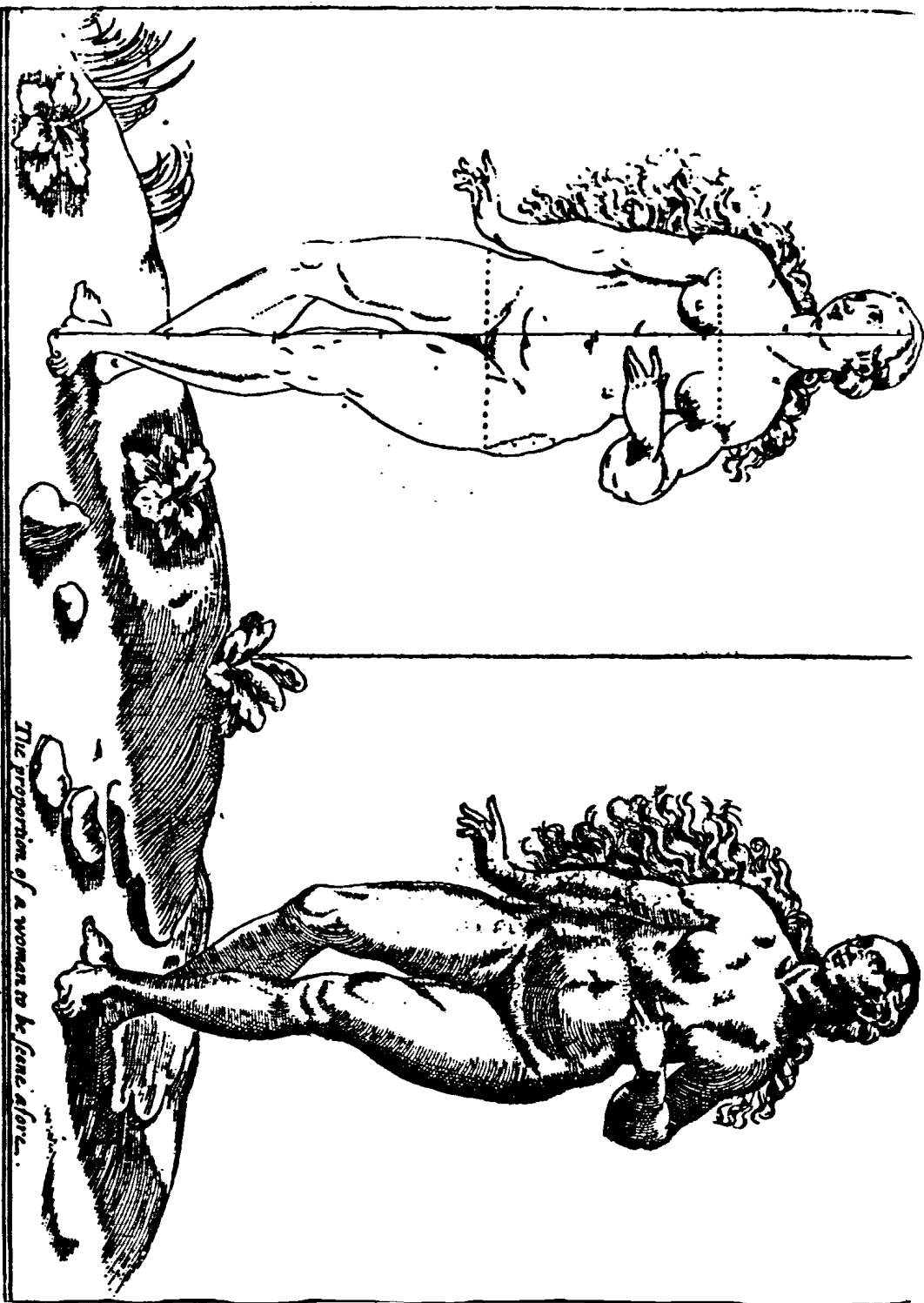
6 Observe that if the body turne one way or other, then this stroake must be so struck, so that it may answer the bowing of the body, as if the body stoop a little downwards, the stroak must be struck sloping or sideways, and so you must then make the shoulders and other things which should stand strait against one another, to be somewhat higher then one another, so that that side that the body turns upon the shoulders and other things that otherwise should be placed even one against the other must be made somewhat lower the other side, more or lesse, according as the body stoops more or lesse.

7 As you are to be carefull in the right placing of all level or paralel joynts, bendings, sinews and musles, so you must look exactly to all perpendicular joynts, musles, &c. that is when you have drawn the outmost draft, and are come to draw the joynts and musles that are contained within the body, you must be as exact in placing them, that are directly just under one another, as you are in placing them even; that are oppoite one to the other; and to this end that you may place things exactly perpendicular, that is in a strait line under one another, you may strike a strait perpendicular line from the throat-pit downe to the privities, just in the middle or seam of the body, where you may discern the parting of the ribs, and so from thence strait downe to the feet, as you shall see in the print of the man, the line will direct you to place things evenly perpendicular, that the body may stand strait upright, and not appear crooked and awry.

8 Take notice of the bowings and bendings that are in the body, to make that part that is oppoite to that which bends to answer to it in bending with it, as if one side of the body bend in, the other side must stand out answerable to the bending in of the other side, if the back bend out the belly must bend in, if the belly come in, the back must stick out, if the breech stick out, the thigh that answers to it in opposition, must come in: so also, in any other part of the body; as if the knee bend out, the hams that answer to it must come in, and so for any other joynts in the body this rule must be exactly observed, otherwise the body will be made grossly and absurdly, and will be very gowty without any proportion.

9 Indevour to make all things of an equall proportion and bignes, not to make one arme bigger then the other, or one leg bigger then the other, or one breast bigger then the other, or any one part of the body in an unjust proportion, but as every thing must answer to the bignes of the face, so one member must answer to another in bignes, that so there may be a sweet harmony in the parts of the body, that it may not have broad shoulders, and a thin slender wast, a raw-bone arme, and a thick gowty leg, or any part disproportionable from the other, unlesse it be so that any part of the body doth turne awry from our eye, as if the one arme should be seen side-ways, and the other fore-right then the one arme must be made so much less then the other by how much it turns away from our sight, and appears lesse to our eyes, and so if one legg be seen full or fore-right, and the other legg be seen side-ways, then it must be made so much lesse then the other, by how much it turnes away from your sight.

10 As you must observe a just proportion in the bignes of your draft, so also in the length, that one thing may not be too long for the other, the body may not be too long for the leggs, nor the leggs too short for the body, nor one legg longer then the other, nor one arme longer then the other, but every thing may have his just proportion



The proportion of a woman to be seen above.

The proportion of a woman to be seen above, is like the man, excepting that the breadth between the shoulders of the woman coincides with the length of the face, as appears by the prick'd line above the breasts and from the Bust's length of the head, marked with an other cross prick'd line; which maketh the difference between the man & woman and you must make the Armes Thighs & Legges fatter and plumper than mans, even to the wrists & ankles. Also you may not make the muscles as of the man

proportion both for bignes and length, unless it be so the body shortens awry in any part from your sight, as if one legge stand behind another, it must be made so much the shorter then the other, according to that distance that it is removed from your eye, and so if one atme remove it lesse any whit from your sight that comes first to the eye, and stands nearest to the sight, must be made longer then the other, and the other be made so much the shorter, by how much it turnes away from your sight. So likewise if any part of the body be fore-shortned, that is, doe appear so to your eye, as to hinder the sight of the full latitude of that part of the body (as you shall see more perfectly shown when I come to fore-shortnings) I say, upon such an occasion the body, or that part of the body must be made to shorten, according to that proportion that the eye judges of it, as you shall see perfectly in the print of the fore-shortnings.

11 Observe the exact distance of one thing from another, how far distant they are, that you may be exact in your draft, and perfectly imitate your patterne.

12 Observe how much one part of the body sticks out beyond the other, or falls in within the other, or whether it stands even with the other, and to this end you may strike a small stroake downe from the top of the shoulder along by the out-side of the body strait down to the feet, and this will direct you how farre one part of the body should stand out beyond the other, and how far other parts should come in; let nothing be done without a rule and judgement.

13 Let nothing be done hard, sharpe or cutty, that is, let not the bendings that are either in the body, or in the joynts be made as if they were dents or cuts in the flesh, with sharpe corner stroakes, but finely round and sloping, like bendings, and not like cuts in the body: this is a common fault among learners which they cannot chuse but commit & therefore you should be the more careful of it by imitating your patterne exactly, in the very manner of making every stroake and touch, and endeavour to find out the ground and reason of every small stroak and touch that is given; for nothing must be done without judgement.

Now I have given you directions for the drawing of the body; I would in the next place give some instructions, wherby you might have some judgement in a good draft.

Of Perspective Proportion.

*Perspective
proportion.*

Perspective Proportion differeth much from the former, for according to the distance of the eye from a thing it judgeth what proportion it hath, as if one part of the body come nearer to the eye, then the other, it is made so much bigger then the other part of the body, which turns away from the eye, as if one legg stand behind another; the foremost legg that comes first to the eye must be made somewhat bigger, and longer then the other, because the eye judgeth so of it; and so it is for any other part of the body, the proportion must be lessened, according to the distance that it is from the eye.

*2 Gracefull
posture.*

The second thing in good drafts, is gracefull posture, and proper action, that is, that the true naturall motion of every thing be exprest in the life and spirit of it, that is, to quicken the life by art, as in a King to expresse the greatest majesty, by putting him in such a gracefull posture, as may move the spectators with reverence to behold him; and so to make a Souldier, to draw him in such a posture, as may betoken the greatest courage, boldnes and valour; and so to make a Clowne in the most detestable and clownish posture; and so for every thing, that the inward affection and disposition of the mind be most lively exprest in the outward action and gesture of the body. Now that you might attaine to a skill herein; I would counsell you diligently to observe the works of famous Masters, who doe use to delight themselves in seeing those that fight at cuffs, to observe the eyes of privy murderers, the courage of wrestlers, the actions of Stage-players, the inticing allurements of Courtesans, and those who are led to execution, to mark the contracting of their brows, the motions of their eyes, and the carriage of their whole body, to the end they might exprest them to the life in their drawings and works.

