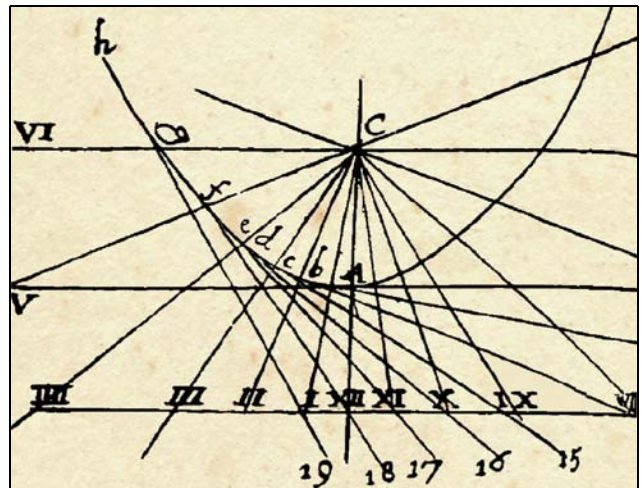
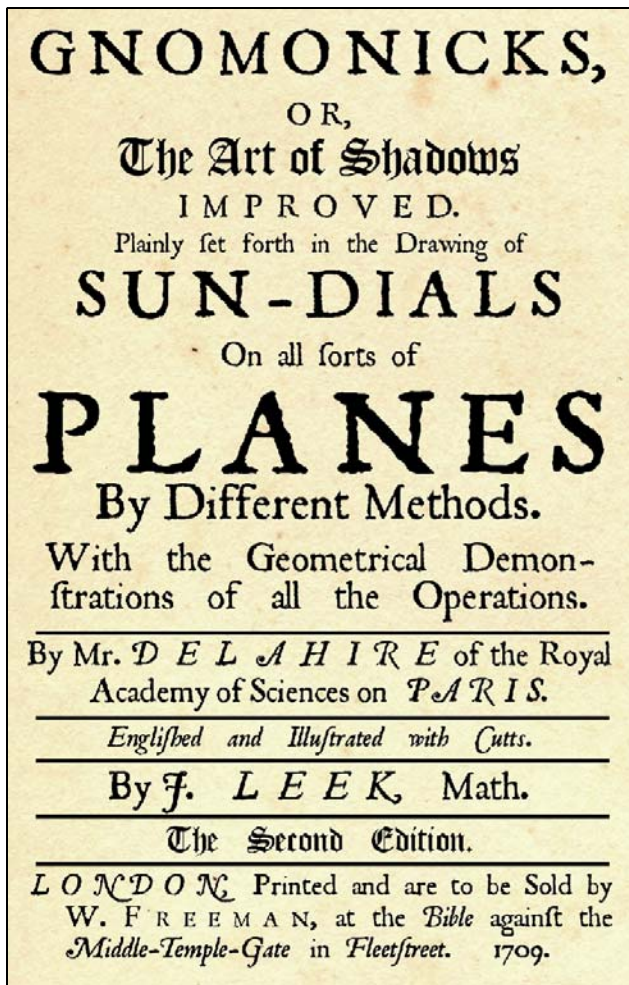


DE LA HIRE, GNOMONICS OR, THE ART OF SHADOWS

London 1709 (Second Edition)



To Draw Italian and Babilonian Hours upon an Horizontal Plane

CHAP. IV.

To Draw the Horizontal Line.

CHAP. V.

To find the Substylar Line, two Points of Shadow being given in a certain condition.

To find the Center and draw the Equinoctial Line, the Declination of the Sun, and one Tract of Shadow being given.

CHAP. VI.

To place the Substylar and Equinoctial Lines, and the Center of the Dial, and to determine the position of the Axis.

Any Two Points of Shadow being given, with the Declination of the Sun at the time of Observation of the Points of Shadow.

CHAP. VII.

To place the Substylar Line, the Center of the Dial and the Equinoctial Line.

One only Point of Shadow being given, with the Declination of the Sun and height of the Pole above the Horizon.

