fallen in again. But that it was a hard and firm Soil is certain; and probably that on which the famous Steeple of *Boſton* ſtands. See the Record of the Foundation of the ſaid Steeple in the *Philoſ. Tranſact.* Numb. 223. pag. 243.

The Form of the Shoe Soles found at *Spalding* was after this Manner, each Foot had its proper Shoe: This was for the right Foot.

Now, by ſome Paſſages in Hiſtory, it may probably be conjectured, when thoſe Shoe Soles were left there, and how long it may be ſince that Alteration, that makes the preſent Country, began. Take an Inſtance or two.

In *Stow*'s Chronicle, *ad An.* 1465. we read of the Proclamation againſt the Beaks or Pikes of Shoone, or Boots, that they ſhould not paſs two Inches upon Penalties there mentioned. And by other Paſſages in Hiſtory it appears, that thoſe Pikes of Shoes were before that Time exceeding long, and held up by Chains, that they might be rich, as well as ornamental. The other Inſtance is this.

In *Meclhior Adamus*'s Life of *Conrad Pellican*, at the Bottom of Page 263, in the *Octavo* Edition, there is this Paſſage. *Illo ipſo tempore (viz. Anno* 1484.) *milites ex* Flandria *reverſi multa nova introduxerunt, nempe variegatas caligas, obtuſos calceos, qui antea acuti geſtabantur a viris & mulieribus, ſimul quoque novum ſandaliorum genus obtuſum, quod vocabant* PANTOFFLEN, *quibus ſuos etiam parentes uti conſpexit, omiſſis paulatim calopodiis* HOLZSCHUH *dictis: quæ quidem novitates interim immenſum creverunt.*

Now by this Account it appears, that it is not much above 200 Years ſince thoſe Shoes before deſcribed, were worn; and conſequently it cannot be much longer, ſince the Earth hath been raiſed there to the Thicknefs before mentioned, *viz.* of 10 or 12 Foot; and ſince *Bicker* Haven grew up to be (as now it is) higher Land than the Country on each Side of it. By which may be conjectured, what a Change a Century or two more may make in the Outfalls of the Rivers of *Witham*, *Welland*, *Nyne* and *Ouſe*; and conſequently the Neceſſity of taking ſome other Method for preventing the impending Miſchiefs, which threaten the Navigation of the ſaid Rivers, and thoſe who have Eſtates and Intereſts in the great Level of the Fens, and are concerned about the Draining of them.

An Account of a Roman *Inſcription, found at* Chicheſter. *By* Roger Gale, *Eſq; F. R. S.* No. 379. p. 391. Fig. 2.

IV. This Inſcription, as curious as any that has yet been diſcovered in *Britain*, was found the Beginning of laſt *April* at *Chicheſter*, in digging a Cellar under the Corner-houſe of St. *Martins-lane*, on the North-Side as it comes into *North-ſtreet*. It lay about four Foot under Ground, with the Face upwards, by which it had the Misfortune to receive a great deal of Damage from the Picks of the Labourers as they endeavoured to raiſe it; for beſides the defacing of ſeveral Letters, what was here diſinterred of the Stone was broke into four Pieces: The other Part of it, ſtill wanting, is, in all Probability, bury'd under the next Houſe, and will not be brought to light till that

happens

happens to be rebuilt. The Inſcription is cut upon a grey *Suſſex* Marble, the Length of which was ſix *Roman* Feet, as may be conjectured by meaſuring it from the Middle of the Word TEMPLUM to that End of it which is entire, and is not altogether three Foot *Engliſh*, from the Point mentioned. The Breadth of it is 2 $\frac{1}{4}$ of the ſame Feet, the Letters beautifully and exactly drawn, thoſe in the two firſt Lines three Inches long, and the reſt 2 $\frac{1}{4}$.

Being at *Chicheſter* in *September* laſt with Dr. *Stukely*, we took an accurate View of this Marble, which is now fixed in the Wall under a Window within the Houſe where it was found, and that we might be as ſure of the true Reading as poſſible, wherever the Letters were defaced, we impreſſed a Paper with a wet Sponge into them, and by that Means found thoſe in the fifth Line to have been as we have expreſſed them above, and not as in other Copies that have been handed about of this Inſcription.