3 Loosnes.

The third thing in good draft is, loosnesse, that is, that the body be not made stiffe

stiffe in any part, but that every joynt may have its proper and naturall bending, so as it may with greatest life expresse your intention, that the figure may not seem lame, and the joynts stiffe, as if they were not plyable or capable of bending, but every joynt and limbe may have its proper and natural moisture, according as it may best suite with, and become the posture in which the figure is sett

*Fore-short-
ning.*

The fourth thing in drawing is fore-shortning, which is to take things as they appeare to our eye, and not to draw the full length and proportion of every part, but to make it shorter, by reason the full length and bignes is hid from our sight; as if I would draw a ship standing fore-right, there can appear but onely her fore-part, the rest is hid from our sight, and therefore cannot be exprest; or if I would draw a horse standing fore-right, looking full in my face, I must of necessity foreshorten him behind, because his sides and flanks appear not unto me, wherefore observe this rule; That you ought rather to imitate the visible proportion of things, then the proper and naturall proportion of them, for the eye and the understanding together being directed by the perspective art, ought to be the guide, measure and judge of drawing and painting.

*5 Natural-
nesse.*

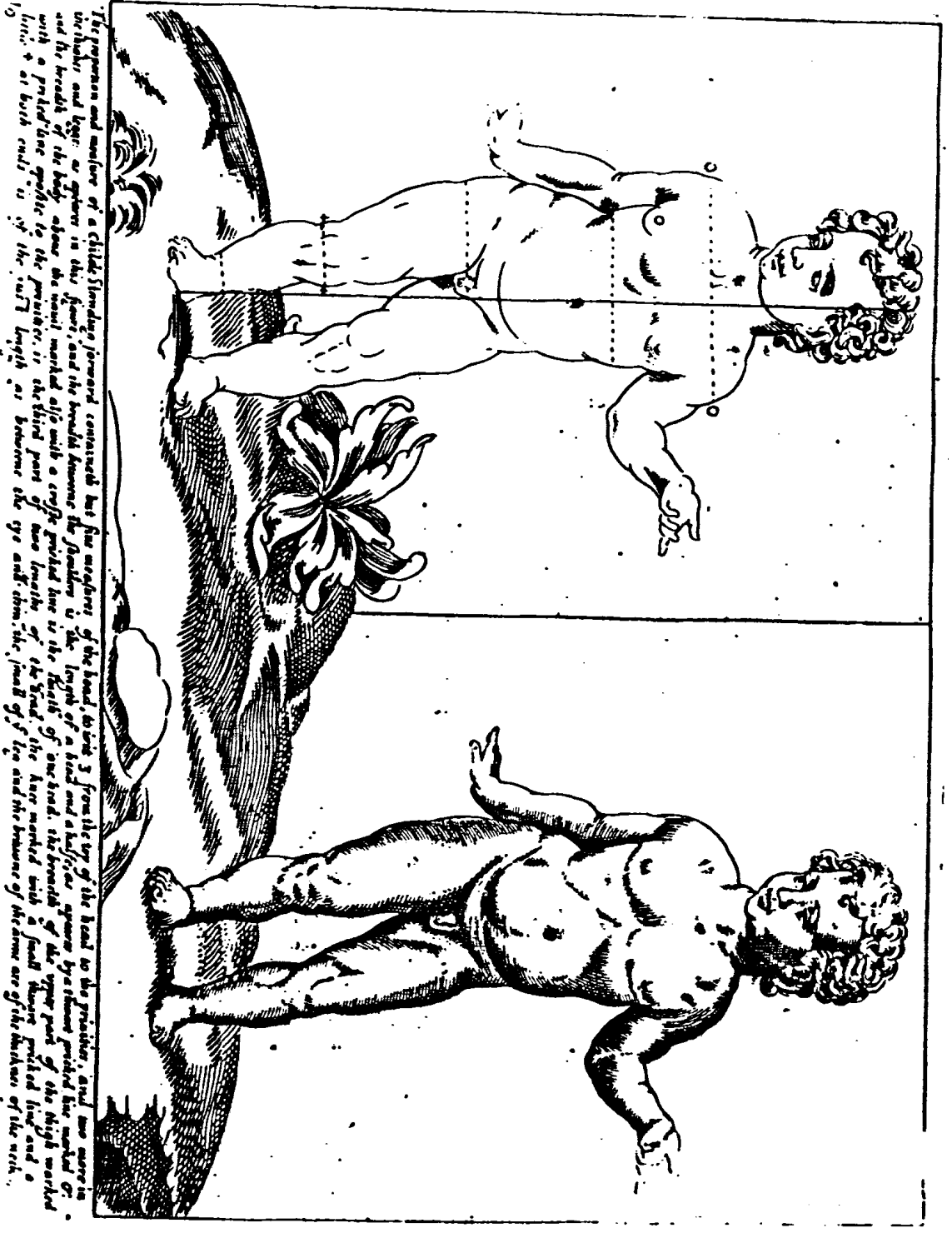
The fifth thing in good drawing is, That every thing be done by the guidance of nature, that is, that nothing be exprest, but what doth accord and agree with nature in every point; as if I would make a man turning his head over his shoulder, I must not make him to turne more then nature will permit, not any thing must be foarst beyond the limits of nature, neither must any thing be made to come short of nature, but nature though it is not to be strained beyond its censure, yet it must be quickned to the highest pitch of it, as if I would expresse a King, I must expresse him in the most Majestick posture that I can invent; and if I would draw a Clown, I must draw him in the most clownish action that can be, yet must neither the one nor the other be drawne in such a posture as will not agree with the motion of nature, that is, to draw such a posture which a man cannot imitate with his naturall body, and so for any thing else whatsoever nature must be the patterne of all kind of drafts.

Of Drawing Garments.

WHEN you are able to draw naked drafts well, you will finde a matter of no great difficulty to doe bodies with garments upon them, yet neverthelesse it will not be amisse to give you some directions about the same.

1 First, you must draw the outmost lines of your garments lightly, and in this you must be very carefull, for the whole grace of a picture lies in the outmost draft, and not in the curious work within. Now that you might performe this exactly, you must suite your garments to the body, and make them bend with the body, and not to make them strait there where the body should bend; if you would rightly fit the garments to the body, you must observe which part of the body bends in or out, that the garment may answer to the body upon the least turning one way or o-ther the garment may turne with it; you must also observe where the body should come if it were naked, and there draw your garments in the right place, making it bend according as the joynts and limbe of the body should bend: Excellent workmen doe make the body appeare plainly thorow the garments, especially where the garment lyes close and flat upon the body, and indeed where ever the body bends in or sticks out in any one part more then other, it should be showne in a plaine and visible manner through the garments, which thing you must take notice of in your drawing, either by a patterne, or by the life.

2 You must begin at the upper part of the garment, and so draw down that part of the garment on both sides that lies closest upon the body, before you draw the loose part that flies off from the body, for if you draw the loose part of the garment first, before you have finisht that part that lies next upon the limbs and parts of the body, you will be soon out, and be apt to place the body crooked and awry; and therefore many workmen draw the naked first, and afterwards put on their garments; for by that means they can better see to place the garments rightly, so as to hang even upon the body, and by this means you will be sure to place the body strait that it be



The proportion and measure of a child standing forward consists but few measures of the head, to wit 3 from the top of the head to the præcox, and one more in the height and legs: as appears in this figure, and the breadth between the shoulders is the length of a hand and a half, for measure by the same method the marked G. and the breadth of the body above the navel marked also with a cross marked here is the height of our hand: the breadth of the upper part of the thigh marked with a parallel line parallel to the præcox, is the third part of one measure of the hand: the hair marked with a small square marked here and a line: & at both ends is of the vast length as between the eye and the tip of the nose, the small of the leg and the breadth of the arm are of the thickness of the neck.

not crooked, by drawing those parts of the garment first, that lie neereſt upon the limbs.

2 You muſt draw the greateſt folds firſt, and ſo ſtroake your greater folds into leſſe, and be ſure you let one fold croſſe another.

Directions for the beſtowing of your lights.

1 **L**et all your lights be placed one way in the whole work, as if the light falls ſide-ways on your picture, you muſt make the other ſide which is furtheſt from the light, darkeſt, and ſo let your lights be placed altogether, on one ſide, and not confuſedly to make both ſides alike lightned, as if it ſtood in the miſt of many lights, for the body cannot otherwiſe be lightned equall in all places.

1 Because the light doth not with all its brightneſſe illuminate any more then that part that is directly oppoſite unto it.

2 The ſecond reaſon is taken from the nature of our eye, for the firſt part of the body coming unto the eye with a bigger angle is ſeen more diſtinctly; but the ſecond part being further off comes to the eye in a leſſer angle, and being leſſer lightned is not ſo plainly ſeen as the firſt. By this rule if you are to draw two or three men ſtanding together, one behind another, though all of them receive equally the light, yet the ſecond being further from the eye muſt be made darker, and the third more darke.

2 That part of the body muſt be made lighteſt, which hath the light moſt directly oppoſite to it, as if the light be placed above the head, then the top of the head muſt be made lighteſt, the ſhoulders next lighteſt, and ſo it muſt looſe by degrees.

3 That part of the body that ſtands furtheſt out, muſt be made lighteſt, becauſe it comes neerer to the light, and the light looſeth ſo much of its brightneſſe, by how much any part of the body bends inward, becauſe thoſe parts that ſtick out doe hinder the luſtre and full brightneſſe of the light from thoſe parts that fall any thing more inward, therefore by how much one part of the body ſticks out beyond the other it muſt be made ſo much lighter then the other, or if it fall more inward, it muſt be made more darke.

Sattins and Silks, and all other bright-ſhining ſuffe, have certain bright reflections, exceeding light with ſudden bright glances, eſpecially where the light falls brighteſt, and ſo the reflections are leſſe bright, by how much the garment falls more inward from the light.

