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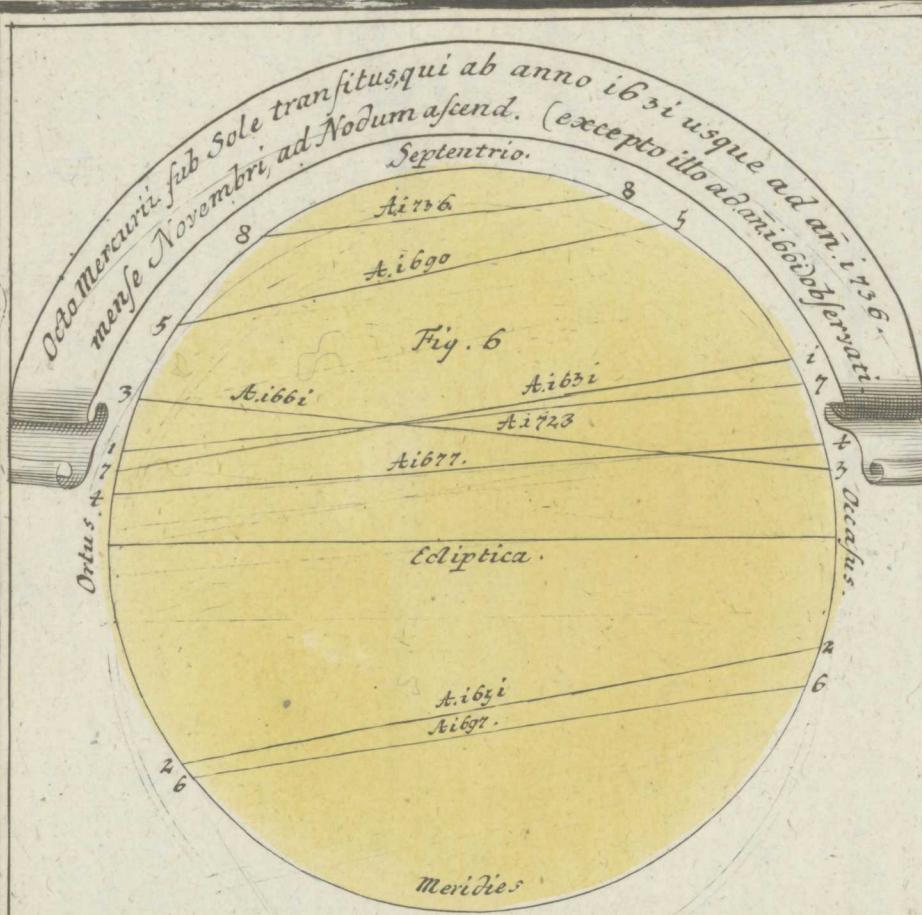
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# THEORIA ECLIPSIVM