The only Letter wanting in the firſt Line is an N before EPTVNO, and ſo no Difficulty in reading that. As to the ſecond, though it was more uſual in Inſcriptions of this Nature to expreſs the Donation by the Word SACRVM only, referring to the *Temple* or *Altar* dedicated; yet we have ſo many Inſtances in *Gruter*'s *Corpus Inſcriptionum* of TEMPLVM and ARAM alſo cut on the Stones, that there is not the leaſt Occaſion to ſay any Thing farther upon that Point.

The third Line can be no other Way filled up, than as I have done it by the pricked Letters: I muſt own, however, that I have had ſome Scruple about the Phraſe of DOMVS DIVINA, the ſame Thing as DOMVS AVGVSTA, the *Imperial Family*, which I cannot ſay occurs, with any Certainty of the Time it was uſed in, before the Reign of *Antoninus Pius*, from whom, down to *Conſtantine the Great*, it is very frequently met with in Inſcriptions. This kept me ſometime in Suſpenſe, whether this found at *Chicheſter* could be of ſo early a Date as the Time of *Claudius*: But as we find ſeveral Inſcriptions in *Gruter* with thoſe Words in them, or I. H. D. D. *In honorem Domus Divinæ*, which is much the ſame Thing, without any Mark of the Time when they were cut, they may have been before the Reign of *Antoninus Pius*, and then only came into more general Uſe; and as the Time that *Cogidunus* lived in, will not let this be of a later ſtanding, I think we may offer it as an Authority for the Uſe of this Piece of Flattery to the Emperors long before that excellent Prince came to the Purple.

The third Line, as I believe, was EX AVCTORITATE. TIB. CLAVD. and the fourth COGIDVBNI. R. LEG. *&c.* that is, *Ex Auctoritate Tiberii Claudii Cogidubni Regis, Legati Auguſti in Britannia*; for the following Reaſons: We are informed by *Tacitus in Vita Agricolæ* *, That after *Britain* had been reduced to a *Roman* Province by

* Cap. 14.

the

the ſucceſsful Arms of *Aulus Plautius*, and *Oſtorius Scapula*, under the Emperor *Claudius*, *Quædam Civitates*, Cogiduno Regi *erant donatæ, is ad noſtram uſque memoriam fidiſſimus remanſit, vetere ac jam pridem recepta Populi Romani conſuetudine ut haberet inſtrumenta ſervitutis &* Reges. This *Cogidunus* ſeems to be the ſame Perſon as *Cogidubnus* in our Inſcription, the Letter B in the third Syllable making little or no Difference in the Word, eſpecially if pronounced ſoft, as it ought to be, like a V conſonant.

It is ſo well known to have been the Cuſtom of the Roman *Liberti* and *Clientes*, to take the Names of their Patrons and Benefactors, that it would be waſting of Time to prove the conſtant Uſage of that Practice. Now as this *Cogidubnus*, who, in all Probability, was a petty Prince of that Part of the *Dobuni* which had ſubmitted to *Claudius*, and one that continued many Years faithful to him and the *Romans* *, had given him the Government of ſome Part of the Iſland by that Emperor, nothing could be more grateful in regard to *Claudius*, nor more honourable to himſelf, after he was *Romaniſed*, than to take the Names of a Benefactor to whom he was indebted for his Kingdom, and ſo call himſelf TIBERIVS CLAVDIVS COGIDVBNVS.

I ſuppoſe him to have been a *Regulus* of the *Dobuni*; becauſe we are told by *Dion Caſſius* †, that *Aulus Plautius* having put to flight *Cataratacus* and *Togodumnus*, Sons of *Cunobelin*, part of the *Boduni* (the ſame People as the *Dobuni*) who were ſubject to the *Catuellani*, ſubmitted to the *Romans*; and the Name *Cogidubnus*, or *Cogiduvnus*, Coc o Dubn, or Duvn ‖, ſignifying expreſly in the *Britiſh* Language PRINCEPS DOBVNORVM, ſeems to put the Matter out of all doubt.

