



N^o 40

Ulrich Middeldorf

Robert Sampson his book

92



The ART
OF
PAINTING
In OYL.

Wherein is included each particular Circumstance relating to that Art and Mystery. Containing the best and most approved Rules for preparing, mixing, and working of Oyl-Colours.

The whole Treatise being so full Compleat, and so exactly fitted to the meanest Capacity, that all Persons whatsoever, may be able by these Directions, to Paint in Oyl-Colours all manner of Timber-Work; such as Posts, Pails, Palisadoes, Gates, Doors, or any thing else that requires either Use, Beauty, or Preservation, from the violence or injury of the Weather.

In which is also particularly laid down, all the several Circumstances required in Painting of Sun-Dials, Printed Pictures, Shash-Windows, &c. In Oily-Colours.

The second Impression with some Alterations, and many useful Additions.

By JOHN SMITH, C. M.

LICENSED, *Rob. Midgley.*

LONDON: Printed for Samuel Crouch, at the Corner of Popes-Head-Alley in Cornhill, 1687.

TO

THE
MAYOR
OF
LONDON

Sheweth that the petitioners do humbly
requeere that the said Mayor
will be pleased to take the
said petitioners into his
protection and favour.

And the petitioners do shew that
they are poor and indigent
and have no other means
to live by but the
charity of the said Mayor.

And the petitioners do shew that
they have been long
in the said Mayor's
protection and favour
and have been
benefited by the same.

And the petitioners do shew that
they have been long
in the said Mayor's
protection and favour
and have been
benefited by the same.

TO THE
READER.

READER,

THE first Impression of this Work having given very good satisfaction to several persons that were desirous of some Instructions in this matter, and the Books being all sold off, and a second Impression intended, I was desired to take some pains to view and correct the Work, and to add such things as were found wanting, to make it compleat; which I hope I have done, to

To the Reader.

the satisfaction of all that shall peruse this last Edition, there being not wanting in it any one particular circumstance that is requisite to a work of this nature.

I suppose no Man will judge, that this Book is designed any ways to instruct those that are professed Painters, whose knowledge in these affairs must be supposed to out-strip these first Rudiments of their own profession; no, the chief design of this work is, only in order to instruct such ingenious persons as are desirous of some insight into the nature of working in Oyl-Colours.

Besides this, the Gentry themselves

To the Reader.

selves, that live far remote from great Cities, where Painters usually reside, may sometimes have occasion to play the good Husband in preserving such Ornaments of their Habitations, as are most exposed to the violence of rain and wet; there being less trouble in preserving that already made, than in making new: When a Gentleman therefore has been at the charge in fitting his Habitation with Doors and Gates, has fenced it about with Pails, and adorned his Gardens with Palisadoes, Seats and Arbours to rest in, and such like; how easy is it for any of his Servants, by the Directions here given, to

To the Reader.

be able to Colour over and Paint, any of these, or any other kinds of Timber-Work in Oyl-Colours.

In Painting of Sun-Dials, I have been very particular, for this reason, that there being many Books extant that teach the way of drawing Dials, and many Gentlemen are very expert in them, but yet few or none are able to paint their Dial on the Plain when they have drawn the Draught; therefore I thought it not time ill spent, to set down the several material particulars relating to that work; not doubting but all persons that are lovers of Art, will add this
piece

To the Reader.

piece to that part of their Library that relates to *Dialling*.

In the whole *Work*, I have been careful to relate only matter of fact, and set down only such *Rules and Observations*, as by infallible *Experiments* my self has found true, avoiding altogether things speculative, or what is only known by hear-say; and therefore as to all the particulars of it, the Reader may rely upon them as *Circumstances true and certain*; the stile I confess is but rude and plain, but I consider that *Discourses* of this nature require not *Eloquence* to persuade, or intice the Reader; knowledge being best *Communi-*
cated

To the Reader.

cated by clear and significant Expressions; and in this I have done my indeavour; and for the rest, if any shall take exception, I have this only to say, that my aim in it has been more for the profit and pleasure of others, than my own advantage.

To conclude therefore, good Reader, if it shall be found, that this piece is entertained in the World with any kind accep-
+ tation, I do promise my indeavour farther to Communicate to the same some hundreds of particular Experiments, of great use and advantage to most sorts of People, and such as relate to almost every particular circumstance

To the Reader.

stance of humane life ; all of them related with the greatest faithfulness, care, and plainness, that each particular is capable of : in the mean time, let us all be so far careful in our own affairs, that while we strive to excel others in Knowledge , we fall not short of them in Vertue and a good Life : the end of all Science tends chiefly to a temporal satisfaction ; but he that adds Vertue to his Knowledge , adds to the felicities of this World the Glories of the next.

Farewel.

J. S. C. M.

THE

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ERRATA.

Page 1. line 12 for rough Marble read ranse Marble, p. 2. l. 18. r. or three at most, p. 28. l. 4. leave out Red-Lead, and l. 6. leave out Blew-Bice, p. 29. l. 14. for Horse-Hair, r. Horse, Hare, &c. p. 38. l. 19. leave out the.

THE

THE
ART
OF
PAINTING.

CHAP. I.

*An Account of the several Tools, or
manual Utensils, that are used in
the Art of vulgar Painting.*

THE first is the Grindstone and
Muller for grinding of Colours;
the Stone must be a hard spotted,
or rough Marble, of a close grain,
not spongy or full of small Pores; for if
the grain of the Stone be not close, but
B hollow

hollow and spongy, the Colours that are first ground on it, cannot so well be cleansed off, but that some part will still remain in these hollow pores of the Stone, which will much spoil the beauty and lustre of those other Colours that are ground after it: this Stone for grinding ought to be about a foot and a half square, and so thick, that its weight may be sufficient to keep it fast and steady, and not apt to be moved when Colours are grinding on it.

2. The Muller is a pebble Stone, of the form of an Egg, the bigger end of which is to be broken off, and with sharp Sand or Emery, it must be ground smooth and flat: this Stone ought to be about two Inches Diameter, or at most, on the flat end, and about five Inches high, that so you may command it the more easily in the time of grinding.

For want of a spotted Marble (which is a Stone of a hable Colour, compact of a number of Kernels as it were in the Greet of it) you may make use of any kind of hard Marble, either white or black; some I have known to use a Slate, such as in *Sussex* they cover their
Houses

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Houfes with , being in large pieces ; some of which I have feen above two Foot fquare , and an Inch and a half thick ; which kind of Slates for vulgar Paintings may ferve very well.

For want of thefe, I have known a good brafs Morter and Peftle ferve the turn very well , for fmall quantities to paint a Dial or fuch like, and the Colours have been ground in it very fine.

When a good fhap't ftone for a Muller is wanting, a fragment of any fmooth fided ftone, cemented (with rofen and brick-duft mixt together) into a piece of Wood of a fit fhape to hold it by, has performed the work as well as the beft Muller in the Shops.

In want of fuch a fragment or piece of Stone, a plate of Iron pretty thick, nailed to the flat end of a piece of Wood, and filed off fmooth for common ufes , will ferve as well as the beft.

3. To thefe belong a Voider , being no other than a Lanthorn Horn, about three Inches one way , and four the other ; this Voider is to clear off the Colours from the Stone when ground,

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and also to keep them together in the time of grinding, when it spreads too much.

For want of this, a smooth piece of Wood of the same size, cut thinn and made very sharp and even on the edge; may serve as well.

4. Pots and Pans must also be provided, either of Earth or Tinn, of several sizes, according to the quantity of Colours to be ground, into which they are still to be put as you grind, till you have ground Colour enough of each sort, as may be necessary about the work you design them for.

But in Case you design to grind at one time so much of each Colour as may be sufficient to serve your occasions along time together as some do; then when you have ground all those quantities of each as you think fit, let them be put up and tyed close in Ox Bladders, or in the Bladders of Hogs or Sheep, according as your quantities are; this will preserve them from drying or spoiling a long time together.

I remember I had a parcel of Colours given me in the year 1661. by a Neighbouring Yeoman, that were as he said,
left

left at his House by a Trooper, that quartered there in the time of the Wars, about the year 1644. this Man was by profession a Picture-Drawer, and his Colours were all tyed up in Bladders, according to the method before prescribed, and when I had opened them, I found them in a very good condition, and to my thinking as fit for use, when mixt with a little fresh Oyl, as if they had been but very lately ground, though they had remained in this condition about seventeen years.

5. You must be also provided of Brushes and Pencils of all sorts and sizes; Brushes are always made of Hoggs Bristles, they are of several sizes and shapes, some round, and others flat; the round ones are of all sizes, from two Inches Diameter to a quarter of an Inch; those of the largest size are for priming the work, and for laying such Colours as are used in great quantities, and in Colouring over the superficies of all large work, such as Posts, Pails, Wainscot, or such like: the smaller sort of Brushes are to use in such parts and places of any work, as larger ones cannot well come to work in.

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Flat Brushes are chiefly in use for drawing of lines, and in the imitation of Olive and Walnut work.

6. As for Pencils, they are compounded of a finer and smaller Hair: these also are of several sizes, but all generally round, being for the most part fitted into Swans, Geese, or Ducks Quills, and from thence are termed Swans Quill, ficht or pointed, Goose Quills, ficht and pointed, Ducks Quills, ficht and pointed; besides these, there are a larger sort of Pencils in Tin Cases, and some in stocks like Brushes, all made of the fine Hair.

In the choice of Brushes and Pencils, observe these rules: For Brushes, observe whether the Bristles are fast bound in the stocks, and the hair strong and lie close together; for if they don't lie close, but sprawl abroad, such will never work well, if they are not fast bound in the stock, the Bristles will come out when you are using them, and spoil your work; for such I have seen where the loose hairs, from the Brush, have lain buried up and down in the Colours laid on, to the great disparagement of the work.

In

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In chusing of Pencils, especially the pointed ones, do thus; put them into your mouth, and moisten them a little, then draw them forth between the Tongue and the Lip, and if they come out with an intire sharp point, without cleaving in twain, they are good; provided also, they be thick and full set next the Quill, and also fast bound; if they be thin and lean next the Quill, they never stand well to the work, nor draw sharp and clever.

