

Mr. Newington. part 2. 28

THE EXACT
SURVEYOR:
OR,
The whole *ART* of
SURVEYING
OF
L A N D.

Shewing how to Plot all manner of Grounds, whether small Inclosures, Champain plaine, Wood-lands, or Mountains, by the *Plain Table, Theodolite,* and *Circumferentor*; And how exactly to prove the truth thereof.

And also how to finde the Area, or Content of any Land; To Protract, Reduce, and Divide the same, as required: To take the Plot of a whole Mannor, and to make a perfect Map or Chart thereof, and how to Advance and beautifie the same.

Usefull for all that either Sell or Purchase.

BY *J: E Y R E,*
Practitioner in the Mathematicks.

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may take his choise ; And being well exercised in the use of one Instrument, hee cannot be ignorant of the application of that to any of the other , for in many cases one Instrument may make a quicker dispatch, and be altogether as exact as another, and in laying downe of a spacious businesse , I would advise him to use the *Circumferentor*, or *Theodolite*, and for Townships, and small inclosures the *Plaine Table*, which (as I said before) containes both the other, and therefore may very well supply the want of both or either of them, as in my description of them severally, I shall make appeare.

CHAP. II.

A description of the Theodolite, and its severall parts.

THIS Instrument consisteth of foure parts. First, The *Planisphere* ; or *Circle* , whose limbe is divided into 360 equall parts, called *degrees*, without which it were fitting to have drawne six concentrick Circles (not equidistant, Master *Norwood* having sufficiently detected that error in pag. 81. of his *Architecture Military*) with *Diagonalls*, by which the parts of a degree are distinguished.

The second part of this Instrument is the *Geometricall Square* ; described upon the former *Planisphere*, within the *Circle*, whose use with the helpe of the *Index*, is chiefly to find *Length*, *Bredths*, and *Distances*.

The third part of this Instrument is a *Semicircle* or *Quadrant*, perpendicularly erected, and artificially

tially contrived upon the *Index*; whose Limbe is divided (if a *Semicircle*) into 180. *degrees*, but if a *Quadrant* into 90.

The fourth and last part of this Instrument is a scale divided into a certaine number of equall parts, whose use is chiefly to finde *Altitudes*, and *Profunditudes*: The description and use of this Instrument is largely treated on by Mr. *Leonard Diggs*, in his *Pantometria*, and therefore I am emboldned to pass it over with the more brevity.

CHAP. III.

A Description of the Circumferentor, and the parts thereof.

FOR portability, this Instrument exceedeth any other, and is usually made of wood, containing in length about eight Inches, and in breadth about foure Inches, and in thicknesse three quarters of an Inch, the left side whereof is divided into divers equall parts, most fitly of twelve in an Inch, to be used as the scale of a protractor, the Instrument of it selfe being fitting to protract the plot on paper by helpe of the Needle, and the degrees of Angles, and length of Lines taken in the Field. About the middle of the upper side of this Instrument is turned a round hole, three Inches and a halfe diameter, and about halfe an Inch deepe; in which is placed a Card divided commonly into 120 equall parts, and each part againe into three, which makes 360. answerable to the degrees of the *Theodolite*; In which Card is also a Diall drawne