

JOHN BLAGRAVE, THE ART OF DYALLING IN TWO PARTS

London 1609

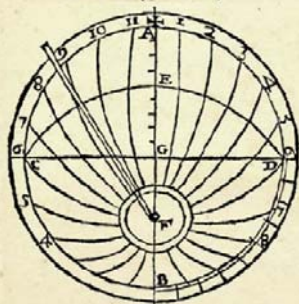
THE ART OF DYALLING IN TWO PARTS

The first shewing plainly, and in a manner mechanically to make dyals to all plaines, either Horizontall, Murall, declining, redining or inclining, which the *theoricke of the Arte*.

The second how to performe the selfe same, in a more artificial kinde, and without vse of Arithmeticke, together with concaue and conuex Dyals, and the inserting of the 12 signes, and many other things to the same Art appertaining.

The whole differing much from all that hath bene heretofore written of the same Art by any other, and the greater part wrought by diuerse new conceits of the Author, neuer yet extant, now published.

By JOHN BLAGRAVE of Reading, Gentleman, and Mathematician, this yeare, 1609.



Printed by N. O. for Simon Waterfon, and are to be sold at his shop in Paules Church yard, at the signe of the Crowne, 1609.

“THE ART OF DYALLING IN TWO PARTS” is a detailed book of dialling. It contains the following chapters, with much of the text in a Gothic script:

The First book teacheth Geometrically, and in a manner Mechanically out of the Theoricke of the Art to make Dials, to all Horizons, and to all Wals or Plaines whatsoever, or howsoever declining, reclining or inclining, after the plainest manner :

Fit for the Capacity of men of ordinary vnderstanding, yet differing much from all that hath bene heretofore written of the same Art by any other.

CHAP. I.

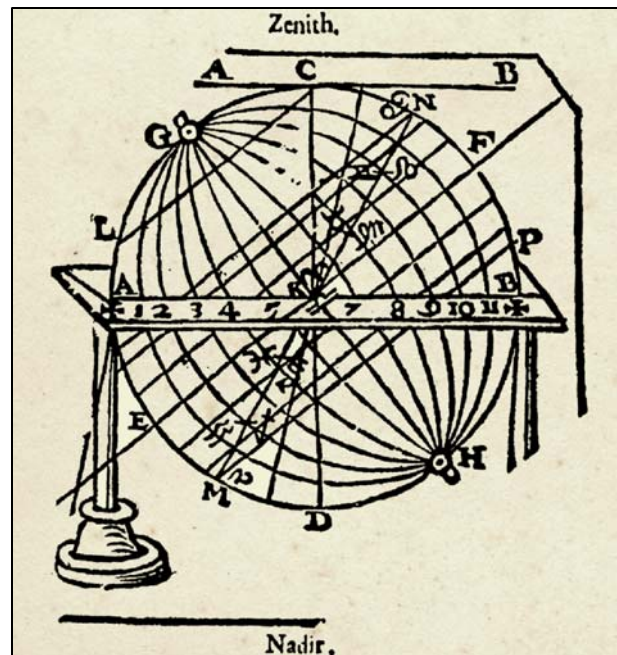
Of certaine principles fitting this Art of Dialling, and of the diuision of all plaines, and their Dials into three sorts, viz. Polar, Equinoctiall, and Oblique.

CHAP. 2.

The Theoricall ground and reason of projecting and making all Polar and oblique dials geometrically.

CHAP. 3.

The Theoricall reason of all Equinoctiall or right Horizon Dyals.



Globe from Chapter 1

CHAP. 4.

How to prepare an Instrument fit as well for Dyalling, as many other good necessary vses.

CHAP. 5.

How by this Instrument, any day of the yeare, to know the signe and degree of the ☉ in the Zodiack, and how much his Declination is.

CHAP. 6.

How by helpe of this Instrument to draw a verticall-line and an Horizontall-line on any perpendicular wall.

CHAP. 7.

How by this Instrument to draw an Horizontall line, and also the line of Reclination, on any reclining or inclining plaine.

CHAP. 8.

How by this Instrument to get the true Reclination or inclination of any Plaine, reclining, or inclining.

CHAP. 9.

How by this Instrument to set any plain leuell with the Horizon, and how to set any stile or pinne, or the cocke of any Dyall, perpendicular or plumme, on any plaine.