To every one of these Case, or Quill Pencils, let a neat stock be fitted, about nine Inches in length at the least; for unless the Pencil be held a good distance from the hand, you shall never be able to command it well, nor work so neat, as when you have the true command of a Pencil, held thus at a large distance, your hand being supported, as is usual, by Ruler, or small walking stick.

7. If you have, at any time, occasion to guild with Leaf-gold, on an oily size, according to the usual practice of Painters, there does then belong to this work several distinct manual Tools: As first a Cushion upon which the leaves of gold

must be laid, when they are to be cut into such forms as fit the work you are to guild; this gilding Cushion, is generally made of a smooth grained Basil Skin, the flesh-side outward, this is to be nailed to the edges of a square wooden bottom, about six Inches square, and then well stuf out with Cotton or Wooll, very hard, plain, and flattish. Upon this gilding Cushion the gold leaves are to be laid, when you would cut them into such scantlings as will best fit the work you design to guild.

8. The Instrument you make use off to cut the leaves, must be either a sharp smooth-edg'd Case-Knife, or else a slip of the hollow Spanish-Cane, cut up to a smooth and sharp edge with a good Pen-knife; this Cane-knife is counted the best, because if well made, it will not only be very sharp, but also cut the gold leaf more naturally than any other; for a Steel-Knife, though it cut very well, yet the gold will stick too't, and so give you much trouble to part the Leaf from it, except you are careful to keep the edge very dry by continually wiping of it with a clean and dry Cloth; whereas

whereas a Cane-Knife will put you to no such trouble in the use of it, its substance being of such a nature, as not to retain any viscus or clammy matter, capable of making the gold stick to it.

9. When by the use of these you have cut out the Leaves of gold into proper scantlings, it must then be taken from off the Cushion, and laid down upon the work you are to guild; to perform which, if the work be flat and plain, you must use the gilding Pallat, 'tis only a flat piece of wood about three Inches long, and an Inch broad, upon which is to be glewed a piece of fine woollen Cloth of the same length and breadth; upon this Pallat do but breath with your breath, that the Cloth may be made a little moist by it, then if you clap it down gently on the gold that is cut out, it will stick to the Pallet, and may from thence be readily conveyed to the work you are to guild, and laid down on it; but this kind of Tooll is only for flat and plain work, in which Case if you are to cover any large quantity of work, your Pallet may be as large as the whole leaf of gold, and so
you

you may transfer them from the Book to the work, without farther trouble of cutting into smaller parts.

10. But if it be any hollow or carved work that is to be gilt, then Painters do usually take up their gold, either from the Book or Cushon, with a bunch of Cotton Yarn, a little moistned with their breath; for Cotton is a material very apt and fit to press into the hollowness of the work, with the gold upon it; in case you want Cotton, a bunch of good fine Wooll may do as well.

Black-lead Pencils are of so great use in drawing in some Cases, that a Painter can very ill want them; as also good Chalk; the Chalk must be such as is of a soft grain, that will easily spend it self on the work you draw upon; if the Chalk be of a hard stoney nature, it will spoil whatever you draw upon, for you must press so hard to make it spend its self, that the work will be full of deep races, not to be after obliterated; a great damage to the beauty of the work.

11. For Black-lead Pencils; those that
are

are right good, are not easy to be gotten; therefore that you may not be deceived in the choice of them, take notice, that the best Black-lead Pencil, is that, that spends its Colour freely, and draws black with an easy and light stroke, the goodness of the Lead may also be known by the grain of it; the best Lead if you shave off a little of it with a sharp Knife, will appear smooth and shining as Glass, not hollow or spongy; that Lead that when cut appears not with a good glass, is of a dull Colour, and of a hollow spongy grain, is of little or no value, for the grain is so hard, it will never spend black, nor draw free.

Besides this, the common Pencils of the Shops are made up so deceitfully, that they are not good Lead half-way up the stock; the best way therefore is to buy Black-lead in the lump at the Colour-Shop, and with a fine Spring-Saw, cut it into scantlings of the bigness of a Quill, into which you may fit it; and having fastned it in with glue, it will be found much better and cheaper, than to buy them at the Shops.

12. Besides all these before-mentioned, there will be required, as necessary for Painting, Brass Compasses, for setting out and proportioning your work; they also assist you much in drawing all Figures that have a circular form; there is need also of Rulers of several lengths, as also Squares, Crucibles to burn Colours, and Bladders for Oyl.

The value of such of the forementioned particulars, as are to be bought ready fitted.

A marble Stone for grinding, according to its size and bulk, will cost from half a Crown to five Shillings the Stone.

A Muller will cost eighteen pence, or two Shillings.

The largest Brushes will cost six pence a piece, the other sizes from four pence to one penny a piece.

The largest sort of Pencils made with fine hair, either in Tin Cases, or in wooden stocks, from eight to two pence a piece; those inclosed in Swans-Quills, a penny a piece, and others in Goose or Ducks-Quills are six pence a dozen, one with another, or a half-penny a piece.

Black-

Black-lead Pencils, the best in Ceder Cases, will cost three pence a piece; but an Ounce of the finest Black-lead in the lump, cut out as before directed, will do as much service as any six Pencils, which Ounce of Lead will cost you about six pence, if it be prime good.

Brass Compasses are from eighteen pence to six Shillings a pair, according to their size and goodness; a pair about eight Inches in the shank will cost about two Shillings six pence, a pair of the same size made with three points, *viz.* a steel point, a pen point, and a black-lead point, will cost you, if well made, six Shillings.

Crucibles will cost you about two pence a piece, if they are large; the other sizes are a penny a piece, and the smallest a half-penny.

Note, That grinding Stone and Muller, and all kind of Pencils, are to be had at the Colour-Shops; Brass Compasses and Squares at the Mathematical Instrument-makers; and Crucibles you shall find plentiful at the Ironmongers in *Fosterlane.*

CHAP. II.

A Catalogue of the several Colours used in painting with Oyl; their nature and way of making.

WHITES.

THE principal of all Whites is the White-lead; this Colour owes its original to the common Plumbers Lead, of which it is only made; the manner is thus: At *Venice* where the greatest quantities were formerly made, they take Sheet-lead, and having cut it into long and narrow slips, they make it up into Rouls, yet so as a small distance remains between every spiral revolution; these Rouls they put into Earthen Pots, so ordered, that the Lead may not sink down above half way or better in them; these Pots have each of them very sharp Vinegar in the bottom, so full as almost to touch the Lead; when the Vinegar and Lead are both conveyed into the
Pot,

Pot, 'tis covered up close, and so left for a certain time, in which space the corrosive fumes of the Vinegar will reduce the superficies of the Lead into a white Calcx, which they separate by knocking upon it with a Hammer: A more particular Description of the whole Process you may find communicated to the Royal Society, by Sir *Philberto Vernatti*, and Printed in the *Phylosophical Transactions*.

Of this Colour there is two sorts at the Colour-Shop, the one called Ceruse, which is the most pure and clean part, the other is called by the plain name of white Lead; they are Colours that work with very much ease, and will be ground as fine even as the Oyl it self, in comparison, if you will take time enough in the grinding; it lies very smooth, and binds very hard, on what work soever it be laid on. If you paint with it any kind of Timber work or Stone, that you would preserve from the weather, it is best to work it in Linsed Oyl, for that will bind it extream hard, if you lay upon the work very stiff; but if you use White-lead alone within Doors, 'tis then best

best to mix it with Nut Oyl, for Linsed Oyl within Doors will turn Yellow, and spoil the beauty of it; which inconvenience Walnut-Oyl prevents, for that makes it keep a constant whiteness.

Besides White-Lead and Cerus there is another sort to be met with sometimes at the Colour-Shops, which they call Flake-white, which is by some accounted the best white of all others, but the reason of that I don't well understand, except it be, because it is scarce and dear; this Colour is said to be found only under the Lead of some very old Buildings, where time has by the assistance of some sharp quality in the air, thus reduced the undermost superficies of the Lead into this white Calx, which proves a very good White, but in my opinion not exceeding the best Cerus, which is as white as the other, and a great deal cheaper.

B L A C K S.

L Am-black: This Colour is no other than a Soot raised from the roseny and fat parts of Fir-Trees, it comes from
the

the Northern Countreys, as *Sweden* and *Norway*; 'tis a Black that is more generally used than any other, because of its plenty and cheapness, and proves a very good Black for most uses; 'tis of so fine a Body, that if tempered only with Linseed Oyl, it will serve to work with on most common occasions without grinding, but thus used, 'twill require a long time to dry, unless you mix much drying Oyl with it; for in the substance of the Colour is contained a certain greasy fatness that is an Enemy to drying, to remedy which, burning in the fire till it cease to smoke, will consume that fatness, and then it will dry much sooner; but when 'tis burnt it must then of necessity be ground with the Oyl, for else 'twill not work fine; for the fire is of that nature, that its apt to harden most Bodies that pass through it; this Colour is usually made up in small Boxes and Barrels of Deal, of several sizes, and so brought over to us.

Besides Lam-black, there is another sort of Black, called Lamp, or Candle Black, and this is the foot of a Lamp or Candle; which I have heard very good

Artists commend, as a much better Black for any use than the Lam-black, it being of a finer Body and brighter Colour; but I think not to be gotten in very great quantities, and therefore used only in very fine work.

Ivory-Black, is made of the Comb-Makers raspings, and other wast fragments of Ivory; these are burnt or charred to a black Coal in a Crucible close stopt up, this proves a very delicate Black when ground very fine; you have it at the Shops well prepared, and levedged very fine with Water on a Marble Stone, and then dryed in small Lumps; being thus prepared, 'tis the more easily ground in Oyl, with which it will lie with a very good Body, as most Colours do; but 'tis something dear, and therefore not used in any common work.

Some use Willow-Charcoal; this if ground very fine, does in Oyl make a very good Black, but being not so easy to be gotten as the Lam-black, 'tis seldom used.

R E D S.

