

William Cuninghame *Cosmographical glasse conteinyng the pleasant principles of cosmographie, geographie, hydrographie, or nauigation. Compiled by VVilliam Cuninghame Doctor in Physicke*

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The Firste Booke

(...)

The Interloqtours:

Philonicus

Spoudaeus

(...)

Philo.

I do muche commende you. Nowe further more you maye consyder, that lyke as the rising, and going downe of the Sonne, Moone, and Planetes, is founde out by the helpe of the Horizont, their true height by the meridian circle: and the varietie of tyme by the equinoctial. (comparing the quantitie of the daye present, vnto the quantitie of the day whan as the Sonne is in the equinoctial) so there is also a proper path, or way, in whiche the other planetes, as well as the Sonne do finyshe their reuolution, and course, according to their true tyme. Whiche circle is very nedefull for Geographers, as hereafter you shall vnderstande.

Spoud.

I pray you sir, is not that the circle, whiche I haue in a starry nyght decernid lyke a brode gyrdle full of starres, in whiche also in some part is the mylkey way called as I suppose [Greek] of Ptolomaeus, and of Tully lacteus orbis?

Philo.

It is the very same, and Proclus describeth it in these wordes:

[Greek]

[Latin]

The crokyd, oblique, or thwarte circle, is called the zodiacke, whiche in it conteyne the. xij. Signes, and is made of thre parallele circles, of whiche two do conteyne in them the bredth, and latitude: the third do deuide the signes equally in the myddes. This zodiac extendith vnto two equidistant circles, or paralleles. That is to say the somer tropike, in the beginning of Cancer: and the winter in the beginning or first degree of Capricorne. The latitude and bredth of the zodiack is. xij. degrees, and it is called thwarte or coked, because it crosseth the parallele circles. And here you must note for eschewing further error, that the author menith by crossinge the parallele circles, that the zodiack goeth ouerthwarte them, and not rightly as the equinoctiall, and the right Horizont doth.

Spoud.

And this circle, is deuided into. xij. equall partes whiche you call signes.

Philo.

You haue truly spoken: yea and euery signe, is deuided into. xxx. partes, whiche they call degrees: and euery degree, into. lx. minutes. etc. But this serueth rather for astronomers.

Spoud.

By your wordes I gather the lengthe of a degree to be the. 360. parte of the heauen (for. xij. tymes 30. maketh. 360.) and not any determined, or appointed measure, as a yarde, a forlong, a myle. etc.

Philo.

Unto this circle and the equinoctial, al the mouing of the planetes, and fixed starres is referred. For by them we fynde out their longitude, latitude, and also the eleuation of ether poles, whiche is so necessary in this arte, as without it you shall little or nothing profite. But nowe I wyll set before your eyes the signes, with their names in Greke, Latine, and Englishe, adding also certaine characters of euery one of them, which the astrologians do vse both in their wryting, also in their instrumentes.

[table showing the zodiac]

These names I haue often red in Homer, Sophocles, and other Greek Poetes: and the Latin, in Virgil, Ouide, Horace, Palingenius, and euery other Poet wel neare do make of them mencion: and I do perceiue the use of this circle to be very expedient. For of it consisteth the quantitie of the yeare, the. iiij. tymes of the same, as the spring, somer, haruest, wynter. But I perceiue also other configurations, and formes, as well out of the zodiacke, as also in it. And the Poetes make mention of many of them, as Charles wayne, the Dragon, Bootes, The eagle, the flying Horse, the seven stars, the great Dog, and others, of whiche you make no mention.

Philo.

No, nether do I intende, lest that I shall seme to espie a mote in an other, and not a beame in mine own eye. For I wyll digresse as litle as possible I may, from our [another table] first institution. But I wil geue you here a table of many notable fixed starres, which are profitable for the trieng out of the latitude of any country and place.

Spoud.

This table seruith vnto smal vse (if my authors deceiue me not) unless that I haue in lyke sorte the declination of them.