The like is ſeen in armour, braſſe pots, or any glittering mettals, you ſhall ſee a ſudden brightneſſe in the middle or centre of the light, which diſcovers the ſhining nature of ſuch things.

Of Landſhips.

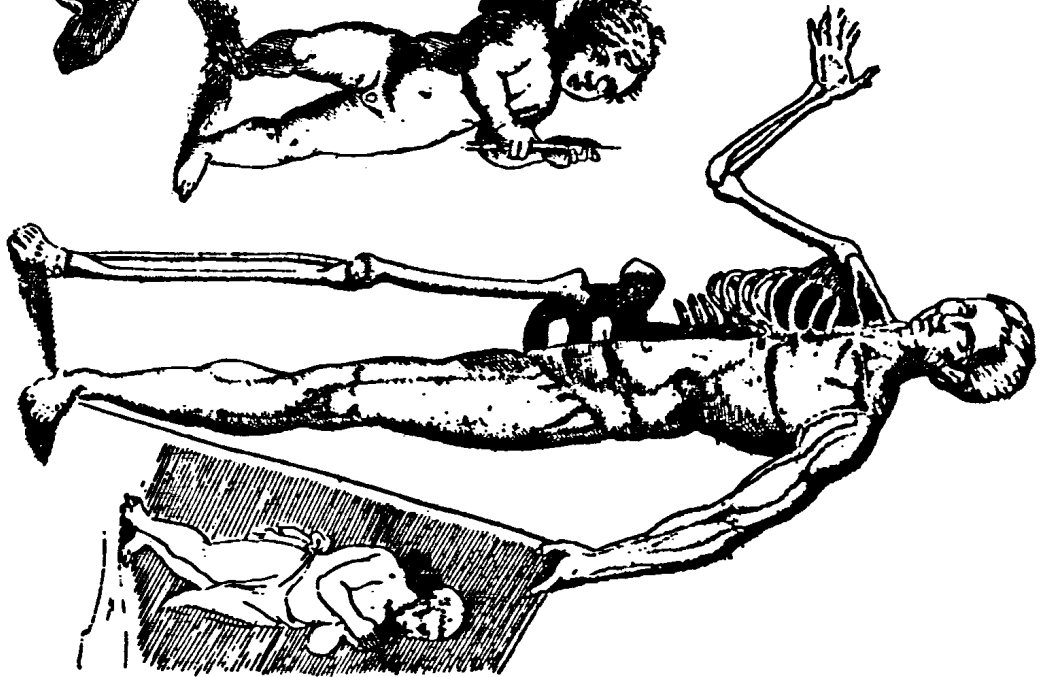
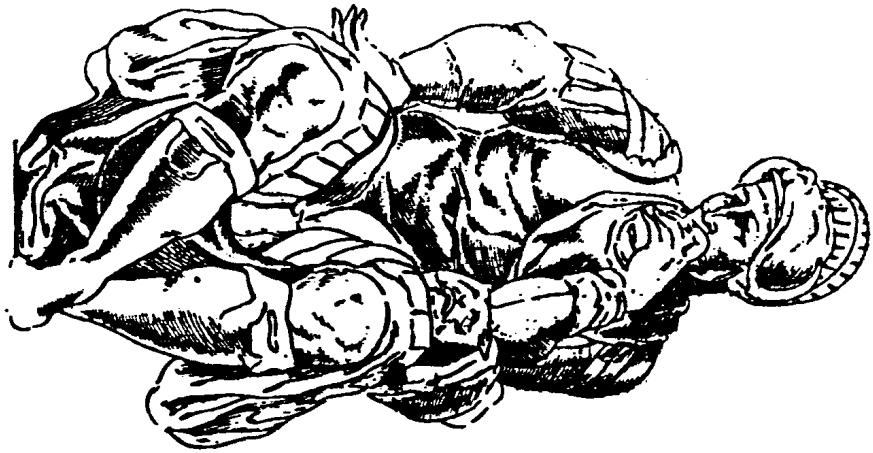
Landſkip is expreſſing of land by hills, woods, caſtles, ſeas, valleys, ruines, rocks, Cities, towns, &c. and there is not ſo much difficulty in it, as in drawing figures therefore take onely theſe rules for it.

1 The beſt way of making Landſhips is to make them ſhoot away one part lower then another, which hath been practiſed by our beſt workmen of late, but others have run into a contrary error, by making the Landſkip mount up higher and higher, till it reach up a great heighth, that it appears to touch the clouds, as if they had ſtood at the bottome of a ſteeple, when they took the Landſkip which is altogether improper, for we can diſcerne no proſpect at the bottom of an hill, but the moſt proper way of making a Landſkip, is to make the neereſt hill higheſt, and ſo to make the reſt that are further off, to ſhoot away under that, that the Landſkip may appear to be taken from the top of an hill.

2 You muſt be very carefull to leſſen every thing proportionable to their diſtance, expreſſing them bigger or leſſe according to the diſtance they are from the eye.

3 You muſt make all your lights fall one way, both upon the ground and trees, and all things elſe, and all the ſhadows muſt be caſt one way.

4 You muſt make every thing to have its proper motion, as trees when they are ſhaken



shaken with the winde, their smaller and more pliable boughs must be resembled with such an action, as they may strike one against another, by yeelding and declining from that part whence the winde blows; the stiffer boughes must have lesse bending and motion; you must likewise observe the bending of a twigg when a bird sits upon it, so likewise if it be forced or pressed with any other thing.

So likewise you must observe the motions of the Sea, by representing the divers agitations of the waters, as likewise in rivers, the flashings of the waters upon boats and ships floating up and downe the waters, you must also represent the motions of waters falling downe from an high place, but especially when they fall upon some rock or stones, where you shall see them spirting up in the aire and sprinkling all about.

Also clouds in the aire require to have their motions now gathered together with the winds, now violently condensed into haile, thunder-bolts, lightning, rain, and such like; finally; you can make nothing which requireth not his proper motions, according unto which it ought to be represented: observe this rule that all your motions which are caused by the wind must be made to move one way, because the wind can blow but one way at once.

Thus much for directions to those who are contented to take some pains to attain so noble a science; Now there follow certain directions for those that are unskilful, and have not spare time sufficient to spend in the practise of those directions, yet are desirous upon occasions, & for certain ends to take the copies of some lesser prints or pictures which they oftentimes may meet withall, the which are very facile and easie to be performed.

How to take the perfect Draft of any picture.

TAKE a sheet of the finest white paper you can get, *Venice* paper is the best, wet it all over with cleane linsed oyle on one side of the paper, then wipe the oyle off from the paper as clean as you can, then let the paper stand and dry, otherwise it will spoyle a printed picture, by the soaking thorow of the oyle; having thus prepared your paper, lay it on any printed or painted picture, and you may see perfectly thorow and so with black lead pen, you may draw it over with ease: after you have thus drawne the picture on the oyled paper, put it upon a sheet of cleane white paper, and with a little sticke pointed, or which is better with a feather, taken out of a Swallows wing, draw over your stroakes which you drew upon the oyled paper, and so you shall have the same very prettily and neatly, and exactly drawne upon the white paper which you may set out with colours at your own pleasure.

Another way.

HAVING drawn the Picture, take the oyled paper, and put it upon a sheet of cleane white paper, and prick over the drawing with a pen, then from the cleane sheet that was pricked, pownse it upon another, that it take some small coal, powder it fine, and wrap it in a peice of some fine linnen, and binde it up therein loosely, and clap it lightly over all the pricked line by little and little, and afterwards draw it over againe by little and little, and afterwards draw it over againe with a pen or pen-sell, or what you please.

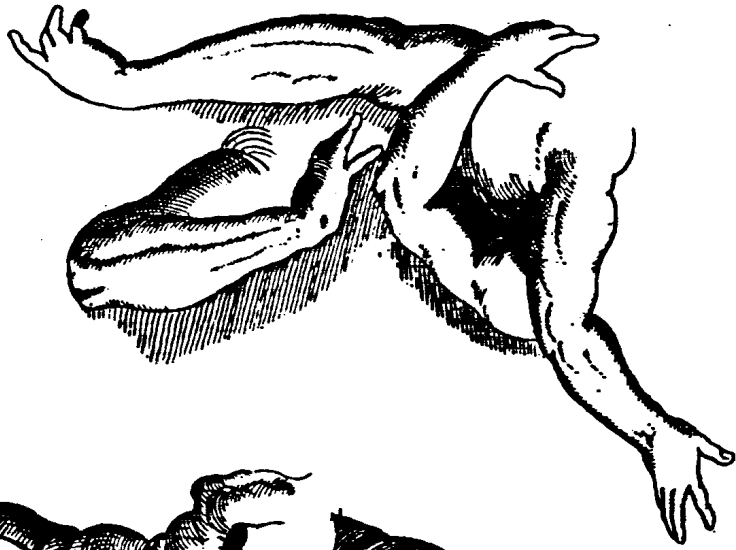
Another way.

TAKE a sheet of fine white paper, and rub it all over on one side with black-lead, or else with vermillion tempered with a little fresh butter, then lay this coloured side upon a sheet of white paper, then lay the picture you would copy out upon the other side of the coloured paper, and with a small pointed sticke, or with a Swallows quill goe over all the stroakes of your picture, and then you shall have your stroakes very prettily drawn on the white paper.

Another way.

TAKE a peice of white Lanthorne horne, and lay it upon your picture, then with a hard nipt pen made with a Ravens quill draw the stroake of your picture upon the horne, and when it is dry, breath upon the horne twice or thrice, and presse it hard upon a peice of white paper a little wetted, and the picture you drew upon the horn, will stick fast upon the paper.

Another



Another way.

TAKE a sheet of white paper, rub it all over with fresh butter, and dry it in by the fire; then rub one side of it all over with lamp-black or lake, or any other colour finely ground: lay this paper upon a sheet of faire paper with the coloured side downwards, and upon it lay the picture you would copy out, and trace the stroake over with a feather of a Swallows wing, and you shall have your desire.