Vermillion is the most delicate of all light Reds, being of it self a perfect Scarlet Colour, 'tis made artificially out of Quicksilver and Brimstone, in the manner following: Take six Ounces of Brimstone and melt it in an Iron Ladle, then put two pound of Quicksilver into a Shammy Leather, or double Linnen Cloth, squeeze it from thence into the melted Brimstone, stirring them in the mean time with a wooden Spatula, till they are well united, and when cold, beat the mass into a Powder, and sublime it in a glass Vessel, with a strong Fire, and it will arise into that red substance which we call artificial Cinaber, or Vermillion; the whole process you may see more at large in *Lemery's Chymistry*. This Colour is of a delicate fine Body, and if pains be bestowed on it, 'twill grind as fine as the Oyl it self; and then it makes a most excellent Colour indeed, if it be not ground very fine, the glory of it will not appear, but it will look dull and work course; but

if it be ground very fine, no Colour in the looks better, nor works smoother, nor bears a better body, than Vermillion does, nor goes farther.

Indian Lake, especially the richest sorts, is the best of all dark Reds, being a most pure Crimson; 'tis a Colour that will grind very fine, and lies with a good Body, but there must be good store of pains taken with it in the grinding, for if it be not well and thoroughly ground, its Colour will want much of its glory; and besides this, 'twill work with some difficulty, being apt to cling together like a Jelly, so that 'twill be apt to cling up together, after 'tis laid on, just as you see warm water do upon a greazy Trencher, when washed in it; to prevent which, grind it well and temper it as stiff as you can well work it; of this Colour there be divers sorts at the Colour-Shops, very different in their Colours, some being of a more dead and pale Colour; 'tis made of the tincture of some Vegetable, as some say, but what, or how done, I cannot as yet learn; only note, that the best sorts come from *Venice* and *Florence*.

Red

Red-lead is the lightest of all Reds now in use; 'tis a sandy harsh Colour, and such an one, as is not easily ground very fine, although you bestow much labour on it; the best way to get the finest of it, is by washing, as I shall show hereafter; this Colour is made out of common Lead, by first reducing it to a Litharge, and that Litharge being afterward ground to a Powder in a Mill, is afterward conveyed into a hot Furnice, for that purpose, where 'tis continually kept stirring with an Iron-rake, till it has attained to the Colour of a fine, pale red; the whole process you may see more at large in Mr. *Ray's* Appendix to his Catalogue of hard English words: Note, that this, though it be a sandy Colour, yet it bears a very good body in Oyl, and binds very fast and firm, being also a quick dryer.

Spanish Brown, is a dark, dull red, of a Horseflesh Colour, 'tis an Earthy Colour, being dug out of the ground, but there is some of it of a very good Colour, and pleasant enough to the Eye, considering the deepness of its Colour: 'tis of great use among Painters, being

generally used as the first or priming Colour, that they lay on upon any kind of work, being cheap and plentiful, and a Colour that works well, if it be ground fine, as you may do with less labour than some better Colours do require; the best sort is that of the deepest Colour, and freest from stones; the other sorts are not so good to give a Colour to the Eye, but yet they serve as well as any others for a priming Colour.

Y E L L O W S.

Yellow-Oaker, is of two sorts, one called Plain-Oaker, and the other Spruce-Oaker, the one is much a lighter Colour than the other; 'tis a certain concret, or stony substance, found among stiff Clays in divers parts of this Kingdom; but those parts that contain most of it, is the *Shotover-Hills* near *Oxford*, from whence most of the Yellow-Oaker, that is sold in *England*, is dug out; 'tis a Colour, that with pains, will grind very fine, it bears an excellent body, and resists the weather well.

Pink-Yellow, is the tincture of a Vegetable,

getable, whose substance being reduced to a Musclage, and after dryed, becomes a good light Yellow, a little inclining to a green; 'tis a Colour that grinds very easie, and bears a good body.

Orpiment, is that Colour that some call Yellow-Arsenick; 'tis a good Colour for some uses, but very troublesome to grind, being a Mineral stony substance of a poysonous nature; therefore take care that the fumes of it don't offend the brain in the time of grinding.

Masticote, is a good light-yellow for most uses, especially in making Greens, of which several sorts may be framed out of this Colour, being mixt with Blues; 'tis a Colour that grinds fine, and bears a good body.

G R E E N S.

VErdigrease is the best and most useful Green of all others; 'tis a Colour made out of Copper, being no other than the rust of that mettall promoted by the fumes of sour Wine, and the rape of Grapes; the process of which, as 'tis performed at *Montpelier* in *France*

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(where the best is said to be made) you may find in Mr. *Ray's Travels*, pag. 454. 'Tis a delicate Green inclining to a Bluish, but with a little Pink-Yellow, it makes the delicatest Grass-Green in the World; 'tis a Colour that will grind very fine, but not without some pains; and when ground fine, it lies with a good body and works well; at the Colour-shops there is a sort of it that they call distilled Verdigrease, being a sort that is wholly purified from dross and filth, of good use in fine work, but too dear in vulgar Painting.

Green-Bice is a Colour of a sandy nature, and therefore not much used; Green-Verditer is also a sandy Colour, neither of them bear any good body, and are seldom used, except in Land-skip, where variety is required,

B L U E S.

BLue-Bice bears the best body of all bright Blues, but 'tis the palest in Colour, it works indifferent well, but inclines a little to be sandy, therefore it requires good grinding, and that on a
very

very hard stone; 'tis a Blue that lies best near the Eye of any now in use, except Ultra-Marine, a Colour produced from the tincture of Lapis-Lazuli; the process of doing which, you may find in Modern Curiosities; but this is so vastly dear, that 'tis not to be used except in pieces of great price.

Blue-Verditer is a Colour of no good body, being something sandy, and of no very good Colour of it self, being apt to turn greenish, and being mixt with Yellow, makes a good Green.

Indigo is a dark Blue, if workt by it self, to remedy which, whites are usually mixt, and then it makes but a very faint Blue; this Colour is the tincture of a Vegetable called by that name, much growing in both the *Indies*, the Leaves of which being put into wooden Cesterns, filled with Water, are often violently stirr'd about till the greatest part be reduced to a slime, or muscelage, which being separated from the Water, when sunk to the bottom, and dried, produces that substance which we call Indigo; 'tis a Colour that grinds very fine, and lies with a good body,
and

and is very much used in vulgar Painting.

Note, That the longer this Colour is ground, the more beautiful and fair it looks.

Smalt is the most lovely Blue of all others, if it lie at a distance, but it must be only strowed on upon a ground of White-Lead ; for it is a Colour that carries no body in Oyl it is so sandy, neither can it be ground fine by any industry ; besides Oyl changes the Colour, and makes it look quite Black, except Whites be mixed, and they spoil the beauty of the Colour and makes it faint ; therefore the best way to lay it on is by strowing (as I shall show in the following work) and then there is not a more glorious Colour in the World.

Note, That of this Colour there is two sorts, the one much finer than the other, but the coarsest gives the most glorious Colour of all, if lookt on at a distance, for near the Eye the beauty is not so great ; the finest is that which is called Oyl-Smalt, which if ground with White-Lead, may be laid in Oyl ; but it bears not a good body, and besides

sides works with much difficulty.

Umber is a Colour that really has no affinity with the others before-mentioned, being neither a White, Black, Red, Yellow, Blue or Green, yet is a Colour of as great use as any of the rest in vulgar Painting; 'tis an Earth or Mine, dug out of a certain Island in the *Mediterranean Sea*, being of the Complexion of that which among us is called a Hair-Colour; it grinds very fine, and bears the best body of any Earthy-Colour that's now in use, and when burnt, becomes the most natural shadow for gold of all others, and with a mixture of White, it resembles the Colour of New-Oaken-Wainscot the nearest of any Colour in the World; it dries quickly, and with a good gloss.

Some Terms Explained in the fore-going Notes, about bearing a body.

What is to be understood by a Colours bearing a Body; to bear a body then is, to be of such a nature as is capable of being ground so fine, and mixing with the Oyl so intirely, as to seem
only

only a very thick Oyl of the same Colour ; of this nature are White-Lead, and Cerus, Lam-Black, Ivory-Black, Vermillion, Red-Lead, Lake, Pink, Yellow-Oaker, Verdigrease, Ultra-Marine, Indigo, Blue-Bice, Umber, and Spanish Brow ; Blue-Bice and Red-Lead indeed are not so fine as the rest, but yet so fine as they may be said to bear a very good body : all these may be ground so fine as to be like, even Oyl it self, and then they also may be said to work well, spreading so smooth, and covering the body of what you lay it upon, so intirely, as that no part will remain visible where the Pencil hath gone, if the Colour be workt stiff.

Whereas on the contrary, Verditors and Smalts, with all the grinding imaginable, will never be well imbodyed with the Oyl, nor work well ; indeed Bice and Red-Lead will hardly grind to an Oily fineness, nor lye intirely smooth in the working, yet may be said to bear an indifferent body, because they will cover such work very well that they are laid upon ; but such Colours as are said not to bear a body, will readily part
with

with the Oyl when laid on the work ; so that when the Colour shall be laid on a piece of work, there will be a separation, the Colour in some parts, and the clear Oyl in others.

CHAP. III.

Of the burning of Colours, or preparing of them that require to be so used.

OF this nature there be divers sorts ; as first Lam-black, a Colour of so greasy a nature, that except it be burnt, 'twill require a long time to dry.

Secondly, Umber if you intend it for the Colour of a Horse-Hair, or to be a shadow for gold, then burning fits it for that purpose by making it brighter.

Ivory and Willow-Wood must be burnt into a Charcoal, that they may become a Black.

Lam-black must be burnt, or rather dried thus: Put it into an Iron-Ladle, and set it over a clear Fire, letting it remain till it be red hot, or so near it, that

that there is no manner of smoke arises from it.

Umber must only be put into the naked fire in large Lumps, and not taken out till they be thoroughly red hot : if you are more curious you may inclose it in a Crucible, and then put it into the fire till it be red hot, then take it out, and when cold, put it up for use.

Ivory, and the Wood of a Willow-Tree must be burnt thus : Fill two Crucibles, either with Ivory or Wood, then clap their two mouths together, and bind them fast with an Iron Wire, and lute the Joints close with Clay, Salt, and Horse-dung, well beaten together, then set it in a Fire, covering it all over with Coals, and let it remain therein, till you are sure the matter inclosed in the Crucibles be thoroughly red hot, then take it from the fire, but open not the Crucibles till they are perfectly cold, for if you should open them while hot, the matter would turn to ashes; the same will be done if the Joints are not luted close, for 'tis only the exclusion of all air that prevent any matter whatever,
that's

that's burnt to a Coal, from turning to a white ash, and preserves the blackness.