CHAP. VIII.

To find the Center of the Dial, and to situate the Substylar and Equinoctial Lines.

One only Point of Shadow being given, and the shortest Shadow.

CHAP. IX.

To find the Center of the Dial, and to draw the Substylar and Equinoctial Lines.

Two Points of Shadow being given, with the Declination of the Sun at the times when the Points of Shadow were observed.

“GNOMONICS, OR *The Art of Shadows IMPROVED*” was produced by *J. LEEK* from an original version by Mr. *DELAHIRE* of Paris. It contains:

GNOMONIKUES,

OR

The ART of DRAWING

SUN-DIALS

On all Sorts of

PLANES

THE FIRST PART

CHAP. I.

Of the Circles of the Sphere necessary to be known for the Drawing of SUN-DIALS.

CHAP. II.

Of the Definition of Sun-Dials, and the principal parts which serves for their Construction.

CHAP. III.

To Mark the Points of Shadow.

C H A P. X.

To find the Center of the Dial, and to draw the Substylar and Equinoctial Lines.

Any Two Points of Shadow being given, with the Declination of the Sun at the time of Observation of the Points of Shadow.

C H A P. XI.

To find the Center of the Dial, and to draw the Equinoctial Line.

The Substylar Line being drawn, and one Point of Shadow being given, with the Declination of the Sun.

AND

To draw the Equinoctial Line the Center of the Dial being found.

AND

To find the Center of the Dial, the Equinoctial Line being drawn.

C H A P. XII.

To draw the Equinoctial Line, and the Substylar Line, and to find the Center of the Dial.

Any Two Points of Shadow being given, with the Declination of the Sun.

C H A P. XIII.

To find the Points of the Hours of 6 and 12 on the Equinoctial Line, and to draw the Meridian Line.

The Equinoctial and Horizontal Line being given.

Or to draw the Meridian, the Center of the Dial being given.

C H A P. XIV.

To draw the Meridian Line, and to find the Point of the Hour Line of six on the Horizontal Line.

Only one Point of Shadow being given, with the height of the Pole, and the Declination of the Sun.

C H A P. XV.

To draw the Meridian Line.

Two Points of Shadow being given in a certain condition.

C H A P. XVI.

To find the Center of the Dial or determine the Inclination the Axis with the Meridian, to draw the Substylar and Equinoctial Lines.

The Meridian being found, and the height of the Pole being given.

C H A P. XVII.

Remarques and Practices for divers Anridgements in the Operations of the fore-going Chapters.

THE SECOND PART.

C H A P. I.

To mark the Points of the Astronomique Hours on the Equinoctial Line, and by those Points to draw the Hour Lines.

C H A P. II.

To mark the Points of the Astronomique Hours on the Horizontal Line.

And to draw the Hour Line by those Points.

C H A P. III.

Six Intervals of Hours following one another being given, to draw all the other Hours.

C H A P. IV.

To draw the Parallels of the Twelve Signs.

C H A P. V.

The Equinoctial Line being given, we may draw a Parallel to it by a Point given on an Hour Line.

C H A P. VI.

To draw the Italian and Babilonian Hours upon an Horizontal Plane.

C H A P. VII.

To draw the Italian and Babylonian Hours, on a Plane which is not Horizontal.

C H A P. VIII.

To continue the Description of the Italian and Babylonian Hours, when the Parallel or the Equator is wanting on the Plane of the Dial.

C H A P. IX.

Four Astronomique Hours being given, following one another in order, with the Equinoctial Line.

To find the other Hours.

C H A P. X.

A Dial being given which is already drawn, to find the foot of the Style which did serve to draw it, and to determine the heighth thereof.

C H A P. XI.

To place the Axis.

C H A P. XII.

To Draw Dials by Reflection.

C H A P. XIII.

Concerning the Table of the Sun's Declination, and of those of the Difference of the Meridians of divers considerable places in respect of Paris.

This is followed by tables of the Sun's Declination.