Philo.

You saye ryghtly, and to satisfie your expectation, I wyll also place here a table of declination of the elipticke lyne from the equinoctiall, whiche shall extende vnto. 23. digrees. 28. minutes, the trew declination of the sonne, of this our age.

Spoud.

I pray you sir, what call you the declination of the sonne, or other planet and sterre?

Philo.

It is no other thing then the distaunce of anye sterre from the equinoctial vnto his true place in the zodiack. And here marke that euery sterre hath two declinations, the one is hauing ther course in the zodiack from the beginning of Aries, vnto the ende of Virgo, and they are North from the equinoctial. The other from the beginning of Libra, vnto the ende of Pisces, and they are said to haue their declination south from the equinoctiall.

Spoud.

Haue this declination of the sonne, bene alway one, or it doth varie?

Philo.

I wyll shewe you, in the tyme of Ptolomaeus as (his workes do testifie) the sonnes greatest declination from the equinoctiall was. xxiiij. degrees. lj. minutes, and xxx. secondes. Almaeon found it .xxiiij. degrees .xxxiiij. mynutes, and .xxx. secondes. Iohannes de monte Regio, tried it to be .23. and but .30. minutes. And George Pour bachius .23. degr. and .28. mi. which agreeth with our time

Spoud.

This diuersitie of obseruation, may arise rather of the instrumentes not exactly made, then that he do so vary in his declination.

Philo.

Nay, verily, I attribute the cause here of vnto that mouing of the heauen which is called of Tebitius and Alfonsus, motus trepidationis.

Spoud.

How may I finde this varietie of declination, by myne owne diligence?

Philo.

Although it vary not in a man's lyfe any thing sensible, yet because you may both know the obseruing of it exactly and also teache other that hereafter shal lerne as you are now instructed your selfe: I wil in fewe wordes open the whole labour. Take a quadrant (the making of whiche you shal see among the other instrumentes) and set it directly vpright vpon some playne in the meridian lyne (the finding of whiche you shal see in the next treatise) and is here marked A. B. as also C. A. present, the zenit or verticall point, then rayse vp and downe the ruler (hauing two sight holes made in it) vnto the sonne, whan as he is in the meridian line: and obserue diligently that height, in the circle of degrees noted in your quadrant, from B. to C. the .xi. or .xii. day of December, which is B. D. vntill you finde he goeth no lower, and againe in like case the .xi. or .xij. of Iune, vntyll you perceiue he increaseth nothings in height, and is noted here B. E. and so the distaunce of D. E. is the distaunce of the .ij. tropick Circles.

Spoud.

What meane you by those tropick circles?

Philo.

You shall knowe, our conclusion ended. This distaunce in our dayes is founde .46. degrees .56. minutes, [another table] which beyng parted in two equall parts, and reconed from the equinoctiall. B. F. sheweth the Sonnes greatest declination Northwarde from the forsaid circle, 23. degrees .28. minutes. And in like case Southwarde in winter. And thus shall you alwaies find his declination.

Spoud.

This rule will I put in practise whan the tyme of the yeare doeth in sewe.

Phil.

Well now behold this table of Declination, which shall serue thy vse more largely then Orontius, or D. Recordes Table; and is not so proplixe, as E. Reign holdes.

(...)

Of Asia The Thirde Parte of the Earth

What Asia is, and wherof it was firste so called, there is no controuersie. For all writers, as well historiographers, as also geographers, make it the iij. part of the Earth, and to take that name of Asius, sonne to kinge Cotis. And although they call it the iij. part of the Earth, yet it is not because it conteyneth but the thirde part, but bycause it is so diuided by the seas, for of it selfe it is as much as Europe, and Africke, and conteineth (after Ptolomaeus accompt) 48. Provinces. It is