CHAP. IV.

How to wash such Colours as for their grittiness are not otherwise to be made fine enough for certain Uses.

SOME Colours are of such a gritty sandy nature, that its impossible to grind them so fine as some curious Works do require; therefore to get forth the flower and fineness of the Colour, you must do thus; Take what quantity of Colour you please to wash, and put it into a Vessel of fair Water, and stir it about till the Water be all coloured therewith; then if any filth swim on the top of the Water, scum it clean off, and when you think the grossest of the Colour is settled to the bottom, then pour off that Water into a second Earthen Vessel that is large enough to contain the first Vessel full of Water four or five times;

times; then pour more water into the first Vessel, and stir the Colour that remains till the water be thick; and after it is a little settled, pour that water also into the second Vessel, and fill the first Vessel again with water, stirring it as before: do thus so often till you find all the finest of the Colour drawn forth, and that none but coarse gritty stuff remains in the bottom; then let this water in the second Vessel stand to settle till it be perfectly clear, and that all the Colour be sunk to the bottom; which when you perceive, then pour the water clear from it, and reserve the Colour in the bottom for use, which must be perfectly dried before you mix it with Oyl to work.

The Colours thus ordered, are Red-Lead, Blue and Green Bice, Verditer Blue and Green; Smalt, and many times Spanish Brown, when you would cleanse it well for some fine work, as also Yellow-Oaker, when you intend to make Gold size of it.

Take Notice also, That unless you intend to bestow some cost on a piece, you need not be at the trouble to wash your Colours,

Colours, but use them for coarse ordinary work, as you buy them at the Shops.

CHAP. V.

How to grind Colours with Oyl.

WHen you come to grind Colours, let your Grinding-stone be placed about the heighth of your middle; let it stand firm and fast, so that it joggle not up and down; then take a small quantity of the Colour you intend to grind (two spoonfuls is enough) for the less you grind at a time, the easier and finer will your Colour be ground: lay this two Spoonfuls of Colour on the midst of your stone, and put a little of your Linseed Oyl to it, (but be sure you put not too much at first) then with your Mulier mix it together a little, and turn your Mulier three or four times about, and if you find there be not Oyl enough, put a little more to it, till it come to the consistence of an Oyntment;

ment ; for then it grinds much better and sooner than when it's so thin as to run about the Stone : You must oftentimes, in the grinding, bring your Colour together with a piece of a Lanthorn Horn, and with the same keep it together in the middle of your Stone ; when you find you have ground it fine enough (by the continual motion of your Mulier about the Stone, holding it down as hard as your strength will permit (which you must also move with such a sleight, as to gather the Colour under it) and that no knots nor grittiness remains, but be as fine even as the Oyl it self, then with your Horn cleanse it off the Stone into a Gally-Pot, Pan, or what ever else you design to put it into, and then lay more Colour on your Stone, and proceed to grinding as before : do so thus often till you have ground as much of this same Colour as shall serve your occasions ; and if you grind other Colours after it, let the Stone be well cleansed from the first Colour with a Cloth and fine dry Ashes, or Sand.

Some grind at one time so much of every

every Colour, as may be sufficient to serve a long time together, which they keep tyed up close in Oxe or Sheeps Bladders; and by this method a Man shall prevent the daubing of himself too often by grinding of Colours.

Those that list not to be at the trouble of grinding Colours themselves, may have of any sort, or quantity, ready ground, at the Colour-Shops, at reasonable rates.

CHAP. VI.

How to order Colours for working after they are ground.

WHEN you have ground your Colours (if you observe my Directions in grinding) they will be too thick for use without the addition of more Oyl ; therefore when you have ground those Colours you desire , and intend to use them , either simply by themselves, or compounded with others, according as your fancy or occasions require, you must then add more Oyl unto them , till they be so thin as not to let the ground on which they are laid be seen through them ; for if it be so thin as to let the ground be seen through them, or to run about when it be laid on, it is not good , and will require to be coloured the oftner before your work be perfect and substantial ; whereas if your Colour be as stiff as it can well be wrought, your work will be done with
more

more speed ; once doing being more substantial than three times doing with thin Colour.

Here by the way take notice of the fraud and deceit of common Painters, who commonly agree to do work by the Yard at a certain price, and the work to be coloured three times over, which they commonly paint with such thin Colour (to avoid the labour of grinding, a little Colour serving a great deal of Oyl, and besides it works with less pains, and takes up less stuff) that all three times doing over is not so substantial as one time would be, if the Colour had a thick and substantial Body : and Ple maintain, that three times colouring with substantial and well-bodied Colour, shall last ten times as long as that which is wrought thus sleightly by common Painters.

In mixing Oyl with your Colours, take this further *Note*, That if the Colour to be mixt be your priming Colour, (that is the first Colour you lay on) it ought to be made very thin, that it may have Oyl enough to pierce into the Wood, which is much for its preserva-

tion ; but after your first Colour is laid, let your next be thicker as before is taught.

Some Colours will be a long time before they be dry, if mixt only with plain Linseed Oyl ; to remedy which, there is a way to prepare Linseed-Oyl by art, to make any Colour dry that is mixt with it ; As for Example, To a Quart of Linseed-Oyl, add two Ounces of the litharge of Lead (which may be had at every Drugsters-Shop) powder it finely before you put it to the Oyl, when you have mixt it , set it on the fire in an Earthen-Pan, and let it boyl for near an hour, more or less, till the Oyl be grown thick and fat, and almost of the thicknes of Treacle that comes from Sugar ; then set it a little on the fire, and stir it well, then put out the flame , and let the matter stand till it be thoroughly cold, and the litharge well settled to the bottom , then pour off the clear Oyl, and keep it for use in a Bladder close tyed up, or for want of that, in a Glass Bottle.

When you mix up your Colours for working, put three parts of plain Linseed Oyl,

Oyl, and one part of this drying Oyl, together in a Pan, and mix them well together, and with this temper up your Colours; this fat-drying-Oyl shall not only make your Colours dry sooner than plain Oyl, but it shall also add a beauty and lustre to the Colours; so that they shall dry with a gloss, as if they had been varnished over.

Some Colours indeed don't need to have their drying hastned by a fat Oyl, such are Red-Lead; Verdigrease, and Umber; these are very drying in their own nature, but yet fat Oyl added to these also, add a great beauty and lustre to the Colour.

Some Painters, to make their Colours dry, take Copperas, and having beaten it to powder, burn it in a Fire-shovel, as people do when they burn Allum; that is, they set it on the fire, till being melted with the heat, it being continued thereon so long till all the moysture be exhaled, and the matter remain a dry white Calx; some of this powder of burnt Copperas, being added to the Colours in grinding, shall make the Colour dry very well.

The way before-recited for making of drying Oyl, has one inconvenience in it, that it makes the Oyl of a deep redish Colour, which in some cases may alter the native beauty of some Colours, as Whites, which be apt to become Yellow., also Blues may by this means become greenish.

To prevent this, a drying Oyl may be prepared, as shall be clear and white of Colour, in the manner following.

Put the afore-mentioned quantity of Linseed-Oyl to the like quantity of Litharge; put the mixture into a Glass, and set it in the hot Sun, for a Month, in the Summer time, stirring the Litharge and the Oyl well together, twice a Week, during the whole time, and you shall not fail in that time to obtain an Oyl very white and clear (for the Sun takes away all Colour, either from Linseed, or Wallnut-Oyl) but also, it will become in that time very fat and thick, and attain to a very drying quality.

By the same methods may Nut-Oyl be made too dry as well as that of Linseed, it being preferred before that of
 Linseed,

Linseed, for all White Painting that is not exposed to the open Air, for 'tis observed, that in all close places, Linseed Oyl is apt to make White-Lead turn Yellow.

Note, That if you steep *Ornoto* in clear well-suned Linseed-Oyl, or Oyl of Wall-nuts, it will tinge the Oyl of a delicate golden Colour ; which Oyl so tinged, exceeds all others for the laying on of Vermillion, Red-Lead, Orpiment, and Masticot ; to all which Colours it gives an excellent lustre.

Take notice also, That all simple Colours used in House Painting, appear much more beautiful and lustrous, when they appear as if glazed over with a Varnish, to which both the drying Oyl before-mentioned contributes very much, and also the Oyl of Turpentine that the Painters use to make their Colours dry soon, but experince teaches, that some good clear Turpentine, dissolved in the aforesaid Oyl of Turpentine, before it be mixt with the Oyl-Colours, shall make those Colours shine when dry, and preserve their beauty beyond all other things, drying with an extream
glasey

glasey surface, and much more smooth than Oyl alone, and shall also better resist the injuries of air and weather.

CHAP. VII.

How to make a Size for the gilding both with Gold and Silver.

THE operation is thus for the making of Gold Size; Take Yellow-Oaker and grind it on a Stone with Water till it be very fine, and afterwards lay it on a Chalk Stone to dry; this is the common way: but a better, is to wash it as is taught in the Fourth Chapter. For when it is washed, to be sure nothing but the purest of the Colour will be used; and besides, it's done with more ease, and less daubing.

When your Oyl and Oaker are thus prepared, you must grind them together, as you do other Oyl-Colours, only with fat drying Oyl, but it's something more laborious work, and must be ground very fine, even as Oyl it self:
for

for the finer it is, the greater Lustre will your Gold carry that is laid on it.

Here *Note*, That you must give it such a quantity of your fat Oyl, that it may not be so weak as to run when you have laid it on; nor so stiff, that it may not work well; but of such a competent body, that after it is laid on, it may settle it self smooth and glasy, which is a chief property of good Size.

Silver Size is made by grinding White Lead with fat drying Oyl, some adding a very little Yellow-Oaker to make it bind.

The practice of gilding with either Gold or Silver, I shall refer to the Chapter fourteen.

CHAP. VIII.