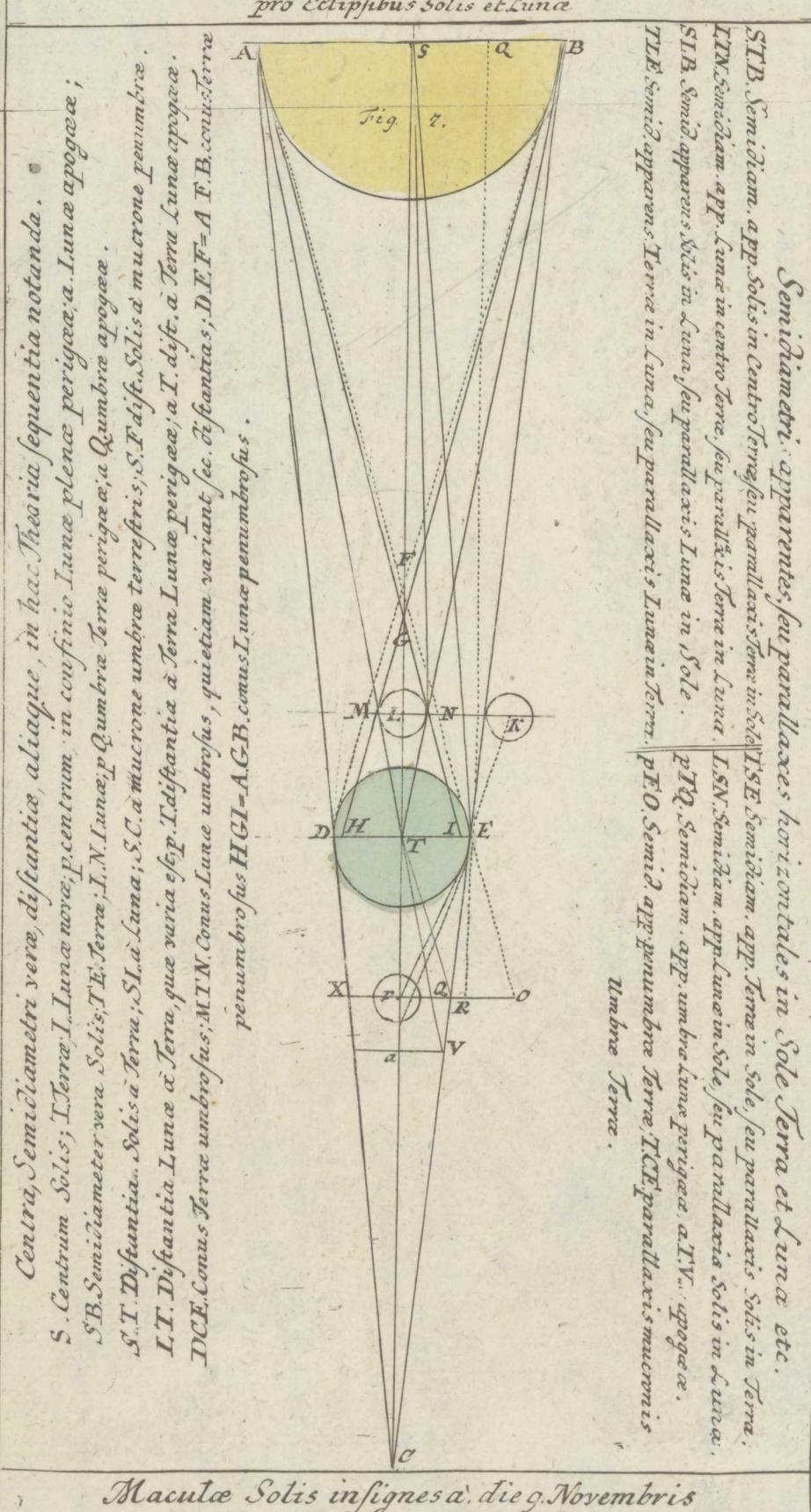
in qua variae Solis occultationes, obscurationes Terræ et Lunæ veræ, stellæ et planetarum occultationes a Luna, aliæ Phænomena huc spectantia, sistuntur.  
a JOH. GABR. DOPPELMAIER, P. O. Acad. Cæsar. Leopoldino. Carol. Nat. Curios. Socie, sumque Regiarum Britanicæ et Borussicæ, Sodali utet Mathemat. Prof. publ.  
Sumtibus Heredum Konianiorum.



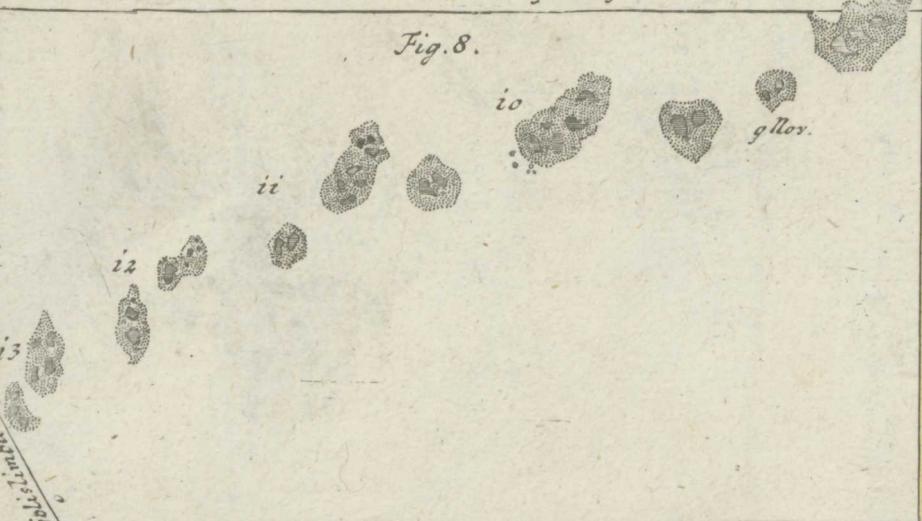
*Tabula in qua ad. annos supra datus dies conjunctionum Mercurii cum Sole, Graphica designatio orbis velris fere totius, per cuius maximum partem, et quidem per universam Europam et superiorem Asiae tractum, Eclipsi Solis (seu potius Terra) Anno 1706 d. in Maij  
harum Observatores et Observationum loca exhibentur.*

