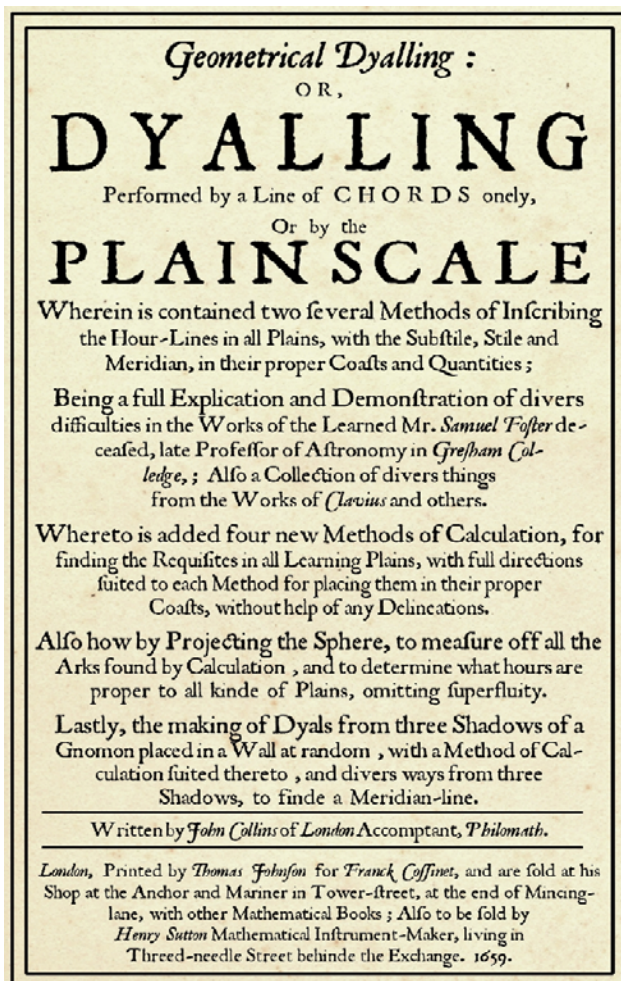


# JOHN COLLINS, GEOMETRICAL DYALLING

London 1659



“*Geometrical Dyalling* : OR *DYALLING* Performed by a Line of CHORDS onely, Or by the *PLAIN SCALE*” by *John Collins* is a small book with the following Contents:

## The Contents:

**D**Yals Distinguished.

To take the Suns Altitude without Instrument.

To finde the Reclination of a Plain.

Also the Declination thereof.

A general proportion and scheme for finding the Suns Azimuth or true Coast.

To draw a Horizontal Dial.

Also a South Dial.

A new way to divide a Tangent line into five hours and their quarters.

A direct South Polar Dial.

To prick off the Requisites of upright Decliners.

To prick off an Arch or Angle by Sines or Tangents.

The Scheme for placing the Requisites of upright Decliners demonstrated.

To inscribe the hour-lines in an upright Decliner.

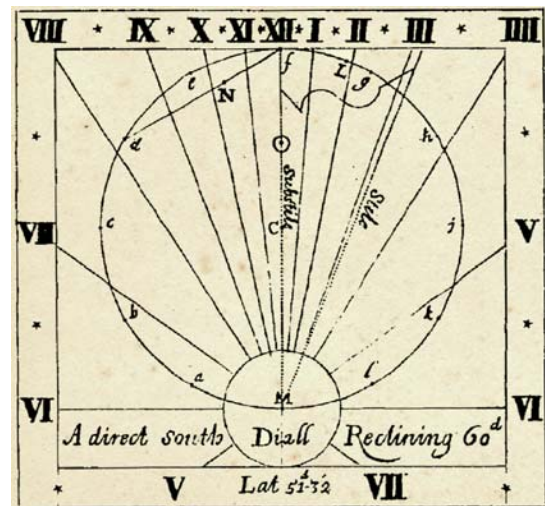
The Demonstration thereof.

An East Dial.

Requisites placed in East or West leaning Plains.

The Demonstration thereof.

The Construction of the general Scheme for placing the Requisites in Declining Reclining/Inclining Plains.



*A direct South Dial Reclining 60<sup>d</sup>*

The first Method of Calculation for Oblique Plains.

And directions for the true placing the Requisites suited thereon.

The general Scheme demonstrated.

The hour-lines inscribed in an Oblique Plain.

The general Scheme fitted for Latitudes under forty five degrees.

To draw hour-lines in a Declining Polar Plain.

Also how to delineate the hour-lines in Plains having small height of Stile.

Another way to performe the same.

A second Method of Calculation for Oblique Plains.

Proportions for upright Decliners.

A third Method of Calculation for Oblique Plains.

Directions for placing the Requisites suited thereto.

A fourth Method of Calculation for Oblique Plains.

Through any two points assigned within a Circle to draw an Arch of a Circle that shall divide the primitive Circle into two Semicircles.

To measure the Arks of upright Decliners by Projection.

Also the Arks of leaning East or West Plains thereby.

To project the Sphere for Oblique Plains.

To measure off all the Arks that can be found by Calculation.

With the Demonstration of all former Proportions.

To determine what Hours are proper to all Plains.

Another Method of inscribing the Hour-lines in all Plains by a Parallelogram.

To draw the Tangent Scheme suited thereto.

The Hour-lines so inscribed in a Horizontal and South Dial.

As also in an upright Decliner.

With another Tangent Scheme suited thereto for pricking them down without the use of Compasses.

A general Method without proportional work, for fitting the Parallelogram into Oblique Plains that have the Requisites first placed.

By help of three shadows to finde a Meridian-line.

Another scheme suited to that purpose.

A Method of Calculation for finding the Azimuth, Latitude, Amplitude, &c. by three shadows.

From three shadows to inscribe the Requisites and Hour-lines in any Plain.

Which is to be performed by Calculation also.