Another way.

TAKE some lake, and grinde it fine, and temper it with lin-seed oyle, and afterwards with a pen draw with this mixture, instead of inke, all the out-stroakes of any paper picture, also the musles, then wet the contrary side of the picture, and presse it hard upon a sheet of cleane white paper, and it will leave behind it all the stroakes of the said picture that you drew over it.

Another way.

TAKE Printers blacke, grinde it fine, and temper it with faire water, and with a pen dip therein draw over the master stroakes, and out-lines of the musles, wet then a faire paper with a sponge, or other thing, and clap the paper upon it, pressing it very hard thereupon, and you shall finde the stroakes you drew left upon the faire paper.

Another most easie way.

LAY a paper print upon a bright glasse window, or paper window that is oyled with the back-side of the print upon the window, then lay a cleane paper upon the print, and draw the out-stroaks upon the paper, which may visibly see you, it being sett up against the light, and if you will shadow it finer you may.

An easie way to lessen any Picture that is to draw a picture from another in a lesser Compasse.

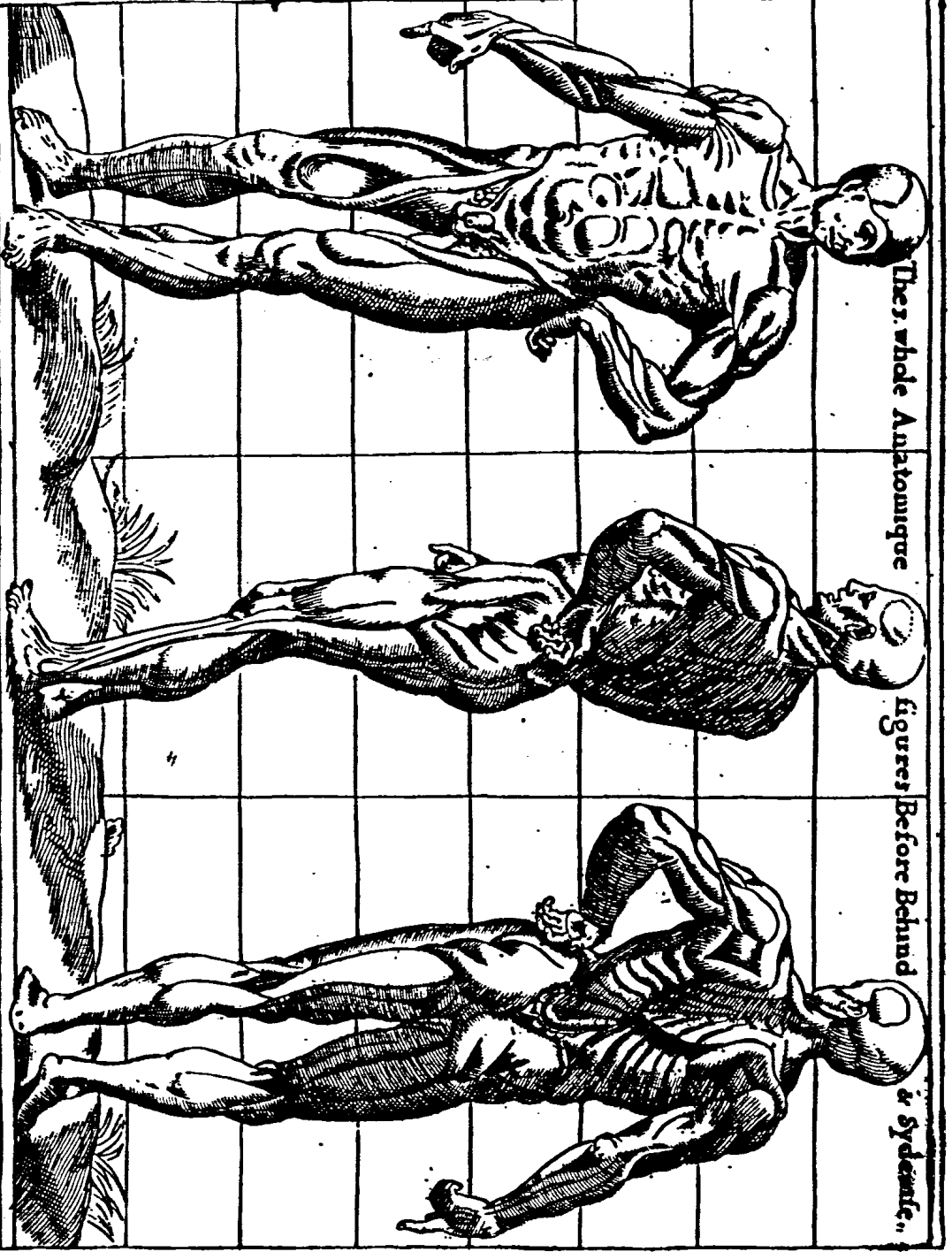
FIRST take a ruler and a black-lead plummet made an even square; now, you must divide the square into divers equal parts with a pair of compasses, and draw lines with a ruler and black-lead plummet quite over the picture, make also other lines across, so that the picture may be divided into equall squares, then take a faire paper and make as many squares upon it as there is in the picture; you may make them as little as you will, but be sure they are equall in number with those in the picture, having thus drawne over the picture and paper into squares; take a black-lead pen and draw the picture by little and little, passing from square to square, and in what part of the square your picture lies, in that same square put the drawing, and in the same place of the square upon the paper untill you have finished the whole, then draw it over with a pen, in which second drawing of it over you may easily mend any fault; when it is dry rub it over with the crumme of white bread, and it will take off all the black-lead stroakes, and your draft onely will remaine faire upon the paper.

An easie way to take the naturall and lively shape of the leafe, of any beere or tree, which thing passeth the art of man to imitate with Pen or Pensell.

FIRST take the leafe that you would have, and gently bruise the ribs and veines on the back-side of it, afterwards wet that side with linsed oyle, and then presse it hard upon a peice of cleane white paper, and so you shall have the perfect figure of the said leafe with every veine thereof so exactly exprest, as being lively colored, it would seem to be truly naturall.

Of Washing Maps or Prints.

WASHING Pictures is nothing else but the setting them out with colours, and for the effecting hereof you must be provided with store of pensels, some smaller



The whole Anatomique

figures Before Behind

& Sydenham

*To this three whole Anatomique, are refer'd the Figures of all Digestion, Absorption, Sydenham, and the four Figures are made by such observations and measures as
 to be known distinct, and you may see that the drawing of the Figure for some parts also for the Figure Behind, so as to find out what in the making of the one you
 also have made the other taking the opposite of the Draught and the right spaces which are between the muscles one the right muscles and portions of the
 Head which are to be observed in the same bodies.*

Water, Allum-water, Gum-water, Water made of Sope ashes, lize, varnish, and store of good colours well prepared.

How to make Allum Water, and the use of it.

TAKE a quart of faire water, and boyle it in a quarter of a pound of Allum, seeth it untill the Allum be desolved, then let it stand a day, and so make use of it.

With this water you must wet over your pictures that you intend to colour, for it will keep the colours from sinking into the paper, also it will adde a lustre unto the colours, and make them shew fairer, and it will also make them continue the longer without fading; you must let the paper dry of it selfe after you have once wetted it, before you either lay on your colours, or before you wet it againe, for some paper will need to be wet foure or five times.

If you intend to varnish your pictures, after you have coloured them you must first lize them, that is, rub them over with white starch with a brush, instead of doing them with Allum water, but be sure you lize it in every place, or else the varnish will sinke thorow: Note, if your varnish be too thick you must put into it so much Turpentine oyle as will make it thinner.

How to make Gum-water.

TAKE cleane water a pint, and put it into three ounces of the clearest and whitest Gum araback, and let it stand untill the gum be desolved, and so mix all your colours with it; if the gum water be very thick it will make your colours shine, but then your colours will not work so easily, therefore the best is, that the water be not made too thick nor too thin.

How to make Lime water.

TAKE unsack't lime, and cover it with water, an inch thick, let it stand so one night, in the morning power off the clear water and reserve it in a cleane thing for your use; with this water you must temper your sap green when you would have a blew colour of it.

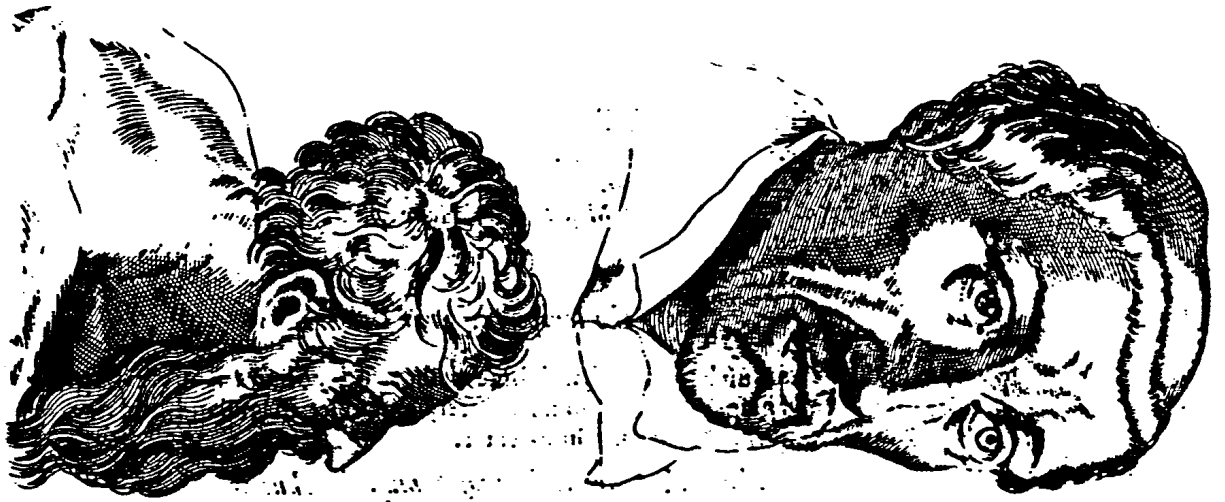
How to make water of Soap-Ashes.