How far his Territories extended, it is impoſſible to define. Biſhop *Stillingfleet* § ſuppoſes them to have lain in *Surrey* and *Suſſex*; *Suſſex* certainly was Part of them, ſince the Temple mentioned in this Inſcription was erected in it by his Authority; and it is not unlikely, that beſides the *Regni*, who were the People of thoſe two Counties, he might have that Part of the *Dobuni* which had ſubmitted to the *Romans*, and ſeems to have been his own Principality, together with the *Ancalites*, *Bibroci*, and *Segontiaci*, whoſe Countries lay between the *Dobuni* and the *Regni*, beſtowed upon him; the Words *Civitates quædam* in *Tacitus*, not importing no more than ſome *few Towns*, but *ſeveral People*, the Word *Civitas* always ſignifying a *People* in that Hiſtorian.

Before I proceeded any farther, it will not be amiſs to obſerve, that *Togodumnus* and *Cogidumnus*, though their Names are ſo much alike, were two diſtinct Perſons: The firſt was Son of *Cunobelin*, King of the *Trinobantes*, vanquiſhed and killed in Battle by *Aulus*

* V. Tacit. ut ſupra. † In lib. LX. ‖ V. Baxteri Gloſſar. in verbis Cogidvmnvs, & Dobvni. § Origin. Britan. p. 63.

Plautius. The ſecond a Prince that ſubmitted to *Oſtorius Scapula*, and continued in his Fidelity to the *Romans*, *in noſtram uſque memoriam*, ſays *Tacitus*, who was born at the latter End of *Claudius*'s Reign; ſo that *Togodumnus* was probably dead before *Cogidumnus* had his Government conferred upon him.

I call it his Government, for though by the Letter ·R· ſtanding in the Inſcription with a Point both before and after it, by which it plainly denotes an entire Word of itſelf, it may ſeem that it was intended for COGIGVBNI REGIS, and I believe was ſo in reſpect of his *quondam* Dignity, yet it is evident, that he had condeſcended to take the Title of LEGATVS AVGVSTI IN BRITANNIA from *Claudius*; and that too muſt have been only over thoſe People of whom he had given him the Government, *Aulus Plautius*, *Oſtorius Scapula*, *Didius Gallus*, *Avitus Veranius*, and *Suetonius Paullinus*, having the ſupreme Command ſucceſſively about this Time in this Iſland, the ſecond and laſt of which are called expreſly *Legati* by *Tacitus* *. The *Legati Cæſaris* or *Auguſti* were thoſe, *qui Cæſaribus ſubditas regebant Provincias*.

The ſixth Line has loſt at the Beginning the Letters COLLE, but ſo much remains of the Word as makes it to have been indubitably, when entire, COLLEGIVM, and the following Letters are an Abbreviation of FABRORVM.

Theſe Colleges of Artificers were very ancient at *Rome*, as ancient as their ſecond King *Numa Pompilius*, if we may believe *Plutarch* †, who tells us, that the People were divided by him into what we at this Day call *Companies of Tradeſmen*, and mentions the Τέκτονες or *Fabri* among them, though *Florus* ‖ ſays, that *Populus Romanus* a Servio Tullio *relatus fuit in Cenſum*, *digeſtus in Claſſes*, *Curiis atque* Collegiis *diſtributus*. But as the Power of the *Romans* extended itſelf, it carry'd the Arts of that great People along with it, and improved the Nations that it ſubdued, by civilizing, and teaching them the Uſe of whatever was neceſſary or advantageous among their Conquerors, from which moſt wiſe and generous Diſpoſition, among other beneficial Inſtitutions, we find theſe *Collegia* to have been eſtabliſhed in every Part of the Empire, from the frequent mention of them in the Inſcriptions collected by *Gruter*, *Spon*, and other Antiquaries.