*The practice of working Oyl-Colours,
and Painting of Timber-Work, after
the manner of vulgar Painting.*

THAT which I hear call vulgar Painting, is only the way and manner of Colouring all manner of Wainscot, Doors, Windows, Posts, Rails, Pails, Gates, Border-Boards for Gardens, or any other material that requires either beauty or preservation from the violence of rain, or injury of weather; the method of doing which, I shall lay down as plain as I can. Suppose then that there be a set of Palisadoes, or a pair of Gates, or some Posts and Rails to paint, and I would finish them in a Stone-Colour; first look over the work, and take notice whether the Joints be open in the Gates, or whether there be any large Clefs in the Posts, for if these are not secured the wet will insinuate it self into those defects, and make the quicker
dispatch

dispatch in ruining the whole Work ; let the first business therefore be, to stop up these places smooth and even , with a Putty made of Whiting and Linseed Oyl, well beaten together on the grinding-stone, with a Wooden Mallet, to the consistence of a very stiff Dow, and with this let all the Crannies, Clefts, and other defects be perfectly filled up, that it may be equal to the surface of the stuff, then proceed to the priming of the Work with some Spanish-Brown well ground and mixt very thin with Linseed Oyl ; with this do over the Work, giving it as much Oyl as 'twill drink up ; this in about two days will be indifferent dry, then if you would do the work substantially, do it over again with the same priming Colour ; when this is through dry, then take White-lead well ground and tempered up, not too thin, for the stiffer you work it, the better body will be laid on , and the thicker coat of Colour that your Timber is covered withal, the longer 'twill last ; let this Colour be well rub'd on , and the whole surface of the Work be so intirely covered, that there remain no crick nor corner

corner bare, which you may easily do by jobbing in the point of a Bristle brush: Let this first Colouring dry, and then go over it a second time, and if you please a third also; the charge will be a little more, but the advantage will be much more great.

This course is sufficient for any kind of Timber-work that requires only a plain Colour; whether you thus cover the Work with a Stone-Colour, or else with a Timber-Colour in Umber and White, or a Lead-colour with Indico and White, that with White being the cheapest of the three by much; nay, I have known some lay over their Work only with a coat of Spanish-Brown, by tempering it up more stiff than was done for the two first primings, which in some respects is cheapest of all, and preserves the Timber perhaps as well as any. Now he that is able to bring the work thus far on, has proceeded to the highest pitch of that vulgar Painting that aims at preservation beyond beauty, though something of beauty is necessarily included in this also; but this is not all, for he that is arrived thus far, is in a fair way

way to other perfections in the Art of Painting: but for the Pannelling of Wainscot with its proper shadows, and for imitating Olive and Walnut-Wood, Marbles and such like; these must be attained by ocular inspection, it being impossible to deliver the manner of the operation by precept without Example, and I am bold to affirm, that a Man shall gain more knowledge by one days Experience, than by a hundred spent to acquire it some other way.

I advise therefore all those that desire an insight into this business, to be a little curious, if opportunity does offer, in observing the manner of a Painters working, not only in grinding his Colours, but also in laying them on, and working in them; in all these observing the motion of his Hand, in the manage of any kind of Tool; and by this means, with a little imitation, joined to the directions hear given; I doubt not but in a short time, you may arrive to great proficiency in the business of vulgar Painting.

Note, That if when you have made use of your Colours, there be occasion
of

of a small Cecation till the Work be finished ; in this Case 'tis best to cover the Colour in your Pots with Water, for that will prevent their drying, even in the hottest time.

And for your Pencils, they ought, so soon as you have done working, to be well waisht out in clean Linseed-Oyl, and then in warm Sope-suds ; for if either Oyl or Colours be once dryed in the Brush or Pencil, 'tis spoiled for ever.

It has been observed, that Timber laid over with white, when it has stood some time in the weather, the Colour will crack and shrink up together, just as Pitch does if laid on any thing that stands in the Sun ; the cause of this is, for that the Colour was not laid on with a stiff body, able to bind it self on firm and fast.

For the close of this Chapter take notice, that if you shall at any time have occasion to use either Brushes that are very small, or Pencils, as in many cases there will be occasion, you ought then to dispose of the Colours you use upon a Pallet (which is a wooden Instrument, easy to be had at any Colour-Shop)

Shop) and there work and temper them about with your Pencil, that the Pencil may carry away the more Colour; for you are to note, that if a Pencil be only dipt into a Pot of Colour, it brings out no more with it than what hangs on the outside, and that will work but a little way, whereas if you rub the Pencil about in the Colour, on the Pallet, a good quantity of Colour will be taken up in the Body of the Pencil; and besides all this, you may work your Pencils better to a point on a Pallet, than you can do in a Pot; the point of a Pencil being of greatest use in divers cases, especially in drawing of lines and all kind of flourishing.

CHAP. IX.

What Colours are most sutable, and set off best one with another,

ALL Yellows set off best with Blacks, with Blues, and with Reds.

All Blues set off best with Whites and Yellows.

Greens set off well with Blacks and Whites.

Whites set off well enough with any Colour.

Reds set off best with Yellows, and Whites and Blacks.

Gold looks well upon a White ground, especially if the matter to be gilt be carved.

Gold and Black also shew very well.

Gold on Timber-Colour, shews also very well.

So does Gold and a Horse-Flesh-Colour, made with the brightest Spanish Brown.

But

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But the most glorious ground of all others for Gold are, the Vermillion, Red, the Smalt-Blue, and the Lake, laid on a light ground.

The Altar-Piece of the Kings Chappel at *Whitehall* is gilt on a ground laid with Spanish-Brown, and looks very rich.

Of some Colours that arise from mixture.

Ash-Colour is made of White-Lead and Lam-black ; if a deep Ash-Colour, then take the more Black, but if a light one, then take but a little White, and most Black.

A Lead-Colour is made of Indico and White.

A Colour resembling new Oaken-Timber, is made of Umber and White-Lead.

A Flesh-Colour is compounded of Lake, White-Lead, and a little Vermillion.

A Buff-Colour, take Yellow-Oaker and White-Lead.

For a Willow-Green take Verdigræe alone.

For a light Willow-Green, take Verdigrease and White.

For a Grass-Green, take Verdigrease and Pink.

A Carnation is made of Lake and White.

Orange-Colour, Yellow-Oaker, and Red-Lead.

A Stone-Colour, mix Spruse-Oaker and White.

Brick-Colour, Red-Lead, a little White and Yellow-Oaker.

For a Straw-Colour, take White and a little Yellow-Oaker.

Olive-Wood is mitated with Oaker, and a little White veined over with burnt Umber.

Walnut-Tree is mitated with burnt Umber, and white vein'd over with the same Colour alone, and in the deepest places with Black.

Pails and Posts are sometimes laid over only with White, which they call a Stone-Colour.

Sometimes Posts and Pails are laid over with Indico and White, which is called a Lead-Colour.

Window-Frames are laid in White, if
the

the Building be new, but if not, then they generally are laid in Lead-Colour, or Indico and White, and the Bars with Red-Lead.

Doors and Gates, if painted in Panels, then the shadows of a White ground are UMBER and White, but if laid in a Lead-Colour, then the shadows are list'd with Black.

'Tis not possible to set down all those varieties of Colours that may be produced by mixture; they that would see more, may peruse Doctor *Salmon's* Polygrafice, where he shall find great variety.

C H A P. X.

Of Painting Sun-Dials, and first of the Plains on which Dials are to be drawn.

Dial-Plains are of two sorts, first such as are made on the Wall of a Building, or secondly, such as are drawn on Tables.

The first sort, if they are made on Brick Work, is done by Plastering on the Wall with Lime, Sand, and Hair mixt; this, if well drencht with Linseed-Oyl as long as it will drink in any, may be durable enough.

But a better way is to temper the Lime, Sand and Hair with Linseed-Oyl, which will be no great charge, but of great advantage; for this mixture will equal the hardness of a Free-stone, and perhaps keep the surface as free from the injuries of weather.

If you were to work on a Stone, the best way is to drench the Stone with
 Linseed

Linseed-Oyl till 'twill drink in no more, then shall whatever you paint upon it, be the better prepared against the ruins of time.

Now for Tables of Wood, they being the most Common, I shall give such Directions for the making of them, as I have always found most profitable and fit for this purpose.

The Woods that I find best for this use are the clearest Oak, and the reddest Firr, provided it be not Turpentiney; between these two Woods I find little difference, as to their alteration by the weather, both being subject to split in case they are bound, and have not free liberty to shrink with dry weather, and swell with wet; but as to their lasting, I judge Oak to be the better: and how long Firr will last thus secured and defended with Oyl-Colours, I have not yet experienced; but we may judge that good red Firr, that is very Roseny, will last the age of any Man whatsoever, if it be secured as things of this nature ought to be.

In working any of these Woods, I advise, that first your Boards be cut to

such a length as you intend your Dial-Board shall be of, and so many of them as may make up the breadth designed; then let them be Jointed and plained on both sides, and afterwards set to dry (for 'tis observed, That though Boards have lain in an House never so long, and are never so dry, yet when they are thus shot and plained, they will shrink afterwards beyond belief, if kept dry): when you think they are dry enough and will shrink no more, let them be again shot with good Joints, and every Joint in the glewing dowed together with Pins, as Coopers do their Tub bottoms; after it is thus glewed; and the Joints be sufficiently dry, then let the face of the Board be very well plained and tryed every way, that it may be both smooth and true, and the edges shot true, and all of a thickness, as Panels of Wainscot are commonly wrought; the edges must be thus true and even, that it may fit into the rabet of a moulding put round it; Just as a Panel of Wainscot doth in its Frame: This will give liberty to the Board to shrink and swell without tearing; whereas Mould-

ings

ings that are nailed round the edge, as the common way is, doth so restrain the motion of the Wood, that it cannot shrink without tearing: but Boards made this way will last a long time without either parting in the Joints, or splitting in the Wood.

Dials are sometimes drawn on Plains lined with Copper or Lead, that they may be free from splitting or tearing; but I prefer a Board (if it be made as above is directed) before them in many respects: As first, it is much cheaper: Secondly, Lead (and Copper too a little) will swell with the heat of the Sun, and grow in time so hollow, and as it were swelled outwards, that the truth of its shadow will be much injured. Thirdly, the Colours will be apt to peel from the mettal, and the Dial will by that means be in danger to be sooner defaced than if it were painted on a wooden Plain.

C H A P. XI.