STEEP Soap-ashes a night in rain-water, in the morning powre off the clearest. This water is to temper you Brazil withall.

How to make Size

TAKE a quantity of blew, and let it steep a night in water, to make it the readier to melt in the morning, then set it on a coal of fire to melt, which done, to try whether it be neither too stiffe nor too weak, for the meanest is best, take a spoonfull thereof and set it in the aire to cool, or fill a musle shell with it, and let it swim in cold water, to cool the sooner if it be too stiffe when it is cold put more water to it, if too weake then put more glew into it, and when you would use it, make it lukewarme, and so use it.

This is to wet your cloaths in if you intend to paint your maps or pictures upon cloath, or you may take white starch and wet your sheet, and wring it out, and so straine it upon a frame, or nail it stretched upon a wall or board, and so paint your maps or pictures thereon.



The Names of all the Colours Pertaining to Washing.

Blews. Blew-bice. Indico. blew-verditer.	Reds. Vermillion. Lake. Red-lead.	Whites. Ceruse. White-lead. pickt.	Blacks. Printers Black. Ivory Burnt.
Greens. Verdigreece. Verditer-green. Sap-green. Copper-green.	Yellows. Yellow-berries. Saffron. Light-Masticote.	Browns. Spanish Brown. Umber or Haire Colour.	

Of the tempering your Colours.

Some colours must be grownd, and some washt : such colours as are to be grownd you must first grind very fine, in faire water, and so let them stand and dry, and afterwards grind them again in Gum-water.

Those that are to be washt must be thus used.

Take a quantity of the colour you would have washt, and put it into a shell, or earthen dish, then cover it all over with pure faire water, and so stir up and downe for a while together with your hand, or a wooden spoon till the water be all coloured, then let the colour sinke a little to the bottome, and before it be quite settled, pour out the top into another dish, and so fling the bottome away, and let the other stand till it be quite settled, and then powre off the water, and mixe it with gum-water, and so use it.

What Colours must be Grownd, and what washt.

Grownd.	Washt.	Steept.
Indico. Lake. Ceruse. White-lead. Spanish-Browne. Umber. Printers Black. Ivory Burnt.	Blew-Bice. Blew-Verditer. Green-Verditer. Red-lead. Light-Masticot.	Verdigreece in Vineger. Sap-green in Vineger. Yellow-berries in Allum water. Saffron in faire water. Copper-green is made of Copper.
		These must be steept only till the water be sufficiently coloured.

How to make Copper-Green.

Take Copper plates, or any shreds of Copper, and put distilled Vineger to them, set them in a warme place untill the Vinegar become blew, then powre that Vineger into another pot, well leaded, and poure more Vineger upon the Copper plates againe, letting that also stand untill it be of a blew colour, then poure it unto the former liquor, this may you doe so often untill you have liquor enough, then let that liquor stand in the Sun, or upon a slow fire till it be thick enough, and it will be an excellent greer.

The use and nature of every particular Colour.

Blew-Bice is the most excellent Blew next to Ultermarine, which is too good to wash withall, and therefore I leave it out here, and put in Blew-bice, which will very well serve in the steed of it, and indeed you may leave out both and use
Smalt



smelt in the seed of them, but that it will not worke so well as Bite; no Bite is too good to use upon all occasions, but onely when you intend to bestow some cost and pains upon a piece, otherwise you may use no other blew in your worke then blew Verditer, with which you may make a pretty good shade without any other blew, it is use in ordinary worke.

Indico is a dark blew, and is used principally to shadow with upon your other blew Indico, and yellow berries mixed together make a dark green to shadow other greens with in the darkest places.

3 Blew Verditer is a very bright pleasant blew, and the easiest to worke with in water: it is somewhat inclining to a green, and being mixed with yellow-berries it makes a good green: this blew is most used.

4 Verdigrece is a good green, but subject to decay: when it is dry upon the paper it will be of a lighter colour then it is when you lay it first on, therefore to preserve it from that fault, put some sap green amongst it to dissolve in it, and it will make it keep its colour; this colour is of a poysonous nature, and therefore you must be carefull how you use it, that it come not neer your mouth. There is distilled Verdigrece to be bought at the Collier-shops, that is a far better green then the other, but it is somewhat dear, and the other will serve instead of it.

5 Verditer-Green is a light green, seldome used in any thing but in colouring of Landskips, those places that should show a far off, and it is good for such a purpose, because it is somewhat inclining to a blew, but you may make a shift to doe any thing well enough without it; for a little blew Verditer mixt with Copper green and a little white, will make just such another colour.

6 Sap-green is a darke dirty green, and never used but to shadow other greens in the darkest places, or else to lay upon some darke ground, behind a picture, which requires to be coloured with a darke green, but you may make shift well enough without this green, for Indico and Yellow-berries make just such another Colour.

7 Copper-green, it is an excellent transparent green, of a shining nature if it be thickned in the Sun, or upon a softly fire, and it is most used of any green in washing of prints, especially in colouring of the grasse ground or trees, for it is a most perfect grasse-green.

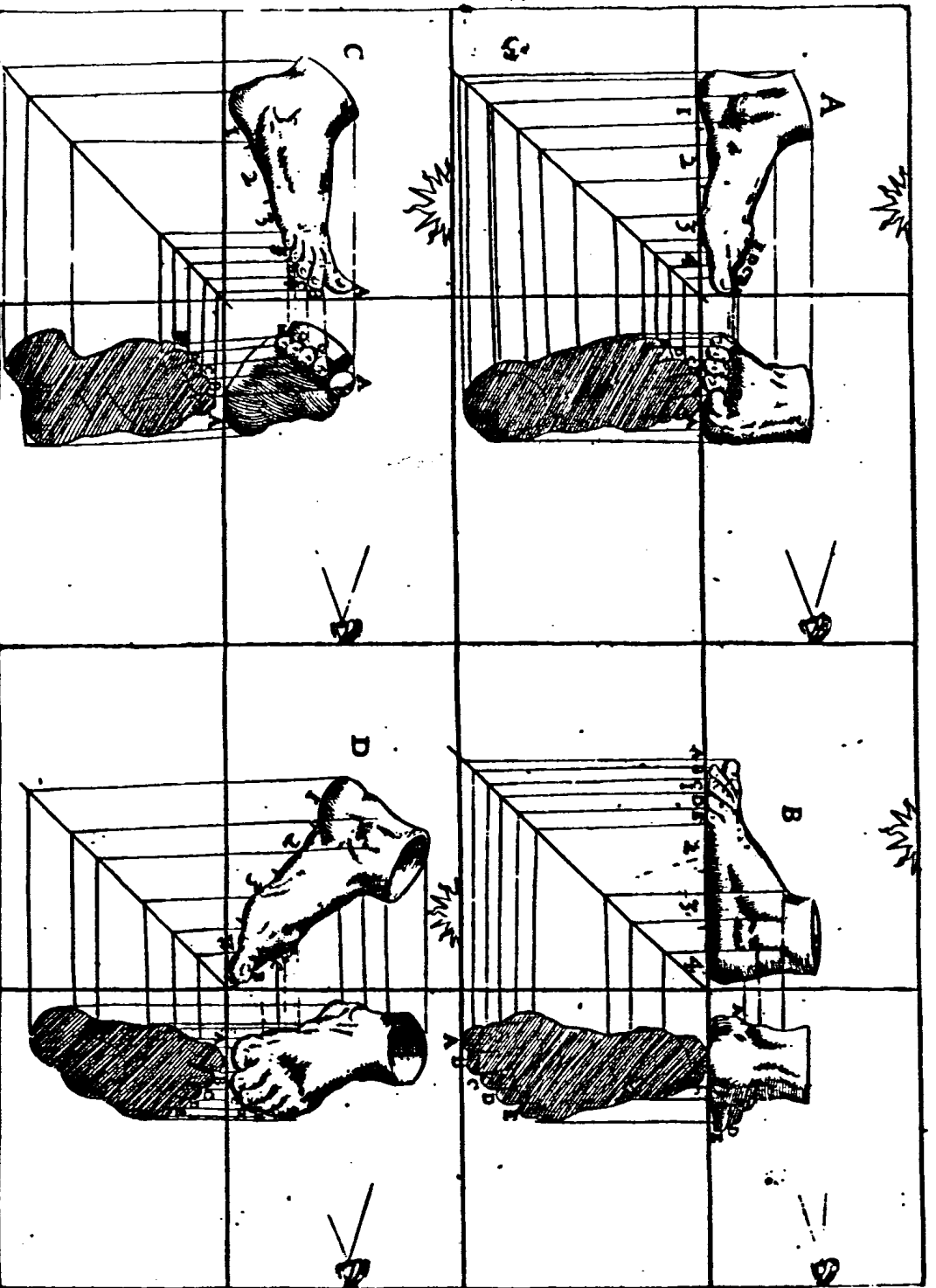
8 Vermillion it is the perfectest Scarlet colour, you need not grinde it, nor wash it, it is fine enough of it selfe, onely temper it with your finger in a gally pot or oyster shell, with gum-water, and it will be ready for your use, if you put a little yellow-berries amongst it, it will make it the brighter colour, this is principally used for garments.

9 Lake, it is an excellent Crimson colour, with it you may shadow Vermillion, or your yellow garments in the darkest places; with it you make a skie colour, being mixed onely with white; with it you make flesh colour, sometimes mixed together with white and a little red-lead, it is an excellent colour of it selfe to colour garments, or the like Indian lake is the best lake, but too good to be used to wash prints with, unlesse you intend to bestow great curiosity upon your worke; but the best sort of ordinary lake will serve well enough for ordinary uses, but that also will be somewhat costly.

Therefore instead thereof you may use Red-Inke thickned upon the fire, and it will serve very well for your purpose, and better then Lake, unlesse it be very good.