parted into Asia the greater, and Asia the lesser. Notwithstanding diuers wryters vse this worde Asia the lesser, more largelye than Geographers doth. For they call all that portin which is within the south shore of the ponticke seas, and the east seas Pelagus Aegeum, and the North part of our Ocean, and the West part of the Riuer Euphrates to be Asia the lesser. Asia conteyneth in hir circuit, Bythinia Pontus, the lesser Asia, Lycia, Galatia, Paphlagonia, Pāphilia, Capadocia, the lesser Armenia, and Cilicia. And all these after the maner of theolde Grecians, is comprehended within this one word [Greek] Anatolia, that is to say the east plage or coaste. Asia dothe farre excell both Europe and Africke. For it is so frutefull, hathe so pleasaunt fildes, such plentie of foder and pasture, the heauens geuing moisture to the Earth in due season. It hath aboundance of golde mines. It bringeth forthe plentie of Cinamome, Ginger, Aloës, and diuers aromaticall spices, and gummes. There are diuerse straunge beastes bred in Asia, as Vnicornes, Camelles, Liberdes, Mermosites, Mercattes, Gripes. Yet one thing is to them infortunate, that there are terrible and many Earthquakes, in so much that there haue bene x. and xij. cities at one time subuerted, and ouerthrowen. The inhabitauntes are sundrye, and diuers: for some are Anthropophagi, which eat the flesh of men and drinke their bloud. Ther are also Pygmeans (men but a cubite in height) which riding on Goates, and Rammes, do kepe warre with cranes. Ther are diuers other formes of inhabitauntes resited of Plinius, whiche at this present I willingly ouerpasse. The spirites in this countrie by many illusions seke to bringe trauailers into daungers, sumtime by calling them by their names, other times by musical noise, as it were aluring them by the swetnes of the sounde, vntil they be brought into danger through wilde beastes. (...)

A Peticuler Description of suche partes of America, as are by trauaile founde out.

Right order inforseth that (the iij. partes of the Earth, beyng set out accordynge to their notable partes) I shall direct my penne to speake of America, whiche is named the fourth parte, and was to Ptolomaeus, and the auncient geographers vnknownen, as also at this present great part of it is not yet found out. It taketh the name of America, of Americus Vesputius, who by the commaundement of Ferdinand king of Castell founde it out, in the yeare of Christ oure Sauour. 1497. aboute the ende of Iune, as doeth appeare by his owne testimonie. The people, bothe men, and women are naked, neither suffer they any hair to growe on their bodies, no not on their browes, the head except. They are excellent in swiming, both men and women, so that they without werines can swime ij leaques. Their weapons are bowes, and arrowes, which they prapare, and head with stones, and the teath of fishe, for that they want iron, and all metal (gold except.) They haue war with the inhabitauntes of the countrey next to them, which haue an other language. But it is not for richesse, for inlarging their segniory, or election of a king, but for to reuenge the deathes of their praedicessors. There is no law or order obserued of wedlocke, for it is lawful to haue so many women as they affect, and to put them away without any daunger. They be filthy at meate, and in all secrete actes of nature comparable to brute beastes. Their bread is rotes, and theyr meate man's fleshe, for all theyr enemies which they ouercome they with great bankettyng deuoure. Their houses are builded like the shape of belles, and couered with leaues and palmes of trees. They vse no kinde of marchandise, and as for golde, pearle, stone, and that we haue in great prise, they haue in no estimation. For theyr richesse is in fethers of diuers

colours, and stones, which they hange on their eares and lips for an ornament. They do honour the Sonne, Mone, and stars. There is also in the west part of America, a region called Peru, most riche of all other that hitherto haue bene founde both of meatalles, and precious drugges. Their shepe be of suche fertilitie that they twice yearlye haue Lambe. The inhabitantes are ciuill, wise, prudent, skilful of marchandise. But yet they know not Christ. The middes of America is in digrees. 330. 0. The pole Antarctik 10. 0. The breadth of it is 2100. English miles, the length 3000. miles.

(...)

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