Num. Ord.	Anno	Tempus conj. St.n.	Observato, res.	Loca Observation.	Num. ord.	Anno	Tempus Conj. St.n.	Observe, res.	Loc. Observe, tionum.
1	1651	27 Nov.	Pet. Gaffens- dus.	Parisi:	5	1690	21 Nov.	Wurzelbaur. g. Kirch.	Noriberga. Erfordia.
2	1651	23 Nov.	Ier. Shaker- laus.	Surata in India.	6	1697	23 Nov.	Wurzelbaur. et Elimartus. Cassinus.	Noriberga. Parisi.
3	ibibi	23 May.	Joh. Heretius. Hugenius. Streete.	Dantiscum. Londinum.	7	1723	29 Nov.	Edm. Halleyus. Jac. Cassinus.	Londinum. Parisi.
4	1677	27 Nov.	Galletius. Edm. Halleyus.	Avenio. Ins. Kelenia	8	1750	d. 21 Nov.	Manfredius. Marionius. Chr. Kirchins.	Bononia. Vienna. Berolinum.

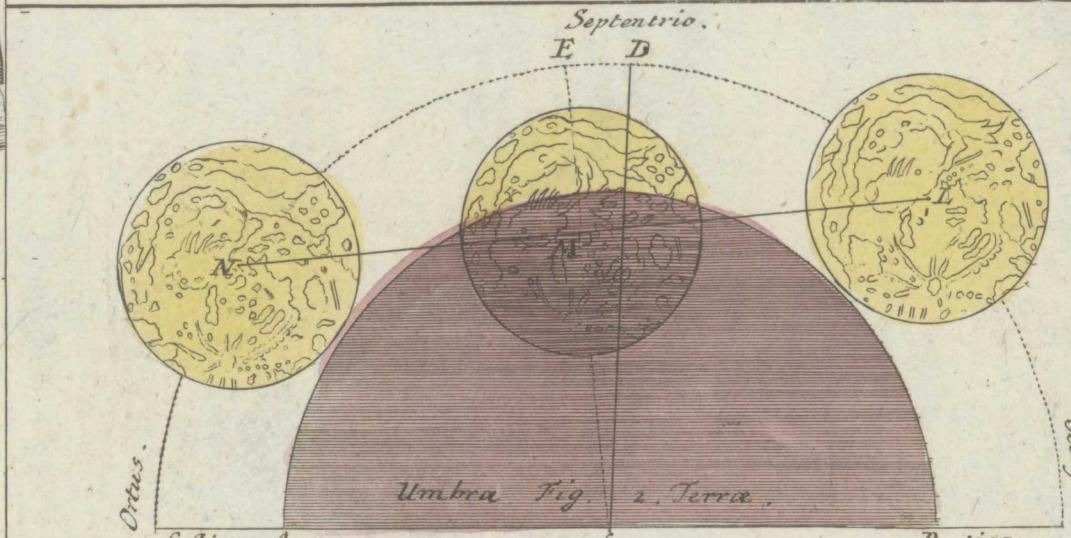
**DIAGRAMMA HIPPARCHICUM.**  
*pro Eclipſibus Solis et Lune*