Several Sorts of Workmen were included under the Name of *Fabri*, particularly all thoſe that were concerned in any kind of Building, whence we meet with the *Fabri Ferrarii*, *Lignarii*, *Tignarii*, *Materiarii*, *Navales*, and others; the laſt named may have been the Authors of dedicating this Temple to *Neptune*, having ſo near a Relation to the Sea, from which the City of *Chicheſter* is at ſo ſmall a Diſtance, that perhaps that Arm of it which ſtill comes up within two

* Lib. xii. Ann. cap. 32. & Vit. Agric. cap. 15. † In vit. Numæ.
‖ Lib. I. cap. 6.

two Miles of its Walls, might formerly have waſhed them. The reſt of the Fraternity might very well pay the ſame Devotion to *Minerva*, the Goddeſs of all Arts and Sciences, and Patroneſs of the *Dædalian* Profeſſion.

As no leſs than five Letters are wanting at the Beginning of the ſixth Line, there cannot be fewer loſt at the Beginning of the ſeventh, where the Stone is more broken away than above; ſo that probably there were ſix when it was perfect. What we have left of them is only the Top of an S; I will not therefore take upon me to affirm any Thing as to the reading of them, which is ſo entirely defaced; perhaps it was A. SACR. S. *a ſacris ſunt*; perhaps it was HONOR. S. *Honorati ſunt:* As to the former, we find theſe *Collegia* had their *Sacerdotes*, therefore *Qui a ſacris ſunt*, which is found in Inſcriptions *, would be no improper Term to expreſs them; or it might have been SACER. S. *ſacerdotes ſunt*, ſince we find ſuch mentioned in the following Inſcriptions †.

MAVORTI SACRVM
HOC SIGNVM
RESTIT — — — —
COLL. FABR. ARI
CINORVM ANTIQVISS.
VETVSTATE
DILAPSVM ET
REFECER. CVR. L. LVCILIVS
LATINVS PROC. R. P. ARIC.
ET T. SEXTIVS MAGGIVS
SACER. COLL. EIVSD.

Mavorti ſacrum hoc Signum reſtituit Collegium Fabrorum Aricinorum *Antiquiſſimum, vetuſtate dilapſum, & refecerunt. Curabant Lucius Lucilius Latinus, Procurator Reipublicæ Aricinorum, & Titus Sextius Maggius* Sacerdos *Collegii ejuſdem.*

‖ L. TERTENI AMANTI
SACER. COLL. LOTORVM
IIVIR. C. SARTIVS C. F.
ITERINVS ET. L. ALLIVS
PETELINVS D. D.

Lucius Tertenius Amantius Sacerdos *Collegii Lotorum, Duumviri Caius Sartius, Caii Filius, Iterinus, & Lucius Allius Petelinus Dedicaverunt.*

* V. Grut. Corp. XXIX. 8. CXXI. 1. DCXXXII. 1. † Spon. Miſcell. Erud. Antiquit. p. 58. ‖ Ibid. p. 64.

As to the latter, thoſe Members of the College that had paſſed thro' the chief Offices of it, as that of *Præfectus*, or *Magiſter quinquennalis*, had the Title of HONORATI conferred upon them: You have ſeveral of theſe HONORATI mentioned in *Gruter*, particularly a long Catalogue of them *in Collegio Fabrorum Tignariorum*, p. CCLXVIII. 1. and in *Reineſius*'s *Syntagma* * there is an Inſcription.

EPAGATHO TVRANNO
HONORATO COLLEGI
FABRVM TIGNARIORVM
ROMANENSIVM, &c.

So that the Vacuity in our Inſcription may very well have been filled up with one or other of theſe Words, and the three next Letters that follow them D. S. D. *de ſuo dedicaverunt*, will agree with either of them, and what precedes them.

The laſt Line has been PVDENTE PVDENTINI FILio; but there muſt have been a Letter or two of the *Prænomen* at the Beginning of it, unleſs it was ſhorter than the reſt at that, as well as at the latter End of it; and from what I have ſaid, the whole may be read as follows.