Note if you would make a light skie colour of your red-inke, you must not thicken it, or if you would mix it among your flesh-colour you must not thicken it, you should rather chuse to shadow your Vermillion with Spanish browne then thick red Inke, which will serve well for that purpose, and is much cheaper, but it is not altogether so bright a colour and cleare.

10 Red-lead is the nearest to an Orange colour, and putting a little yellow berries into some of it, will make it a perfect Orange colour, but if you mean to make flesh-colour of it, you must put no yellow, but onely then when you would make an Orange colour. This colour is used for the colouring of buildings or high-ways in Landskip, being mixed with a little white. Also it is the onely bright colour to shadow yellow garments with, to make them show like changeable Tassity; it is good also to colour any light ground in a picture, taking only the thin water of it, and so for severall other uses as you shall see occasion for it.



To give better feet, you must make the feet flat, when perpendicular and measure from the inside of the foot marked A, and from the perpendicular and numbers marked 1, 2, 3, draw some perpendiculars with they cut the Diagonal, and convey them to the point, to make the shaded foot under the place of the perpendicular foot, and from the said perpendicular you may easily perpendiculars into the place of the said foot, to be shod with such shoe marking with the said line; that proceeds from the first foot by intersections of them three, give us the said foot geometrically perpendicular as appears here; you will observe the toes of the feet marked A, B, C, D, and the line to be observed for the foot marked D, and also for the foot marked with C, from on the forepart, and lastly in like, note for the foot marked D, as one shod by the former, as the former.

11 Yellow berries, it is most used in washing of all other yellows, it is bright, and transparent, fit for all uses, and is sufficient without the use of any other yellow,

12 Saffron is a deep yellow if you let it stand a pretty while; it is good principally to shadow yellow-berries with, instead of Red-lead: and it is somewhat a brighter shadow, but you may make shift well enough without this colour, for red-lead, and yellow-berries make just such another colour.

13 Light Masticote; It is a light yellow, just like yellow berries and white, and therefore you may shift well enough without it, only for the saving you a labour to mixe your yellow berries with white when you have occasion for a light yellow, which you may sometimes make use of to colour a light ground in a picture, and then shadow it with the water of burnt umber, or red-lead, that is the thinnest part of the colour.

14. 15. Ceruse, It is the best white, if it be good and finely ground ready to your hand, as you may have it at some colour shops, or for want of it buy white-lead pickt to your hand, either of them will serve well enough; any of these being mingled with another colour, they make it lighter, and the more you put the lighter they will be, as you shall finde in the using of them.

16 Spanish Browne is a dirty browne colour, yet of great use, not to colour any garment with, unlesse it be an old mans gowne, but to shadow Vermillion, or to lay upon any darke ground behind a Picture, or to shadow yellow berries in the darkest places, when you want Lake, or thick red Inke.

17 It is the best and brightest colour whrn it is burnt in the fire till it be red-hot, but if you would colour any hare, horse, dog, or the like, you must not burne it, but for other uses it is best when it is burnt; as to colour any wooden post, bodies of trees, or any thing else of wood, or any darke ground in a picture; it is not to be used about any garments, unlesse you would colour many old mens gowns, or caps standing together, because they must not be all of one colour of black, therefore for distinction and varieties sake you may use UMBER un-burnt for some of them.

Note. 18 Printers blacke is most used, because it is easiest to be had; and serves very well in washing: Note, You must never put any black amongst your colours to make them dark, for it will make them dirty, neither should you shadow any colour with black, unlesse it be Spanish browne, when you would colour an old mans gowne, that requires to be done of a sad colour; for whatsoever is shadowed with black will look dirtily; and not bright faire and beautifull.

19 Ivory burnt or want of that bone burnt, it is the blackest black that is, and it is thus made; Take Ivory, or for want of it some white bone, and put it into the fire till it be thorowly burned, then take it out and let it cool, and so slit it in the middle, and take out the lackest of it in the middle and grinde it for your use.

Directions for the mixing of your colours.

IN mixing of any colour, you must be very carefull you make it not too sad; if one colour be sadder then the other that you mixe with it, put in but a little and a little of the sad colour, till you see it be sad enough for your purpose, for if you make your colour too sad, you will very hardly recover it in mixing, and if you lay it so on your picture, you can never recover, but if it be too light you may make it darker at your pleasure.

2 In mixing your colours you must be very carefull that you put not your pensell out of one colour into another, for that will spoyle and dirty all your colours unlesse you wash your pensell cleane and then wipe the water out of them.

3 Black is not to be mingled with any colour but white; for it will dirty all other colours, and make them look unpleasant.

4 You should when you mixe any colours, stir them about with your pensell that so you might stir up the colour, and might not take the thin water only to mixe, nor yet the bottome onely, but the water being well coloured poure it out into a shell, and then stir the other colour in like manner, and so mingle them together; you should



should poure out the lightest colour first, that so 'you might the better know what quantity of the sadder will serve your turne.

Particular Directions for the compounding of Colours or mingling one Colour with another

How to make a Purple Colour.

Take Egg-wood, and seeth it in Vinegar and small beer, in an earthen pot, and put a little Allum therein, untill you taste it to be strong on your tongue, and when it is boyled, straine the Log-wood through a clout, cleane from the water, and so let the water stand and cool for your use.

OR,

You may make purple colour with mixing bise and lake together, or if you want bise, you may use blew Verditer, but it will not serve your purpose so well as blew bise, but thick red-Inke will serve at all times as well as lake in washing.

How to make Red Inke.

Boyle Brazill as you doe the Log-wood, and straine the brazill through a clout as before.

A Flesh Colour.

IT is made of white and a little lake, and a little red-lead mixed, a very small quantity of each; you may make it as light, or as red as you please, by putting more or lesse white in it shadow in the cheeks and other places, by putting in a little more lake and red-lead into it, if you would have it a swarthy complexion to distinguish the mans flesh from the womans, put a little yellow Oker among your flesh, and for your shadow put a little more lake, and a smal quantity of burnt umber.

Ash-colour.

An Ash colour is compounded of black and white.

Orange.

Light-green

You may make your greens lighter by mingling it well with yellow berries or white.

Colours for Buildings.

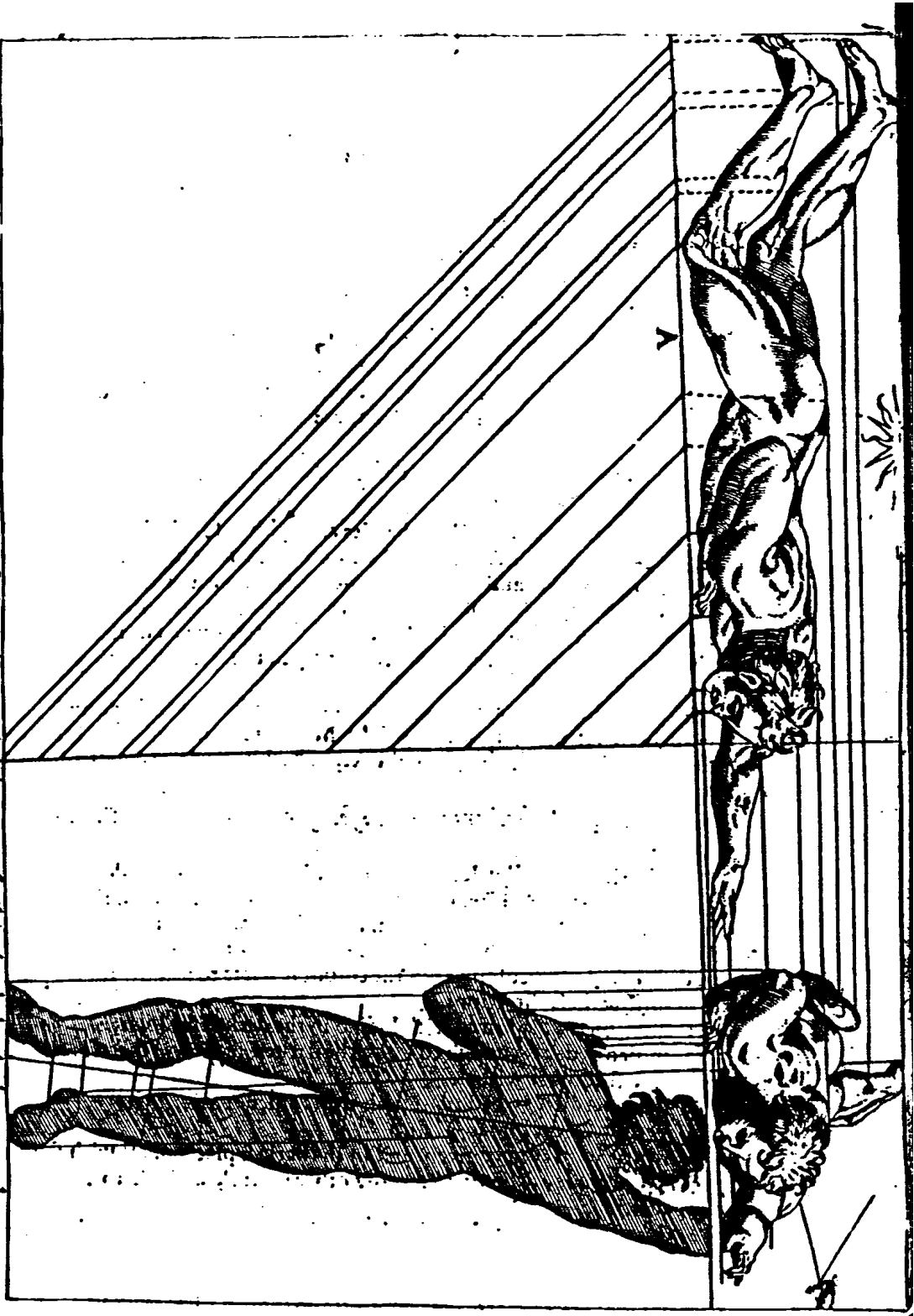
IN washing we doe not observe the natural colours of every thing, as to expresse variety of colours and pleasantness to the sight, that the things coloured may appear beautiful to the eye, yet so as they may not be contrary to reason, and be accounted ridiculous; but that we doe somewhat imitate natural things, and here and there adde some beauty by pleasant colours, more then doth usually and commonly appear in the natural things themselves, so that although the naturall things themselves doe very rarely appear in such beauty or with such kind of colours, yet it may be imagined that it is possible that at some times they doe or may be made (without derogating from the rule of nature and reason) to appear in such colours as you have exprest them in, by this rule, you may guide yur selfe in colouring of any thing, and principally in buildings, and in Land-skips, therefore when you would colour any buildings, you must do it with as much variety of pleasant colours as the utmost extent of nature and reason will permit, yet not without reason, or beyond the limits of nature.