CHAP. 10.

How by this Instrument to take the height of the Sunne aboue the Horizon, two seuerall waies.

CHAP. 11.

How any day the Sunne shining, the Meridian line of any Horizon or other plaine, howsoever scituate, may be gotten by this instrument.

CHAP. 12.

How by this Instrument to get the Meridian altitude of the Sunne about your Horizon, or about any other plaine, howsoever Scituate.

C H A P. 13.

How to get the poles Eleuation aboue any Horizon, wall or plaine, howsoever scituate.

C H A P. 14.

How easily to get the poles eleuation of any reclining or inclining plaine, that doth fully behold either the north or south, not hauing any declination.

C H A P. 15.

Of making the Polar Dyall.

C H A P. 16.

How to make the Equinoctiall right Horizon Dyall.

C H A P. 17.

How in any Oblique latitude to make an Horizon dyall, or any Oblique dyall to any wall or plaine, that declineth not from the north or south.

C H A P. 18.

How to make the North, and South-wall Dyals, in euery Oblique Horizon or Latitude.

C H A P. 19.

How in any Oblique latitude to plant the twelue of clocke howre-line, on any vpriht wall declining, or on any reclining or inclining plaine, or declining walles.

C H A P. 20.

How in any oblique latitude to make a dyal to any vpriht wall that wryeth or declineth from the full south or north.

C H A P. 21.

How in any Oblique latitude to make a dyall to any reclining or inclining plaine, that wryeth or declineth from the north or south.

C H A P. 22.

How to make an Equinoctiall or right Horizon dyall, deuatiating.

C H A P. 23.

How to make the East and West wall Dyalls in any Oblique Horizon or Latitude.

C H A P. 24.

Of making Dials to all North declining plaines, as well vpriht as reclining or inclining.

C H A P. 25.

Of sundry accidents that may stumble a young dyal maker.

C H A P. 26.

How to fasten in the Cocke of any diall when it is made.

The second part, teacheth by a more

Artificiall way to make Dyals, not onely to all Horizons, walles, or other plaines, howsoever declining, reclining, or inclining : but also to concaue and conuex plaines, and to set the 12.

signes and the howres of any other country in any dyall, and many other things to the same Art appertaining.

Wrought by diuerse newe conceites of the Author, neuer yet extant by any other.

C H A P. 1.

How speedily with rule and compasse to make an angle, containing any degrees assigned, or to get the degrees of any angle made.

C H A P. 2.

How to get the declination of the Sunne by rule and compasse, and help of an Almanacke.

C H A P. 3.

How performe the same another way, by a newer conceit of the Author.

C H A P. 4.

How to take the altitude of the Sunne without Instrument.

C H A P. 5.

The altitude and declination of the Sunne, had a known latitude, how to get the Azimuth of the Sunne.

C H A P. 6.

How speedily to draw the Meridian line the Sunne shining.

C H A P. 7.

To performe the same in the night, by the pole starre.

C H A P. 8.

How to get the latitude or poles eleuation in any place by the starres.

C H A P. 9.

Of the Polare and Equinoctiall, or right Horizon dyals.

C H A P. 10.

How in any Oblique latitude to make an Horizon dyall, or a dyall to any wall, or to any reclining plaine, which declineth not from the north or south, by a new conceit of the Author.

C H A P. 11.

How with a sodaine conceit to strike an Horizontall line on any reclining or inclining plaine.

C H A P. 12.

How to get the Horizontall distance of the sunne from the pole Zenith of any vpriht wall, or of the Horizontall line of any reclining plaine.

C H A P. 13.

What the declination of any wall, or of the Horizontall line of any reclining or inclining plaine is, and how speedily to know whether they decline or no.

C H A P. 14.

How and day at noone the sunne shining, without instrument to get the declination of any vpriht wall, or of the Horizontall line of any reclining or inclining plaine from the south.

C H A P. 15.

How to get the same declination any time of day, either from the North or South, without Instrument.

CHAP. 16.

The declination of any vpright wall giuen how thereby to get the cockes height of his deflection from the plum line, by a new conceit of the Author.

CHAP. 17.

To performe the same another way, by a new conceit of the Author.

CHAP. 18.