Neptuno & Minervæ Templum pro Salute Domus Divinæ, ex Auctoritate Tiberii Claudii Cogidubni Regis, Legati Auguſti in Britanniâ, Collegium Fabrorum, & Qui in eo a Sacris [or [*Honorati ſunt, De ſuo Dedicaverunt, Donante aream Pudente Pudentini Filio.*

Chicheſter, by this Inſcription found at it, muſt have been a Town of Eminence very ſoon after the *Romans* had ſettled here, and in Proceſs of Time ſeems to have been much frequented, by the *Roman* Roads, ſtill viſible, that terminate here from *Portſmouth*, *Midhurſt*, and *Arundel*, though, what is very ſtrange, we have no *Roman* Name now known for it. I once thought it might have put in its Claim for *Anderida*, which our Antiquaries have not yet agreed to fix any where, being ſituated, very near, both to the *Sylva Anderida*, and the *Southern Coaſt* of the Iſland, the two Properties of that City †: But *Henry* of *Huntingdon*, who lived in the Time of *Henry* II. telling us, that the *Saxons* ſo deſtroyed *Andredeceſter*, that *Nunquam poſtea reædificata fuit, & locus tantum quaſi nobiliſſimæ urbis tranſeuntibus oſtenditur deſolatus* ‖, it could not be *Chicheſter*; for that was not only rebuilt before his Time, but was a Place of ſuch Note, that when the Biſhops, ſoon after the Conqueſt §, removed their Churches from ſmall decay'd Towns, where ſeveral of them were then ſeated, *in*

* Pag. 605. † V. Camb. *Brit. and* Sonners's *Roman Ports and Forts.* ‖ Pag. 312. V. *Dr.* Tabor's *Diſcourſe of* Anderida, Philoſ. Tranſ. N°. 356. § A. D. 1076.

in Urbes Celebriores, *Stigand* then Biſhop of *Selſey* ſettled his Epiſcopal Chair at that Place.

I ſhall conclude with obſerving, that when this Inſcription was dug up, there were alſo two Walls of Stone diſcovered cloſe by it, three Foot thick each, one running North, the other Eaſt, and joining in an Angle, as the *North-ſtreet* and St. *Martins-lane* now turn, which, in all Probability, were Part of the Foundations of the Temple mentioned on the Marble.

A Human Skeleton of an extraordinary Size, found in a Repoſitory at Repton *in* Derbyſhire, *by* Simon Degg, M. D. *F. R. S.* N°. 400. p. 363.

V. *Repton*, *alias Repingdon*, is a Town on the *Trent* famous for the Burial of the *Mercian* Kings, whoſe chief Seat was at *Tamworth* in *Staffordſhire*. It is likewiſe remarkable for its Free-ſchool, and its ancient Abbey. Having viewed the Ruins in this Town, and enquiring for Antiquities, the Inhabitants brought us *Thomas Walker*, a Labourer, aged 88 Years, who gave the following Account.

About 40 Years ſince cutting Hillocks, near the Surface he met with an old Stone Wall, when clearing farther he found it to be a ſquare Encloſure of 15 Foot: It had been covered, but the Top was decayed and fallen in, being only ſupported by wooden Joyces. In this he found a Stone Coffin, and with Difficulty removing the Cover, ſaw a *Skeleton* of a *Humane Body* 9 *Foot* long, and round it lay 100 Humane Skeletons, with their Feet pointing to the Stone Coffin. They ſeemed to be of the ordinary Size. The Head of the great Skeleton he gave to Mr. *Bowers*, Maſter of the Free-ſchool. I enquired of his Son, One of the preſent Maſters, concerning it, but it is loſt; yet he ſays, that he remembers the Skull in his Father's Cloſet, and that he had often heard his Father mention this Gigantick Corps, and thinks this Skull was in proportion to a Body of that Stature. The Bottom of this Dormitory was paved with broad flat Stones, and in the Wall was a Door-caſe, with Steps to go down to it, whoſe Entrance was forty Yards off, nearer the Church and River. The Steps are Stone, and much worn: 'Tis in a Cloſe, on the North Side of the Church, and over this Repoſitory grows a Sycamore, planted by the old Man when he filled in the Earth. The preſent Owner will not ſuffer it to be opened, the Lady of the Mannor having forbidden it. This was atteſted to us by ſeveral old People, who had likewiſe ſeen and meaſured the Skeleton.