In colouring buildings you may sometimes use black and white for the wals, conduits or other things, where you think fit sometimes you may use red-lead and white for brick houses or others, when many houses stand together you must colour them with as many various colours as you can well use about buildings; sometimes you may use umber and white, and sometimes lake and white, or red-inke and white, for varieties sake, and if you want more variety, you may put here and there in some places Varditer and white, all these you must shadow after you have laid them on.

Colours for Landskips.

For the neerest and darkest saddest hills lay burnt Umber, and for the light places you must put some yellow to your burnt Umber, for the next hills lay Cop-
per

The whole figure of Man's body lengthened a lile on the Side and again by the top of the head the back upward
 The precedent demonstration shall serve us in this figure proportioned from the top of the head, to the elevation of any thing for
 the lines that more abundantly prevail from the figure of the shadow, than the level lines of the feet figure
 marked A their intersections I: herein give our figure proportioned, from by the top of the Head,



er green well thickned with the fire, or in the Sun; in the next hills further off, mingle some yellow berries with your copper green, and let the fourth degree be done with green verditer, and the furthest and faintest places with blew Bice, or for want of that with blew verditer mingled with white for the lightest places, and shadowed with blew verditer in the shadows, somewhat thick: the high-ways must be done commonly with red-lead and white, and for variety you may use sometimes yellow Oker, and shadow it with burnt Umber, which colour you may use also for sandy rocks and hills; the rocks must be done with various colours, in some places with black and white, in some, places with red-lead and white, and some must be done with umber and white, and some with blew and white, and other colours, such as you think do nearest resemble rocks, but alwayes endeavour to do them with pleasant colours as much as you can; the water must be done with black verditer and white, sometimes shadowed with copper green, a little verditer blew, when the banks cast a green shade upon the water, at other times it must be shadowed with blew verditer alone, and where the water is very darke in the shadows, it must be shadowed with a little Indico, some copper green thickned, and some blew verditer: the bodies of trees must be done with burnt umber, and the leaves must be done with such greens as the ground is, and the whole Landskip must be shadowed after you have laid on the first colours, the darker greens must shadow the lighter, Spanish brown then must shadow red lead and white, and so the others as before.

Colours for the skie.

Light Masticote, or yellow berries and white, for the lowest and lightest places, Red-inke not thickned, and white for the next degree, blew bice and white for the next degree and blew bice alone for the highest of all: instead of bice you may use verditer, all these must be so laid on and wrought one into another, that you may not receive any sharpness in the edge of your colour, but that they may be so layd on, that you cannot perceive where you began to lay them on, they must be so drowned one into another.

For Cloud-colours, you may use sometimes blew verditer, and white shadowed with blew verditer, sometimes light Masticote shadowed with blew verditer, and sometimes Lake and white or red inke, and white shadowed with blew verditer.

What Shadows must be used for every colour in Garments.

Take this generall rule, That every colour is made to shadow it self, either if you mingle it with white, for the light and so shadow it with the same colour, unmingled with white, or else take off the thinnest water of the colour for the light, and so shadow it with the thickest bottome of the colour; but if you would have your shadow of a darker colour, then the colour it self is to shadow the deepest places with, then follow these directions.

- 1 Blew bice is shadowed with Indico in the darkest shadows.
- 2 Indico is darker enough to make the darkest shadow, therefore needs no other colour to shadow it with.
- 3 Blew verditer is shadowed with thin Indico.
- 4 Verdigrisee with sap-green.
- 5 Verditer with copper green, and in the darkest places of all with sap-green.
- 5 Sap-green is used only to shadow other greens, and not to lay for a ground in any garment.
- 6 Copper green is shadowed either with sapgreen or Indico and yellow berries.
- 7 Vermillion with lake, or thick red inke, or Spanish browne.
- 8 Lake must not be shadowed with any other colour, for it is the darkest red of it selfe, but for variety you may shadow it sometimes with bice, or blew verditer, which makes it shew like a changeable Taffety.
- 9 Red-lead is shadowed with Spanish browne in the darkest places.
- 10 Yellow-berries, the natural shadow for it is Umber, but for beauties sake it is seldom:



seldom shadowed with Umber, but sometimes, and most commonly with red-lead, and the darkest touches with thick red-inke, or Spanish browne, sometimes for varieties take it is shadowed with Copper green thick, and sometimes with blew Bice, or Blew verditer, and vvith any other beautifull colour.

- 11 Safron is shadowed vvith thick red Inke or Lake.
- 12 Light Masticote, vvith the thin vvater of Red-lead.
- 13, 14. White Ceruse, and vvhite lead vvith a little black amongst some of it mingled.
- 15 Spanish browvn vvith black, but that is not used in any bright garment.
- 16 Umber vvith black mingled vvith some of it.
- 17 Black cannot be shadowed vvith any colour darker then it selfe.

Directions for the laying on of your Colours.

- 1 **Y**OU must lay your colours on of such a thicknesse, I meane your body'd colours that you may see how to shadow them to perceive where the shadows are, and not lay on your colours so thick that you cannot perctieve the print, nor how and where to shadow it,
- 2 You must always lay on your lightest colours first, and then shadow them afterwards
- 3 You must lay on your colours very smooth with your pensel, that the colour may not lye thicker in some places then in others, and to that end you should take your pensell pretty full of colour when you should cover a garment all over (otherwise not) that so you may lay the colour smooth before it dry, for you cannot well smooth them afterwards when they are once dry; therefore when you lay them on be as quick as you can in covering the garment, that you may have covered it all over before your colour be dry in any part, for by this means you shall be the better able to lay it smooth; some colours are harder to lay then others; those that are the most sandy colours, as varditer, bice, red-lead, &c. are hardest to lay smooth on, and therefore you must be the more carefull in them.

What Colours set off best together.

- 1 **B**lews set off well enough with red, yellows, whites, browns and blacks.
They set off best with reds, whites and browns.
They set not off well with greens and purples.
- 2 Greens set off well with purples, reds yellows or browns.
They set off best with purples and reds.
They set not off well with blews or blacks, nor whites, unlesse it be a sad green.
- 3 Reds set off well with yellows, blews, greens and whites.
They set off best with yellows and blews.
They set not off with purples browns or blacks.
- 4 Yellows set off well with reds, sad blews, greens, browns purples.
They set off best with reds and blews.
They set not off well with light greens or blacks or whites.
- 5 Whites set off with all colours.
They set off best with black and blew.
- 6 Browns set off very well with no colour, but are used sometimes upon necessity, they set off worst of all with black, because they are so neer alike.
- 7 Blacks are not used but upon necessary occasions in some things that doe needfully require; it ~~and~~ so it sets off well enough with almost any colour, because it is not like any; but differs somewhat from all.

How to write Gold with Pen or Pensell.

TAKE a shell of Gold, and put a little Gum-water into it, and so stir it about with your pensel, but you must put very little Gum-water, and then you may use it as you doe other colours.

The particularities of Hands, scene
Within, whether on the Palm, on the Back
or Symples.

The upper part of the Hand consists of 3 members of the bones which you are to make the three equal *providetur* provided proportionally 1. 2. 3. the length of which figure is divided into 2 equal parts thereby to appear a half part which is marked with 1. 2. 3. which you give unto the Middle of the Thumb and Fore-finger more unto the 4. 5. Thumb, the 1. 2. 3. and 4. 5. line proportionally you make the top of the right hand angles the same marked above with 1 making equal parts within the which the said 3 or 4 finger is contained, the length and scope thereof ascending the upper part of the 2. 3. little finger, that being divided into 2 equal parts the two equal parts are the two upper parts, called of equal height unto the upper part of the little finger, as appears in the figure of 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 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Thus by a little practise you may become perfect in this Art, and learne the full perfection of it.

How to lay Gold or Silver on Gum-water.

Take five or six leaves of Gold or Silver, and grinde them with a stiffe gum-water; and a pretty quantity of Salt, as fine as possibly you can, then put them into a Jar glasse, and fill the glasse almost full of faire water, to the end the stiffe water may dissolve, and so the Gold goe to the bottom, let it stand three or foure houres, then poure away the liquor from the gold, and put in more cleane water, and stir it about, and let it settle again, and then poure the same water to this so often untill you see your gold or silver clean washed: then take a cleane water, and put thereto a little peice of Sal Almoniack, and great Salt, and let it stand the space of three days in a box made of wax, or in some close space: then take a piece of Glovers leather, and pick away the skin-side and put the gold and the water therein, tye it up, then hang it on a pin, and the salt will fret through, and the Gold will remain, which you shall temper with the glayr of an egge, and so use it with pen or pensel.

You must diaper on gold with lake and yellow Oker, but on silver with Ceresse.

Let your Gum-water be made good and stiffe, and lay it on with your pensel where you would guild, then take a Cushion that hath a smooth Leather, and turn the bottom upward, upon that cut your gold with a sharpe knife, in what quantity you will, and to take it up draw the edge of your knife finely upon your tongue, that it may be onely wet, with which do but touch the edge of your gold, and it will come up, and you may lay it as you list, but before you lay it on let your Gum be almost dry, and being laid presse it down, hard with the scut of an haire, afterwards burnish it with a dogs tooth.

Of Limming.

Limming consisteth not only in the true proportioning of a picture, but also in the neat and lively colouring of the same, whereby the worke is exceedingly graced, and most lively set out in proper colours, most nearly resembling the life.

