M. BION, THE CONSTRUCTION OF MATHEMATICAL INSTRUMENTS Translated from the French by EDMUND STONE. The Second Edition, London 1758



"THE CONSTRUCTION AND PRINCIPAL USES OF Mathematical Instruments" of 1758 was originally produced, in 1709 by Nicolas Bion. The English version by Stone was first published in 1723 with a **SUPPLEMENT** at the back. It is a large book about Instruments with sections on Sundials.

BOOK I.

Of the Construction and Use of Mathematical Instruments; containing the common Instruments, as Compasses, the Ruler, the Drawing-Pen, the Porte-Craion or Pencil-Holder, the Square, and the Protractor.

BOOK II.

Of the Construction and Uses of the SECTOR.

BOOK III.

Of the Construction and Use of several different Sorts of Compasses, and other Curious Instruments.



A Polyhedral Dial



A Universal right-lined or Regiomontanus Dial

Number of Pages: 332Page Size: $14^{1/8}$ × $8^{3/4}$ "Illustrations: 26 + 4 fold out sheets. Three of which are dedicated to Sundials.



A direct West facing Dial

BOOK IV.

Of the Construction and uses of Mathematical Instruments for measuring and laying out of Land, taking of Plots, Heights, and Distances; the most usual of which, are Staffs, Lines, the Toise or Fathom, the Chain, Surveying-Crosses or Squares, Recipient-Angles or Measure-Angles, Theodolites, the Quadrant, the Semicircle, and the Compass.

BOOK V.

Of the Construction and Uses of Levels, for conducting of Water ; as also Instruments of Gunnery.

BOOK VI.

Of the Construction and Uses of Astronomical Instruments.

BOOK VII.

Of the Construction and Uses of Instruments for Navigation.

BOOK VIII.

Of the Construction and Uses of Sun-Dials.

Remarks and Definitions appertaining to Dialling.

CHAP. I.

Of Regular and Irregular Dials, drawn upon Planes and Bodies of different Figures.

CHAP. II.

Of the Construction and Uses of the Declinatory.

CHAP. III.

Of the Construction and Uses of Instruments, for drawing upon Dials the Arcs of the Signs, the Diurnal Arcs, the Babylonick and Italian Hours, the Almacanters, and the Meridians of principal Cities. CHAP. IV. Of the Construction and Uses of Instruments for drawing Dials upon different Planes.

> CHAP. V. Of the Construction and Uses of Portable Dials.

CHAP. VI. Of the Construction and Uses of a Moon-Dial, and a Nocturnal or Star-Dial.

> CHAP. VII. Of the Construction of a Water-Clock.

CHAP. VIII. Of the Construction of an Instrument, shewing on what Point of the Compass the Wind blows, without going out of one's Room.

The End of the Translation.

Followed by these additional pages:

The Use of the Sector *in the Construction of Solar Eclipses.*

Finally:

S U P P L E M E N T TO THE English TRANSLATION

OF Mr Bion's CONSTRUCTION and USE OF

Mathematical Instruments:

Containing a further **ACCOUNT** Of some of the most useful **MATHEMATICAL INSTRUMENTS**, both Antient and Modern, as now improved. By EDMUND STONE.

The End of the APPENDIX.



A moveable Horizontal Dial or Declinatory.