*How to make the best Glue for gluing
the Joints of Dyal-Boards.*

THIS may by some perhaps be counted needless to be inserted, especially in these parts, where few Men that work in Timber, can be ignorant of it; But suppose a Gentleman that lives in the Country have a mind to have a Dial-Board made, and being not willing to send to *London*, imploy his own Carpenter; I must tell you, that many Country Carpenters scarce understand the right way of making or using Glue, to whom such a direction as this may prove very welcome.

Take then a Quart of Water, and set it on the fire, then put in it about half a pound of good Glue, and boyl them gently together on a soft fire, till the Glue be wholly dissolved, and of a due consistance; for if it be too thin, the Wood will so drink it up, that there
will

will not remain a body sufficient to bind the parts together; on the contrary, if it be too thick, 'twill not give way for the Joint to shut close enough, to be strongly joined; for though tis Glue that makes the Joints stick, yet where there is too much of it, that the Joint can't close exactly, 'twill never hold firmly.

When ever you come to use Glue, take care that it be first throughly hot; for Glue that is not hot, never takes firm hold of the Wood.

Be sure also, that the substance you are to glue, have not been touched with Oyl, nor injured with Grease; for where these have before touched, glue will never take fast hold after; but note, that after a thing is once glued fast, no Grease nor Oyl can then hurt it.

Your Glue being made ready, and the Joints of your Boards shot true, set both the faces of the Joint close together, and both also turned upwards, then dip a Brush in the Glue, and besmear the faces of both Joints, as quick as possible, then clap the two faces of
the

the Joint together, and slide them long ways one upon another, two or three times to settle them close, and so let them stand till they are firm and dry.

But in case you dowle the Joints with Pins, then they can be closed together no ways but by two or three good blows with a heavy Mallet.

CHAP.

C H A P. XII.

*What Colours are requisite for the
Painting of a Sun-Dial.*

FOUR Colours are sufficient for this Work, *viz.* Spanish-Brown, for the priming or first Colour.

White-Lead, for the second Colour and finishing the face of the Table.

Vermillion, for drawing of the hour Lines.

And Lam-black, for the Figures in the Margent, respecting the Lines of every Hour, if it be a plain Dial.

But if you intend to guild the Dial, and the Figures, then there is required some others, as Gold, and the Size to lay it on, and Smalt for a Blue ground, if you intend a rich Colour; but some lay the ground, where the Figures are guilt, with Vermillion, and that shews well, if the Figures are list'd with Black, and a Black Moulding round the Dial.

The next particular should be the practice of Painting the Dial, but before that can be done, the Draught must be drawn; and therefore I think a word of advice may not be unreasonable, if it directs you to the best Authors that have written of that subject.

To which purpose I place *Stirrup's* Dialling, as being of excellent use to acquaint a young Learner with the knowledge of the Sphear.

The next in order shall be *Collins's* Dialling; a Book of great worth throughout.

The third *Leybourn's* Dialling, in which you have the best ways for drawing East and West Dials, and Far Decliners: He is excellent also in the Instrumental way.

The fourth is *Collin's* Sector on a Quadrant, in which you have communicated the Cut of a Scale, that by knowing the Declination, gives all the rest of the requisites of an upright Decliner, by inspection only; with as great exactness, as by the nicest Calculation: Besides, it teaches the way of drawing

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drawing the Hours of a Dial by the Tangent Line, and also by the Scale of Hours to; of the best and most expeditious ways that ever were yet found out.

CHAP.

C H A P. XIII.

*The Practice of Painting
Sun-Dials.*

W H E N according to the Rules given in the Books aforementioned, you have drawn on Paper the draught of your Dial ; and that your Board be ready, and your Colours prepared according to the Directions before given, you must in the Painting of your Dial proceed thus ; Take Spanish Brown that is well ground and mixed somewhat thin, and with a large Bristle Brush, dipt therein, Colour your Board or Plain all over on every side, so that you leave no part uncoloured ; this is called the Priming of your Dial : When this first Colour is dry, do it over again with more of the same Colour, tempered somewhat thicker ; and when this is also dry, you may, if you please, do it over again with the same Colour, your Work will be the substantialler, and last longer.

When

When this last time of Colouring with your Red-Lead be dry, then with White Lead colour the face of your Plain over, and when it is dry, work it over again three or four times more, successively after each drying, so shall the face of your Playn be sufficiently defended against the many years fury and violence of weather.

When the last Colouring of your White be dry, you must draw on your Playn (with a Black-Lead Pencil) a Horizontal Line so far distance from the upmost edge of your Dial, as your discretion shall think fit, or your Experience finds to be most becoming your Playn; then set out the Margin of your Dial with boundary Lines for the Hour, half Hour, and quarter divisions of your Dial (as in most Dials you see is done): when you have thus set out the Margin and Boundary Lines of your Dial, then take your Paper draught fairly drawn, and place the Horizontal Line which you before drew on your Playn; in doing of which, observe to place the Center according as the situation of your Playn for Convenience sake requires;

quires: thus; If your Dial be a full South Dial, then let the Center be exactly in the middle of your Playn: but if your Dial decline from the South, either East or West, then place not the Center of your Draught in the Center of your Playn, but nearer to one side or other of it, according as it declines, having also respect to the quantity of its declination.

For Example: If your Dial decline Eastwards, then let the Center of your Draught be plac't between the Center and the Eastern side of your Playn, the quantity thereof must be according as your Dial declines; if it decline but a little, then place the Center of your Draught but a little from the Center of your Playn; and if it declines much, place the Center of your Draught the more out of the Center of your Playn: The reason of my advising this, is, that by so doing you may gain a greater distance for those Hour-Lines, which in declining Playns fall nearer together on one side than they are on the other; for which reason I always use it in all declining Playns, except they decline
far.

far, as between 80 and 90 Degrees; for then we commonly draw them without Centers, to gain the more distance for the Hour Lines.

When your Paper Draught is thus Artificially placed on the Playn, and fastened with Pins or small Tacks; then let the Draught thereof be transferred to the Playn, by laying a Ruler over every Hour, half Hour, and Quarter Division: and where your Ruler shall cut or intersect the boundary Lines of your Margin, there make marks, by drawing Lines with a Black-Lead Pencil, of such a length as each division requires (or is designed by your boundary Lines) observing always to draw the Hour, and half Hour Lines quite through your Margin, that they may be guides for the right placing the Figures, and for a small spot that is usually placed in the Margin, right against the half Hour.

When your Dial Draught is thus transferred to the Playn it self, you must not forget to draw the substil Line according as it lyeth in your Draught, to be your guide for the right placing

your Still or Cock; for you must in every particular be very exact, or else your Dial cannot be good.

When you have taken every thing that is required from your Draught, and have transferred it to the Playn, then take your draught off, and with Vermillion very well ground and prepared, as before is taught, let the boundary Lines of your Dial, as also the Hour, half Hour, and Quarter Divisions be drawn therewith; let your Colour be as thick and stiff as you can possible work it, so as to draw a clear and smooth Line.

When your Vermillion Lines are drawn, then with Lamp-Black let the Figures be made, and a spot in the middle of the Margin right against the half Hour Line; and if you please, in the Margin, at the top of your Playn you may put the date of the Year, your Name, or some divine Sentence, as is usual in things of this nature: then fit in your Cock so as to make right Angles with the Playn, so shall your Dial be drawn and finished in all respects as a plain Dial ought to be.

CHAP. XIV.

*How to guild with Gold on an Oily Size,
either Letters or Figures, &c.*

W^Hatsoever you would guild must first be drawn with Gold Size (of the making of which, see *Chap. 7.*) according to the true proportion of what you would have guild, whether Figure, Letter, or what ever else it be ; when you have thus drawn the true proportion of what you would have guild, let it remain till it be sufficiently dry to guild upon , which you shall know by touching it with the end of your Finger ; for if your Finger stick a little to it, and yet the Colour come not off, then is it dry enough : but if the Colour come off on your Finger, then is it not dry enough, and must be let alone longer ; for if you should then lay your Gold on, it would so drown it, that it would be worth nothing : but if your Size should be so dry as not to hold

your Finger as it were to it, then is it too dry, and the Gold will not take; for which there is no remedy but new Sizing; therefore you must watch the true time that it be not too wet or too dry; both extreams being not at all convenient.

When your Size is ready for guilding, take your Book of Leaf Gold, and opening a Leaf of it, take it out with your Cane-Plyers, and lay it on your guilding Cushion, and if it lye not smooth, blow on it with your breath which will lay it flat and plain, then with a Knife of Cane, or for want of it, an ordinary Pocket-Knife, that hath a smooth and sharp edge; with this (being wiped very dry on your Sleeve that the Gold stick not to it) let your Leaf-gold be cut into such pieces or forms as your Judgment shall think most suitable to your work.

When you have thus cut your Gold into convenient forms, then take your Tool that was before described in *num.* 9. of *Chap.* 1. and draw the Cloath side of it across your Tongue, or breath upon it to make it dampish, that the Gold
 may

may stick to it ; with this Tool take your Gold up (by clapping it down on the several pieces you had before cut into forms) and transfer it to your Size, upon which clap it down according to discretion , and your Gold will leave your Tool, and cleave to your Size ; which you must afterwards press down smooth with a bunch of Cotton, or a Hares Foot : and thus you must do piece by piece till you have covered all your Size with Gold ; and after it is fully dryed, then with your Hares Foot brush off all the loose Gold , so will your gilding remain fair and beautiful.

Note , That after your gilding is thus perfectly laid on, you may, if you please , Diaper or flourish on it with thin burnt Umber, whatsoever shall be suitable to your design : Let the Umber be tempered but thin, so that the Gold may appear through it ; the form and order of which take from Examples which are abundant , where Painting and Gilding are found.

Note further, that a Book of Gold contains 24 Leaves, each Leaf being three

Inches square ; the price of each Book is two Shillings at the Gold-Beaters ; one Book will cover 216 square Inches of work ; for so many square Inches is contained in 24 Leaves, that are three Inches square, every Leaf containing nine square Inches superficial in Gold : the right understanding of this will much guide you in judging how many Books of Gold will serve to guild that work, whose superficial Content in square Inches may before-hand be known.

How to guild with Silver,

IN laying on Silver upon an Oily Size, the same method in all respects is required as for gilding with Gold ; save only in this, that the Size upon which Silver is laid, ought to be Compounded of a very little Yellow Oaker, and much White-Lead ; for the Size being of a light Colour, the Silver laid on it will look more natural, and retain its own Colour better, the whiter the Size is.

