

PHILOSOPHICAL TRANSACTIONS.

October 10. 1670.

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An Extract of a Letter, written by Monsieur Hevelius to the Publisher, from Dantzick, July 5. 1670. Containing chiefly a late Observation of the Variation of the Magnetick Needle; together with an Account of some other Curiosities in those Parts: Englished, as follows;

Would to God, that those Excellent Books that are published in *English*, were, for the benefit of the whole Learned World, made Latin; All Learned men would be exceedingly obliged to you for it. I am perswaded, Sir, you
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will do your part in taking care, that so useful and so necessary a work may not be left undone.

Lately, on the 22th. of *June* (st. n.) about the time of the Solstice, I was searching after the present *Declination* of the *Magnet*, which 28 years ago (vid. A. 1642.) I had likewise observed here with great care; as about the same time at *Konigsberg* Monsieur *Linnemannus*, the then Professor of the Mathematicks there, had observed also. We both found the Magnetick Needle at that time to decline from the *North* 3 d 5'. *West-ward*. But now it is far otherwise; for it declines at present, as I have very carefully observed, 7 d. 20'. to the same Quarter; so that in the space of twenty eight years, that declination is increased 4 d. 15'. In the year 1628, if I remember aright, I found it near 1 degree *West-ward*: Which declination was affirmed by the Learned *Petrus Crugerus* (once my worthy Præceptor) to have been, about the beginning of this Age, or the end of the next foregoing, 8 d. 30'. *East-ward*; the same *Crugerus* also making use of that Oriental Declination in describing all his Dyals, as may be seen in the Tract he hath written of the same; though it be not certainly known, by whom, and in what year that Observation was made.

Further, It appears by our more recent Observations, that this Declination of the Load stone doth here, at *Dantzick*, almost every seventh year, or, to speak more precisely, every six year and seven months, increase to one whole degree, and so each year, to 9'. 6''. Which is sufficiently confirmed by the Observations made at *Lime-house* near *London*, by those three famous English men, *Barrow*, *Gunter*, and *Gellibrand*: Of whom the *first* found the Declination A. 1580. to be 11 d. 16'; the *second*, 5 d. 36'. 30''. A. 1622; the *third*, 4 d. 3'. 30''. A. 1634.

Lastly, It being now certain, that the Needles Declination *varieth* in one and the same place; the accurate Observations of the subsequent years will shew, How far this Deflexion will proceed, and where, and in what distance from the true Meridian, the very bounds of this Declination really are; especially, Whether this Libration and Variation will be the same, and regular at all times and in all places; or whether, and how long, it will remain Stationary. All which particulars that they may be accurately discovered, is a thing very much desired. Possibly considerable

derable speculations and researches may arise from such Observations. As for me, I am almost of the opinion, that this Magnetical Diversity comes from the Motion of the Earth. Doubtless, as there is a certain Libration in the Moon, so 'tis not absurd to me, to hold a kind of Libration in the Earth, from the Annual and Diurnal motion of the same. For that the cause of this Declination and Variation of the Load-stone is inherent in the Stone it self, or to be ascribed to Æthereal Corpuscles, is not imaginable by me; nor can I yet devise any cause of those Appearances, except we impute them to the Globe of the Earth, and the Variation of the Meridian. But this subtile Question I leave to deeper Wits to discuss. What you in *England* have lately performed in this matter, I should be very glad to be informed of.

I shall conclude with acquainting you, that I lately received from one, that liveth on the side of the *Baltick* Sea, a piece of *Amber*, which is so soft, that I printed my Seal on it. It is yellowish, as most Amber is; transparent, and burning as other Amber; but its scent stronger, as if it were a kind of glutinous *Bitumen*; and yet it hath been cast up from the Sea this year, and was found among other pieces. His Brother, a very credible person, related at the same time, that he had been master of a small piece of Amber, soft on one side, and very hard on the other, wherein lay buried a Fly.

A Letter of Mr. Joseph Childrey to the Right Reverend Seth Lord Bishop of Sarum, containing some Animaversions upon the Reverend Dr. John Wallis's Hypothesis about the Flux and Reflux of the Sea, publish'd N°. 16. of these Tracts.

MY Lord, The last Summer I acquainted your Lordship, that I had in my mind animadverted somethings upon Dr. *Wallis's* Hypothesis concerning the *Flux* and *Reflux* of the Sea; which I have at length gotten time to put in writing, and here present them inclosed to your Lordship. If upon perusal of them, you shall think them worth transmitting to Dr. *Wallis*, or communicating them to the *R. Society*, I only desire your Lordships and Their favourable censure of my judgment and reasons.