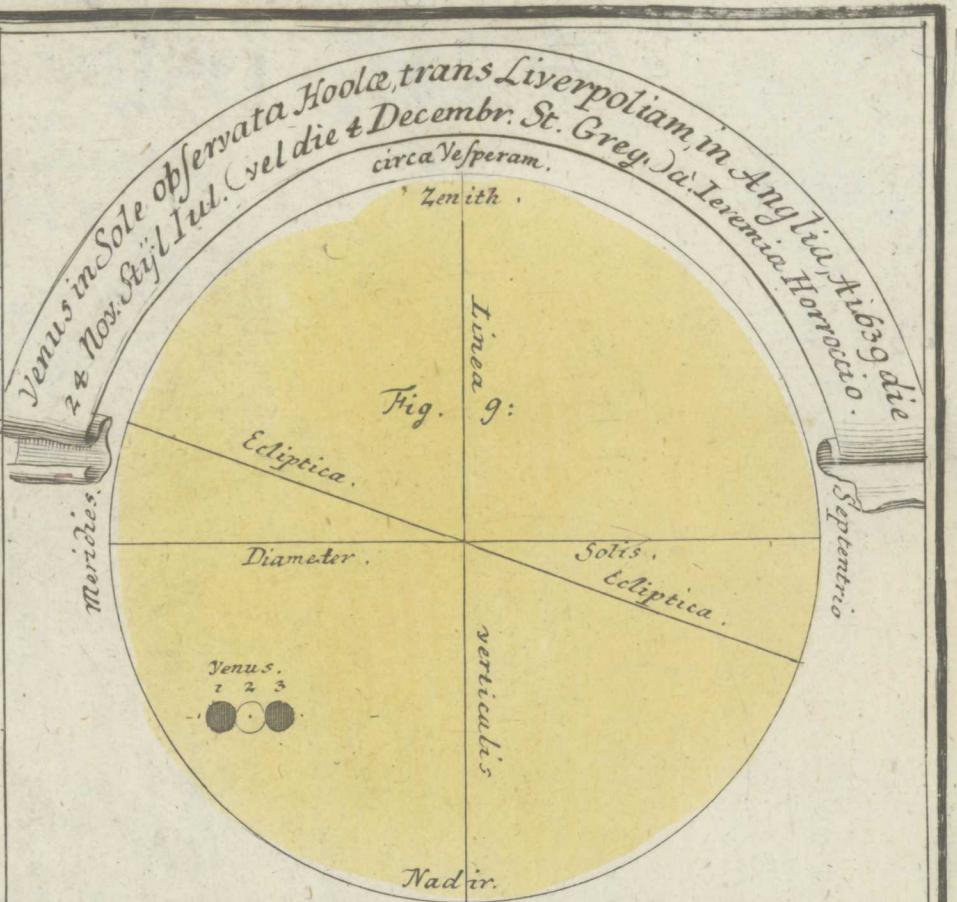
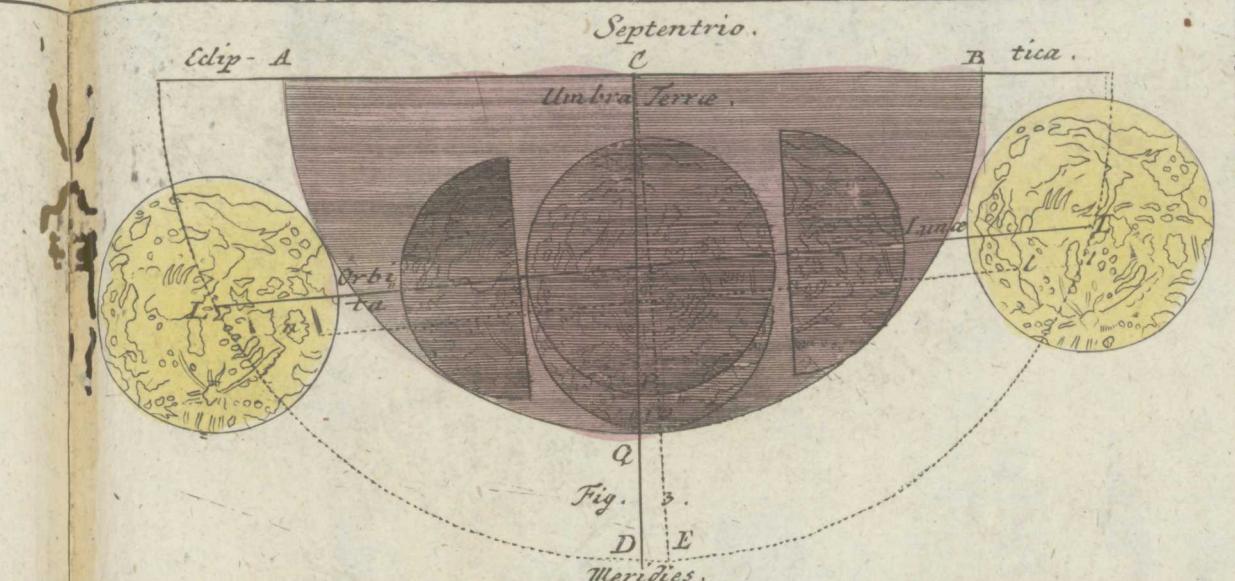
*Maculæ Solis insignes a die 9. Novembris  
usque ad 15. A. 1700 Parisiis obseruatae.*