Note,

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Note, That the Common Painters do now generally in gilding use more Silver than Gold, in most Works that are not much exposed to the air, to which they afterwards give the Colour of Gold, by means of the Lacker-Vernish, whose use is now so common, that if they guild any thing that stands free from the weather, they only guild with Silver, and so give it the Colour of Gold with a Lacker Varnish, made of Gum-Lake, dissolved in Spirit of Wine, and laid over it.

CHAP.

CHAP. XV.

The way of Painting a Blue with Smalt, the only Colours that requires strowing.

SMalt being a Colour that gives its greatest lustre by the way of strowing only, I shall lay down the true method of performing this work: temper up a White-Lead pretty stiff with good clear drying Oyl; let it be as stiff as it well can be to spend well from the Pencil, with this white Colour cover over the Superficies of the work you intend to strow with Smalt, and be very exact in the work, for the Smalt takes nowhere but on this new and moist ground; then take your Smalt, and with a Goose-quill-Feather, cover all your Margin with it, and with a piece of Cotton dab it down close, that it may well take upon the ground laid under it; and when you imagine the ground to be thoroughly dry, then wipe off

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off the loose Colour with a Feather, and blow the remainder of it off with a pair of Bellows, so is your Work finished. And thus you have a Method for Colouring any kind of work, by the way of strowing with Smalt, provided the work be such as requires only the plain Colour.

But in Case you design to paint any kind of Body in Smalt, that requires shadow for the more perfect resembling the thing you intend. As suppose it were a Blue Bell, or a Blue Boar, or the like: In this Case, when you have drawn out the perfect Simetry of the shape you intend, and have covered it with a ground of White-Lead, well and stiffly tempered with clear and fast Linseed Oyl, then proceed to give it those necessary shadows you intend, with good Black well tempered; and when you have finished these shadows, then strow on your Smalt, as before was directed; and when the whole is dry, and the superfluous part be taken away, the Work will appear, with all its shadows, as exact as possible.

Note,

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Note, That the Work upon which you lay on this ground, for to be strowed on with Smalt, ought first to be sufficiently primed and laid over once with white before you lay on the ground, that you may be sure the ground be perfectly white ; for a white ground is the only thing that gives beauty and glory to the Colour of the Smalt.

CHAP.

C H A P. XVI.

How to scour, refresh and preserve, all manner of Oyl Paintings.

TH E Oyl Paintings that I here intend, are only such as are kept from the injuries of weather; for such Paintings as endure the fury of rain and storms (such as Sun-Dials, Posts, Pales, &c.) are not any ways to be renewed or refreshed, but by being new coloured with the same Colour in which it was at first wrought, because that the body and strength of the Colour is worn out by the continual assaults of wasting time.

But as for such Painting that are sheltered from weather, as all In-door Paintings are, they still keep their Body and Colour, although their beauty may be much impaired by dust, smoak, fly-shits, moist vapours, and the like, which will in time soyl and tawnish them; To remedy which, take these few Rules:

If

If your Painting be Wainscotting, or any other Joynary or Carpentry Work that is painted in Oyl, take Wood ashes well sifted, which mix with Water somewhat thickly, then take a stubbed bristle Brush (like those we call Shoe-Brushes) and dip it in the moystened ashes, and therewith rub and scour your Painting all over very gently in all places alike, and when you find that all the Soyl is taken off, then wash it clean with fair Water, and let it dry; after which take common Varnish, made with the white of an Egg, and therewith Varnish your Work all over, and you will find your Painting to be near as fresh as when first laid on.

But if your Painting be more Curious, whether Figures of Men, Beasts, Landskip, Frutage, Florage, or the like, then take Smalt, (a sandy Colour, to be bought at the Colour-Shops) with which, and a Sponge wet in Water, let your Picture be gently scoured, and then cleanly washed off with fair Water: after it is well dry, let it be run over with Varnish, and you will find the beauty and lustre of your Picture much recovered.

The

The whites of Eggs before-mentioned, are only to be beaten to an Oyl, and then curiously rubbed on with a clean Linen-Cloath.

But *Note*, That this scouring ought not to be practised but very seldom (as when your Picture is very much soiled) because often and too frequent operations in this kind must needs wear off a little of the Colours; therefore strive what you can to preserve their first beauty, by keeping them free from smock, and by often striking off the dust with a Fox-Tail; as likewise preserving them from Flies, by dressing up your Rooms with green Boughs, to which the Flyes will gather themselves, and so not hurt your Pictures. Sir *Hugh Platt* in the First Part of his *Garden of Eden*, and 17 page, tells us of an *Italian* Fancy for this purpose, by hanging in the roof and sides of the Room small Pompions or Cowcombers stuck full of Barley, which will sprout into green Spiers on which the Flyes will lodge. *Query*, Whether Vessels of Tin made round about full of holes filled with Earth, and every hole planted with a sprig

spring of Orpen, Penyroyal, Mints, &c. and watered as need requires, would not be more beautiful and useful for this purpose.

Another Note worth Observation is, That all Pictures (especially those that are wrought with mixtures of White Lead) are apt to tawnish and grow rusty, as is seen in all ancient Pieces; To prevent which, in the Months of *May* and *June* let your Pictures be exposed to the hot Sun three or four days; this will draw off much of the tawnish, and make the Colours more fresh and beautiful: and thus doing from year to year will preserve them wonderfully.

Although in the beginning of this Chapter I mentioned Dials among those things that are not to be refreshed but by new Painting; yet here take notice, That I think it not convenient at all to lay new Colouring upon the old ground of a Sun-Dial (that is, to draw the old Lines and Figures over again in the same posture wherein they were drawn before) but rather to take the declination anew, and according thereunto
make

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make a new Draught of your Dial, and proceed in the Painting of it in all respects as if it were a new Dial: For it is observed, That Dials which were made many years ago (which we believe went true when first made) will not give the true Hour now, but go very false and unequal, which is caused by some secret motion of the Earth not hitherto taken notice of, which apparently alters the declination of all Playns whatsoever. If any one requires more satisfaction herein, let him repair to some old Dial that was made many years ago, and according to the distance of the Substile from the Meridian, let him find out the declination when first made, as any Man, that is an Artist, can easily do; then let him take the declination of the Plain by the Sun, and he shall find these two declinations to differ considerably, according to the number of years contained between your observation and the time of the Dials first making; so that a Plain that stood full South, 30, 40, or 60 years ago, shall now decline some degrees either to the East or West, accord-

ing to the nature of the Earths motion.

CHAP. XVII.

An Experiment of very near affinity to Oyl-Painting, but of great use to Travellers of some kinds: To the chief Officers of Camps and Armies, Seamen and such like.

THIS Experiment is no other than a discovery of the way and mystery of making Oyl-Cloath, now used for Hat-Cases, and that is this: Take of the drying Oyl that is mentioned in Chap. 6. set it on the fire, and dissolve in it some good rosen, or (which is better, but dearer) Gum-Lack; let the quantity be such, as may make the Oyl thick as a Balsom, for it must not be so thin as to run about, if spread on a Cloth: when the rosen or gums are dissolved, you may either work it of it self, or add to it some Colour, as Verdigrease

grease for a Green, or Umber for a Hair-Colour; or White-Lead and Lam-Black for a Gray, or Indico and White for a light Blue.

This Varnish, if spread on Canvas, or any other Linen-Cloth, so that the Cloth be fully drenched and intirely glased over with it, and suffered to dry thoroughly, is impenetrable for all manner of wet; and if Carriers and Haglers, and such kind of persons that are necessitated to travel in all manner of weathers, had but a little light Canvas Cloaks made for them, and these Cloaks were afterwards Varnished over with the aforesaid Varnish, these Cloaks would secure them from wet as well as if they remained still in their own Houses; for as I said before, no wet will penetrate through it; four and twenty hours rain would make no more impression upon it, than if it had never rained at all.

The Officers Tents in an Army or Camp, if Plastered over with this Varnish, will preserve them as securely from all wet, as the best Houses, and be as warm and dry; neither will there fol-

low any great inconvenience in Decamping; for Canvas so Varnished, is almost as plyable as the naked Cloth, and not very much more weighty, especially if the Varnish be laid on plain, without any Colour mixt with it; for that is both the lighter and most plyable.

The same advantage may Seamen reap by it, or any other person that must necessarily attend in storms and rain.

A Sheep-Skin Boot well liquored with this Varnish after the Boot is made, and so thoroughly done over as to lye with a glass on the outside, shall indure more wet than the best Neats-Leather Boot that ever was made, being also much more plyable, easy and light; the same may be said of Shoes in great part.

The great reason why the Oyl Hat-Cafe has not been more often in use, is by reason of the difficulty required to form it into Garments, and then the very Hat-Cases themselves do let Water in at the Seams; but this Varnish being laid on after the Garments are made, does so intirely secure every part, as
there's

there's no possibility or place for the wets admittance.

The same may be of advantage to abundance of other humane necessities, too long here to enumerate; and for securing any kind of Timber Work, it equals Painting with Colours in Oyl, and much more easy to attain; for Linseed Oyl and Rosen are much more easily melted together by boiling than Colours can any ways be ground; and being of the consistence of a Balsom, works delicately with a Brush, and of it self, without the addition of Colours, bears a body sufficient to secure all manner of Timber-work, equal to, if not beyond Oyl-Colours.

In the working of it there's no great skill required, if you can but use a Painters Brush; only let the matter you lay it on be so thoroughly drenched, that the outside may be glazed with it, twice doing is sufficient, but be careful to let it thoroughly dry before it be used; Gum-Lake dries soonest, which I have known it do in a Weeks time: if you desire a Colour on the outside, you need only grind Colour with the last Varnish you lay on.

C H A P. XVIII.

How to preserve all bright Iron-work from rust and other injuries of a moist and corroding air, by an Oily Varnish.