How to chuse your Pensels.

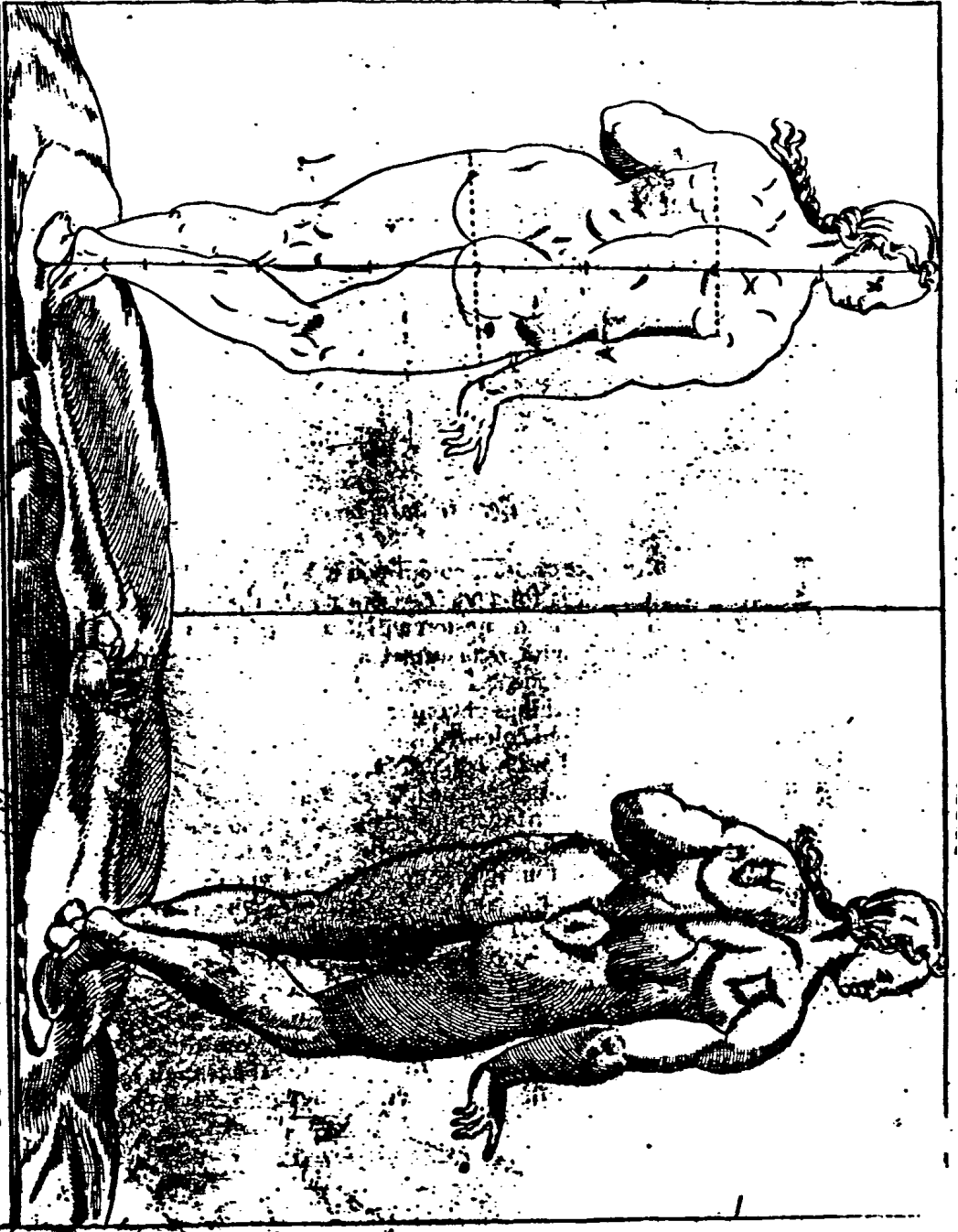
Let them be clean and sharpe pointed, not cleaving in too in the haire, they must be full and thick, next the quill, and so descending into a round and sharpe point; if you finde any one haire longer then other, take it away with the flame of a Candle, passing the pensel through the flame, you must have severall pensels for severall colours.

Gum-Araback.

Amongst all your colours you must mingle gum Araback, the best and whitest, which you should have alwayes ready, finely poudred (or dissolved in fair water) and so with a few drops of pure water, mingle it with your colour, and temper them together til the gum be dissolved and incorporated with the colours.

How to grinde your Colours

You must grind your colours either upon a perphire Serpentine, or pibble stone, which are the hardest, and therefore the best to grind upon; grind then with faire water onely, without gum, and when you have ground them very fine, put them upon a chalk stone, and there let them dry, and when they are dry take them off from the chalke and reserve them for your use, in papers or boxes.



The proportion of a woman flexing back,; The same matter as you make the former figure, you may see in this
backward of the woman, without altering any thing of the measure, except in observing y^e muscles, which are
marked behind must be made finer or thicker than she was, as appears in this figure.

The Names of your Colours.

Whites.	Yellows.	Greens.	Blews.
Cerule White-lead.	Masticote. Yellow-Oker. Englisb Oker.	Sap-green. Pink & blew bice Green bice. Sedar-green. Verditure.	Indico. Uthermarine. Blew bice. Smalt.
Browns.	Reds.	Blacks.	
Umber. Spanisb-browne. Cullins-earth,	India Lake. Red-lead. Red-Oker.	Cberistone-burnt. Ivory burnt. Lamblacke.	

What Colours must be Washt, and what ground.

Ground.		Washt.
Ceruse. White-lead. Indian-Lake. Englisb Oker. Pink. Indico.	Umber. Spanisb-brown. Colens-earth. Cberistone-black. Ivory-blacke.	Red-lead. Masticote. Green-bice. Cedar-green. Uthermarine. Blew bice. Smalt. Verditer. Sap-green. Is to be steeped in water.

How to wash your colours.

TAKE some blew bice or other colour you would wash and put it into a dish full of pure water, stir it for a while together, till the water be all coloured, then let it stand a while, and the corruption will fleet upon the water, then poure away the water, and fill the dish with fresh water, and stir it as before till the water be troubled and thick; which done, before it be halfe settled, poure it out into another dish, leaving the dregs and seethings of your colour in the former dish, which you must cast away, the troubled and coloured water being poured into your second dish, put more water to it, and wash it as before, then let it settle till it be clear, and so poure off the water, washing it againe, and again, if any scum arise, which may make foure or five sorts, still pouring halfe the thin water into another dish, and washing it as aforesaid; when you have washed it often, and finde it well clenfed, poure away the water, then set the colour in the Sun to dry, and when it is dry, strike off the faintest part of the colour, lying about the sides of the dish with a feather, and so use it for your finest work, the rest will serve well for courser worke.

When you would use your colour, take of it as much as you can well spread about the sides of a shell, somewhat thin, and not on heaps, and so temper it finely with your gum as before.

To avoid the cracking of your colour, and flying from the shell, to which some colours are subject; take a little fine powder of white Sugar-candy, and with it and a little faire water temper the colour over againe with your finger till the candy be dissolved.

Colours for Garments.

4 3 2 1	{	Grasse-green is made of Pink and Bice, it is shadowed vvith Indico and Pink.		
		Popinia-green, of Indico and more Pink, shadowed vvith Indico.		
		French-green of Pink and Indico	Indico	
		Sea-green, of Bice, pink and vvite	Indico	
			L	Carnation



The proportion of a Child behind. The former rule without changing any thing, may be observed in this present figure standing backward, and all the proportions and measures which are observed in the former, serve to this likewise.

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To make a	{	Carnation of Lake and white	—————	Lake
		Crimson, of Vermillion Lake and white	—————	Lake
		Scarlet Vermillion	—————	Lake
		Purple: Bice Lake and white	—————	Lai. and Indico
		Violet: Bice and Lake	—————	Indico
		Yellow made of Masticote, pink and saffron shadow with lake and saffron	—————	
		Straw-colour: most pink, Saffron, white and Vermillion	—————	Lake
		Orange-tauny: Vermillion, pink and masticote	—————	Lake
		Ash-colour: Lam-black and white	—————	Black
		Skie-colour: Bice and white	—————	Bice
Light hair-colour: Umber, yellow-Oker and white	—————	Umber		
Sad haire-colour: Umber, oker and black	—————	Umber and black		

Thus by a little practising you may learne to mingle and compound all other colours whatsoever.

The manner of Working.

1 **T**He manner of working in Limming, is by little smal pricks with a sharp pointed pensel.

2 You must lay your colours on very faint at first, and so make them deeper and deeper by degrees, for if you lay it on too sad at the first, it is impossible you should well recover it to make it lighter, but if it be too light you may make it darker at your pleasure.

3 When you would worke, you must first lay on flat primer, which must be of the lightest part of the complexion you intend to make, so that you may not need to heighen; or lay a lighter upon it, you may make a light complexion of white lake, and red-lead tempered together in a shell, if it be a swaithy complexion, mingle a little fine Masticote or English Oker, or both with the complexion; having laid on the primer which you must doe very quick and smooth, then draw the features after the primer is dry with lake and white very faintly, and so proceed to the perfecting of it by degrees.

Colours For the Face.

FOr the red in the cheeks, lips, &c. temper lake, red-lead and a little white together, for the faint shadows that are blewish, indico and white together, for bice is not used in a face, nor any black; for the deeper shadows take white English Oker and Umber, and for darke and hard shadows in many pictures, use Lake and Pinke mixt with Umber.

When you are come to the close of your, and have almost finisht your face, you must in the last place doe all the scars molds, smilings and glansings of the eye, descending and contracting of the mouth, all which you must be sudden to expresse with a bold quick and constant hand, or remembering alwayes not to depend to fast.

Thus by a constant practise joyned with these directions and your own industry, you may in time attaine to a great measure of perfection in this art of limming.

*Be patient, thou that seekest for this skill,
By grace and art. so mayst thou have thy will.*

F I N I S.