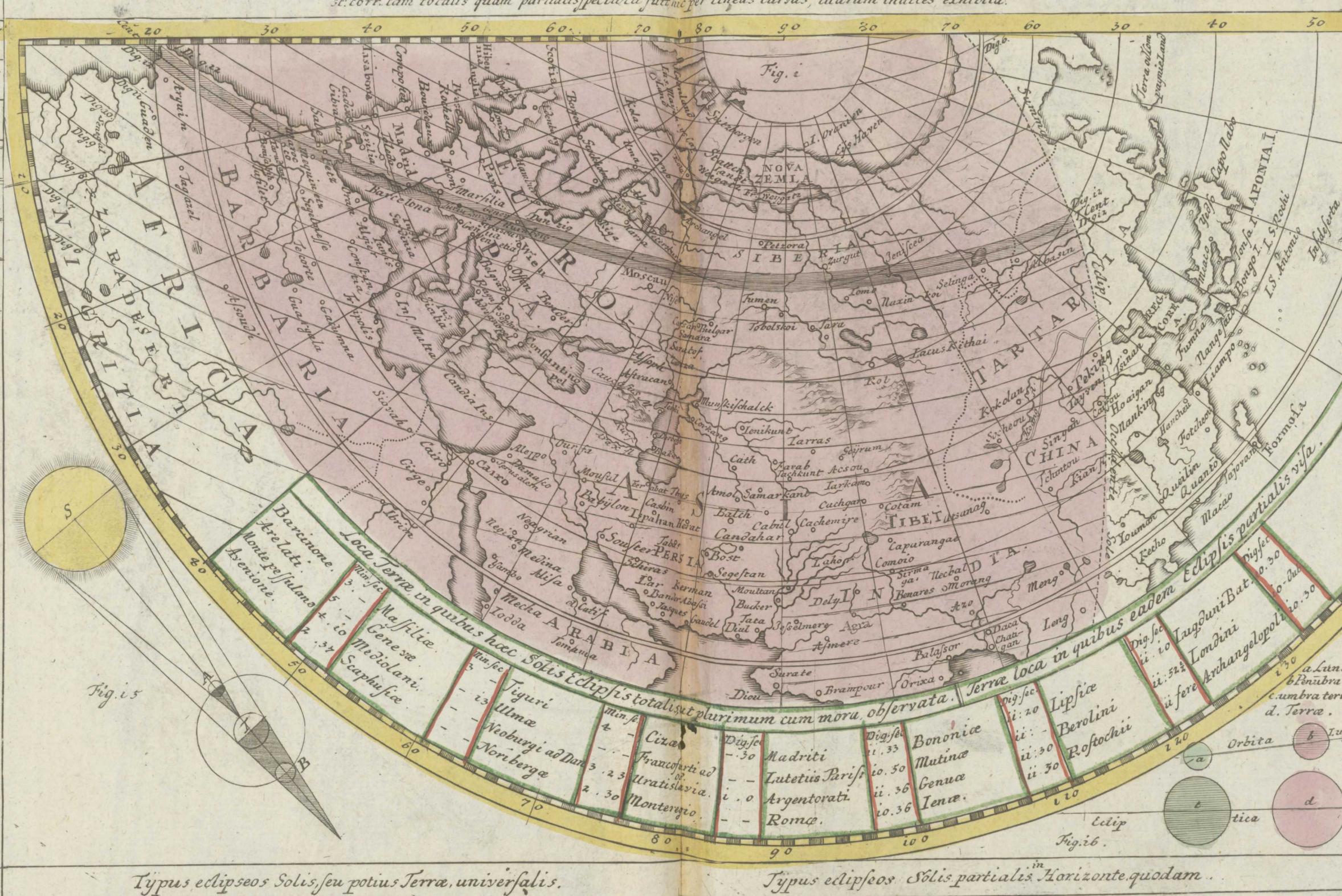
*Typus eclipsis Lunæ partialis.*



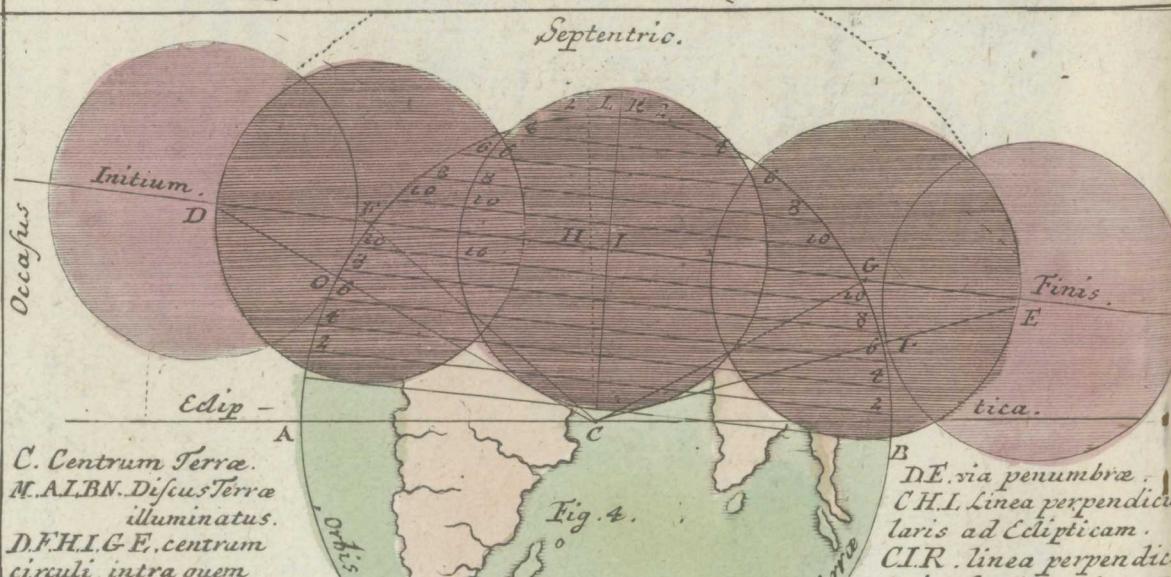
*Typus eclipsis lunæ totalis cum mora magna et sine mora*



## *Transitus et occultationes planetarum primariorum à Luna.*



*Typus eclipseos Solis, seu potius Terræ, universalis.*



Eclipses lunares ex interpositione Terræ inter Solem et Lunam oriuntur. (vid. Fig. 15. ad B) cum Luna plena circa quinodos in umbra terrestris conum motu suo interdum volvitur; et vel ex parte, vel totaliter, (prout illius distantia à nodo proximo variat) lumine suo mutuato privatur. Secundum hoc duplicitis generis eclipses obtutui oculorum se prebent; partiales (fig. 2.) et totales, et haec, vel cum mora magna, vel sine mora (fig. 3.) Nullæ prorsus plenilunii tempore, hujus generis conspicuntur eclipses, cum nempe axis umbra terræ magis 13 gradibus à nodo distat, tunc enim Luna latitudo major quam summa semidiametrorum Luna et umbra terrestris, et sic illa invisibilis, deprehendiatur.