TAKE good Venetian, or for the want of that, the best and clearest common Turpentine, dissolve it in Oyl of Turpentine, and add to it some good drying Linseed Oyl, made clear by insolation, or long standing in the hot Sun (for some uses, the common drying Linseed Oyl may serve) mix them well together, and with this mixture, Varnish over any sort of bright Iron-work, such as Hinges and Locks, the Iron-work of Cabinets, or any other kind of Iron-work whatever, that is used about the Houses of the Nobility and Gentry; as also all kind of bright Arms that is kept in Armories and other places of publick state: 'Tis a certain preserver of all such Iron-work from rust, let it be what it will, provided

provided it be such as is not brought into common use, for much handling will wear it off, and heat will again dissolve it; but for all such bright Iron-work that is used about either Carpenters or Joyners Work, that requires not much handling, as also Arms, &c. that stands up for state rather than present use; 'tis, as I said before, an infallible Preservative.

When you use this Oily Varnish, 'tis best to warm it, and then with a Brush lay it on; this is best for Arms; but for other Iron-work, it may be laid on cold; in four or five days after 'tis laid on, 'twill be thrughly dry.

Note, That such Arms as is done over with it, may, when they come into use, be cleansed from it again, by being warmed hot before a fire; for heat will dissolve it, but Water will do it no hurt.

C H A P. XIX.

A Discovery of the Mystery of Back Painting Maps, or Prints in Oyl-Colours; so much now in use.

THis secret consists only in making the paper Print transparent, with clear Oyl, or some other matter, and then lay on the Oyl-Colours on the backside.

Take therefore a Paper Print, that is rouled off from a *Mezo Tincto*, or else from an Ingraven Plate, chose for this purpose; those that are Printed on the thinnest and most transparent Paper; let this Paper Print be wet first in fair Water, and then strained on a small slight Frame, that fits to the outmost edge of the Paper, which generally is much broader than the Print, let it be pasted to the Frame with starch, while wet, and as it dryes, 'twill shrink very even and smooth; then when 'tis throughly dry, with a Pencil dipt in
clear

clear Walnut-Oyl, or clear Linseed-Oyl that will dry well ; let the Printed Paper be struck clean over on both sides, if there be occasion , by the Papers being a little too thick ; when this Oyl is dry, the Paper will be transparent, almost as Glass, then having prepared your Oyl-Colours , as in the preceeding work is directed, grinding them very fine, and tempering them up very stiff ; let the backside of the transparent Print be Coloured over with such Colours as each particular part does require , letting the Master Lines of the Print still guide your Pencil, so will each particular Colour lye fair to the Eye , through the transparent Paper, on the other side, and look almost as well as a Painted-Piece, if it be done neatly.

Note, That the shadows of the Print are generally sufficient for the shadow of every Colour , but if you desire to give a shadow from your Pencil , then let the shadows be laid on first, and the other Colours after.

The same is to be observed in a Map where if you Colour Towns, Hills, or Rivers, of a Colour differing from that
with

with which you intend to Colour over each particular Province; let those Colours be laid on first, and then the general Colour afterwards.

Note, That now these Pictures are generally pasted on Glass, and then Coloured over when dry, but this is hard to do in Maps and large Prints; in these 'tis sufficient that they be secured by a wooden back, for this kind of Colouring shall never decay like Colours laid on by washing, which strangely fade when exposed to the Air, which Oyl Colours are not subject to.

Take care the Oyl that you make your Print transparent withal, be very clear, for the clearer that Oyl is, the better will the gloss of each particular Colour be discerned through it; for Paper Prints thus ordered, if well done, will become clear as glass, and the Colours will be seen through them as well.

Note, That some make their Prints transparent with *Venetian* or *Cyprus* Turpentine dissolved in Oyl of Turpentine; others do it by Varnishing the Print (when strained on a Frame) with the
White

White transparent Varnish made by dissolving Gum-Sandroek, and Mastick in Spirit of Wine ; any of these do well, provided your Pictures are Printed on very thin Paper, which are always the best for this purpose.

Note also, That in laying on of Colours in this kind of backside Painting, you need not be curious in laying them on smooth, 'tis not at all requisite here where the chief aim is only to have the Colours appear well on the foreside of the Print ; and therefore the only care to be used in this work, is to lay Colour thick enough, that its body may strike the Colour of it plainly through the Paper.

Note, That the Prints are to be pasted or fixt upon Glass in this manner. Take good Strasburg Turpentine, and warm it in a Spoon, then with a fine Pencil, let the Glass be thinly spread over with it, upon which lay your Print first made transparent, press it down close and even, let it dry, and then Colour it over.

Some Directions for mixing of Oyl-Colours for divers purposes, in this Art of Colouring Prints with Oyl-Colours.

Colours for several Faces.

FOR Faces that are accounted fair, take White-lead, a little Vermillion and a very small touch of Lake.

For the Lips take more of the Vermillion and Lake than you did for the Face.

For a Brown Face take burnt Oaker and White.

For a Tawny-Moor, take Cullens Earth, a little burnt Oaker, and a little White.

Colours for Hair.

For a brown Hair, mix Umber and a little Black and White.

For a yellow Hair, take Stone-Oaker, White-lead, and a little Vermillion.

For a flaxen Hair, take White-lead, Stone-Oaker, and a little Cullens-Earth.

Linen.

Linen.

Is done with White-Lead or Cerus.

Silver.

Is done with White, a little Smalt, and some White Masticote.

Gold.

Is done with Red Orpiment and White Masticote, of each equal quantity.

Colours for Garments.

For Blue Garments the best Smalt and White-Lead.

For a Grass-Green, mix Verdigrease and a little Pink Yellow.

For a Willow-Green, mix Verdigrease and a very little White.

A Sea-Green is made by mixing green Verditer, Pink and White-Lead.

A French-Green is made by mixing Pink and Indico.

A Carnation by mixing Lake and White-Lead.

A Crimson is made by mixing Vermillion, Lake and White.

A Scarlet is only Vermillion laid on alone.

A Cherry

A Cherry Colour is made by mixing Vermillion and White-Lead.

For Yellow, lay on either Yellow Orpiment, or Yellow Masticot; if your Yellows are more pale, then mix White with the former.

For an Orange Colour, mix Red Orpiment and a little Vermillion.

For a Purple, mix Smalt, Lake and White.

For a Violet, mix b. and Lake.

A Straw-Colour is made with White, Yellow-Oaker, and a very little Umber.

An Ash-Colour is made by mixing Black and White.

A Chesnut-Colour is made by mixing Umber, Lake and White.

A Dove-Colour, or the Wings of an Angel, take White, a little Lake, and a little Smalt.

Colours for Trees.

For the Bodies of Trees, take Pink, Yellow, White-Lead, and Yellow-Oaker, and a little Black.

For the Leaves of them that are near
the

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the Eye, take Verdigrease and Pink, or if darker Coloured, then take Indico and Pink.

For Leaves of Trees farther off, take Green-Verditer, Pink, and White-Lead.

For them that are farthest of all, take Terrevert and White.

Colours for grounds behind a Picture.

Note, That a light Hair requires a dark ground, and a dark Hair a light ground.

Ground Colours for a Picture with a light Hair, is made with Umber, White and Black.

A ground Colour for a dark Hair is made with Umber and White.

For ground in a Landskip.

Take Pink, Oaker, and White, with a little Green-Verditer.

For Country-Houses at a distance, take White-Lead, Yellow-Oaker, and Smalt; the same Colour serves also for Houses of Stone.

For Brick-Houses or Walls, take Yellow-Oaker

low-Oaker burnt, and White-Lead, if the Work be far off, but if near, then *India-Red*, and a little White.

For Pails of Wood or other Timber-Work, of what kind soever, in Country-Cottages, take Umber, White, and a little Oaker.

Sky-Colours.

Are made of Smalt and White for the highest Skies, more White for the lower, and Yellows mixt with a little Vermillion for the lowest of all.

CHAP. XX.

The manner of Painting Cloth, or Sarsnet Shash-Windows.

LET the Cloth or Sarsnet be first wet in clean Water, and then strained tight to the Frames, and there made fast, and when they be through dry, Varnish them over with the following transparent Varnish thus made.

Take a pound of good clear Nut-Oyl, put it into an Earthen Pipkin, and add to it half a pound of good Silver Litharge in fine Powder, set it on a small Fire, but not to boyl, and let it stand hot at least twelve hours, stirring it often in that time (this adds a drying quality to the Oyl) when it has stood thus long, pour it of from the Litharge by Inclination, then take a pound and a half of the clearest white Rosen, beat it to Powder, and mix it with the Oyl on a slow Fire, always stirring it till the Rosen

be dissolved ; then take it of and put into it a pound of good clear *Venus Turpentine*, and stir them all well together ; then with a good Brush let your Shashes be throughly Varnished over with this mixture , so that they may appear all over clear and transparent.

When this Varnish is dry , then you may Paint upon them what fancy you please , but Landskip is most common and natural, for which purpose, the Colours you mix ought to be such as are of a fine Body, and apt to become transparent ; these made into a very fine Powder, may be mixt with your Varnish on the Fire, or ground with it on a Stone, first made warm, and so kept with Coals under it during the time of grinding.

For these purposes, Lake makes an excellent transparent Ruby Colour, and distilled Verdigrease makes an incomparable transparent Green, *Ornoto* steeped some time in Varnish, kept luke warm, will make it an excellent transparent gold Colour ; Umber and Yellow-Oaker will become indifferent transparent, if thinly mixt, but for the rest, there are none that will lye clear in this work,
but

but only according to the very thinness of their mixture with the Varnish.

The aforesaid Varnish, as it is clear of it self, is an excellent Varnish for Paper Windows, being much more transparent than any other Composition, and more lasting; for the Rosen and Turpentine being made tough, when dry, by means of the Oyl mixt with it, does more powerfully resist the injuries of all weather than Oyl alone.

If any are troubled with weak Eyes, and cannot indure a bright Light, this Varnish mixt with distilled Verdigrease, and Paper Windows, or Sarsnet ones done over with it, will make an incomparable green light, very comfortable to the sight, and of great benefit to such as love not too much brightness: a Note of good use, especially to all great Students, whose sight is often much impaired and weakened by poring too much upon their Books; the whiteness of the Paper being observed to be often a great Enemy to the sight of some Men, the inconveniencies of which,
such

such a green Light as this now mentioned, will infallibly prevent, beyond green reading Glass, Spectacles, or any other contrivance, yet found out; the like benefit may some Tradesmen also receive from it.

FINIS.

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