To performe the same a third way more common.

CHAP. 19.

How for any declining wall dyall, in any oblique latitude to plant the line of deflexion artificially, and thereby to make the dyall, as the first Booke 20. chapter teacheth.

CHAP. 20.

How in any Oblique latitude to make any declining wall dyall by a new conceit of the Author, neuer yet extant.

CHAP. 21.

How without Instrument to get the reclination of any bancke, buttress or plaine.

CHAP. 22.

Of position plaines, what are they, and how their angles of deflection, and cockes eleuation are obtained.

CHAP. 23.

In euery reclining plaine declining, what the mounting and ascension of the Horizontall Meridian are, and what the Deuiation of any plaine is.

CHAP. 24.

The reclination and declination of any plaine giuen in a knowne latitude, how to get the mounting and ascension of the Horizontall Meridian, the position Latitude, the Position Deuiation, the angle of deflection, and cockes eleuation.

CHAP. 25.

To performe the same by a newer conceit of the Author.

CHAP. 26.

The Meridians ascension, the angle of deflexion, and the cockes eleuation had, how you shall plant them on your reclining or inclining plaine, and thereby to proceede for making the dyall according to the I. Booke 21. chapter.

CHAP. 27.

To performe the last chapter, by a new conceite of the Author, neuer yet extant.

CHAP. 28.

How geometrically to describe an arch proposed without respect of the centre.

CHAP. 29.

How to make a dyall to any right Horizon, plaine deuiating otherwise then in the I. Booke, 22. chapter is taught.

CHAP. 30.

Of any vpright plaine declining, if the angle of deflection be giuen, how thereby to get the cocks eleuation, and the declination in a knowne latitude.

CHAP. 31.

How to drawe the prime dyametre mentioned in the 27. chapter, where direction wanteth.

CHAP. 32.

How in an Horizon dyall or any Murall or reclining or inclining dyall that declineth not, to plant hower lines that shall yeeld the howers of any other country or place assigned as well as ours, and all with one shade.

CHAP. 33.

To know how much the Meridian of any Murell or reclining or inclining plaine, declining differeth in Longitude from the Meridian serueth, & to setin howres appertaining.

CHAP. 34.

TO know vnto what place of the world any Mural or reclining or inclining Dyall declining, shall become an Horizon Dyall, or a South wall Dyall, hauing his owne proper howrs, as the last chapter teacheth.

CHAP. 35.

How to make a dyall in a concave Hemisphere of a globe two several waies.

CHAP. 36.

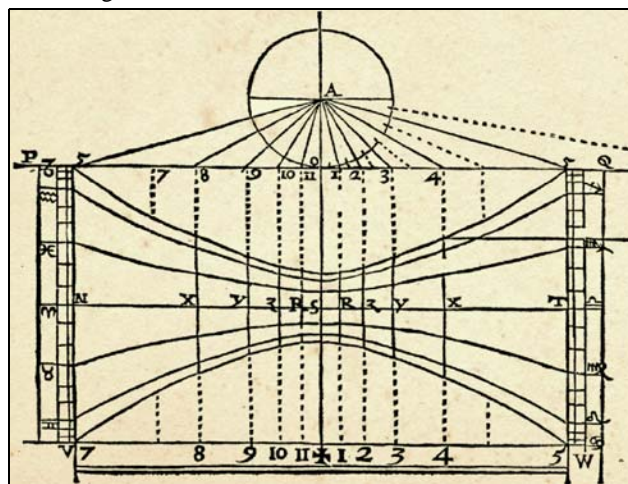
How to make a dyall on a conuex Hemisphere of a Globe.

CHAP. 37.

How to frame a Zodiacke Trigon for the inserting parrallels of the Sonnes declination in any dyall.

CHAP. 38.

How to plant the parrallels limiting the signes of the Zodiacke in any Equinoctial or right Horizon dyal, by which the shade of the cocke shall shew all the yeare long, in what signe the Sunne is.



Chapter 38. Making Parallels of Lines of the Zodiac

CHAP. 39.

How to plant the Parrallels, in any Oblique dyall limitting the signes of the Zodiack by the shade of a stile.

CHAP. 40.

Of a reclining dyall, declining if the cocke be lost, how to make him againe, and to know how much the declination is.

FINIS.