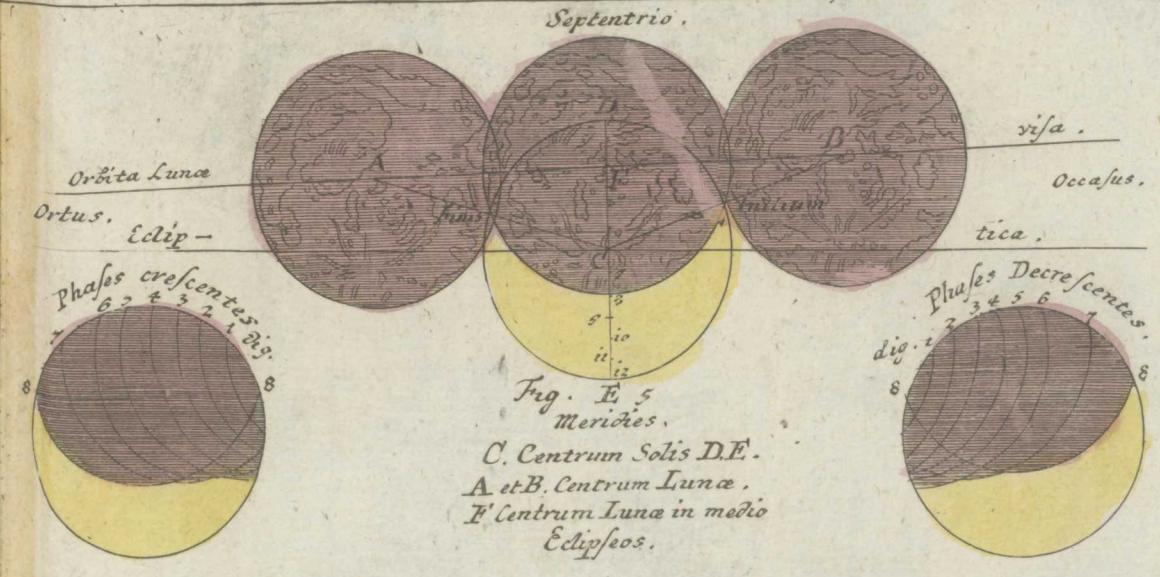
De eclipsibus Solis.

Eclipses Solis, seu potius ejus occultationes à Luna, circa nodos, dum hæc novilunii tempore inter Solem et Terram media est. (vid. Fig. 15 ad A) diversas species exhibent; quædam enim sunt partiales (fig. 5 et figii ad h.) quædam totales cum mora, (fig ad b.) cum terra circa Aphelium, et Luna circa Peri-

gæum versatur; quædam tunc luminarum diametri lares (fig. i' ad a) cum Terra Nulla plane Solis eclipses in major existit summa semidiametrum summa semidiametrorum Solis tali, que parallaxis æquatis tatae (vid. fig. 7.)

De universalib.

In harum eclipsium theoria, apparentes, tanquam vera pareri invento, sicutuntur; sequent locus est, in quo umbra luna, sit; in F. aliud est, in quo Sol in acto luminarum conjunctio, in Terræ loco ad G totalis eclipsis in B. omnimoda eclipses, Sol eclipses, mora super Terra i



iles sine mora, (Figii ad q. 1.) duratio in tractu D.E. absolvitur. Lineæ ii. i. o. 9. 8. &c. cum Ecliptica DE. ex utraque parte parallelæ, Solis quantitatem, hic in australi, in boreali plaga occultati per digitos indicant, qui ex observationibus in Eclipse Solis A. 1706. die 12. May totali habitis. Exempli locum vid. Fig. i. Curatius exhibiti sunt.

De minimi generis occultationibus Solis.

Athoc gemis pertinent Mercurii et Veneris sub Sole transitus plurimi Mercurii a 1630 ad nostrum usque tempus octo tantum per observationes nobis innotuerunt, vid. Fig. 6. Venus hactenus semel, et quidem in Ierem. Horroccio in Anglia sub Sole observata, (Fig. 9) tandem vero A. 1761 obseranda. Hisce addimus Solis maculas, quæ vel in superficie, vel in ejus Atmosphera, nubium aut humorum densorum instar, numero et quantitate saepius insignes, (Fig. 8) De qualitate parte ab A. quatore Solis, intra 30 graduum spatium, (Fig. 3) per tubos opticos apparent; moventur illæ motu gyrationis circa centrum intra 2  $\frac{1}{2}$  dies; respectu vero Terræ in orbita sua interim moto, intra 2  $\frac{1}{2}$  dies, quod Phenomenon in Fig. 14 dilucide satis exhibitur.