A Roman Pavement *found near* Grantham *in* Lincolnſhire, *by* W. Stukeley, *M. D. F. R. S.* N°. 402. p. 428.

VI. 1. In *Feb.* 1727-8. Plowing in the open Fields of *Denton*, about 2 ½ Miles from *Grantham*, they happened upon a *Roman Pavement* in *Moſaick* Work. It lies partly in the glebe Land, partly in Mrs. *Welby*'s, who aſſiſted us with Workmen to clear it. It has been a very large Room about 30 Foot both Ways, as we found by digging in divers Places; but being ſo near the Surface, not above a Foot, or a Foot and half deep, and having been ploughed over Time out of Mind, the major Part of it is ruined and imperfect. Beſides many

Fragments

Fragments of it, we had only the Pleaſure of viewing one Piece entire, which was 30 Foot long and 6 broad; and this was extreamly pretty, the Colours lively, the Pattern or Figure finely deſign'd, as you will ſee by the Drawing, which is exactly taken. There are only 3 Colours, white, red, and blue; but of the middlemoſt or moſt beautiful Part of it, which is but 9 Foot long and 3 broad, the white and red is Double in Quantity to the blue. In the outermoſt Part or Verge of the Work, there is no Variety of Colour, but 'tis entirely blue; and that made of much larger Squares than the reſt. On the *Eaſt* and *Weſt* Sides this was 6 Foot broad, on the *North* but 3. The red is formed out of *Roman Bricks*, ſeveral Fragments of which we found about the Work; the white Colour is made of the *common Limeſtone* of our Country; the blue, of the Stone that comes from *Benyngton* towards *Newark*, 5 Miles from this Place: And theſe Colours wear well together, and produce a good Effect. We found in digging, ſeveral Parts of the Foundations of the Walls that terminated this Room, and ſeemingly Foundations of other Rooms adjacent, which Foundations were made of the common white Stone of the Country ſet on Edge Side by Side, with here and there a Bit of *Roman* Brick. The Building was placed parallel with the Quarters of the Heavens. They found in digging, ſome human Bones, and I took many Bones of a Hand, which probably belonged to ſome unfortunate Perſon killed in the Ruins, or when the Houſe was demoliſhed.

Fig. 3.

The Oeconomy of the Roman *Times near* Grantham, *by the ſame.* N°. 402. p. 430.

2. Three Miles South of *Grantham* is *Great Paunton*, a Village ſet in a ſweet Valley, where the Beginnings of the *Witham River* are collected from many Springs a little higher up. Hard by upon the Edge of the Hill runs the great *Roman* Road called *Hermen-ſtreet*: This Village I aſſerted in my Itinerary to be the *Cauſennis* in *Antoninus*'s Itinerary, which Commentators have found Difficulty in ſettling. The *Terms* or 2 *Towns* between which it is placed in *Iter* V. with the Diſtance of the Miles, ſufficiently eſtabliſh the Situation, and they are well known and acknowledged; thus *Durobrivas*, *Cauſennim*, m. p. xxx. *Lindum* m. p. xxvi. for *Paunton* is 30 *Roman* Miles from *Durobrivæ*, or the Paſſage of the *Hermen-ſtreet* over the *Nen-river* above *Peterborough*, and 26 from *Lincoln*. At *Paunton*, ſince I came to live at *Grantham*, I have heard of much Antiquity being found, eſpecially *Moſaic Pavements*; and undoubtedly it was the *Station* upon the *Hermen-ſtreet*, between *Brigcaſterton* 12 *Roman* Miles off, and *Ancaſter* 7, which were likewiſe *Roman* Stations and walled about, but now their Names are loſt. All about *Paunton* the *Romans* inhabited very frequent, as at *Kirkſtoke* particularly, where great Quantities of Antiquities have been found; likewiſe at *Strawſton* I have ſeen many *Roman* Coins dug up, in Poſſeſſion of my Neighbour Captain *Hacket*, who owns the Town. He ſays likewiſe ſubterraneous Vaults have been found there, and near it is the Place where

Fig. 1

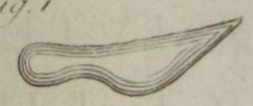
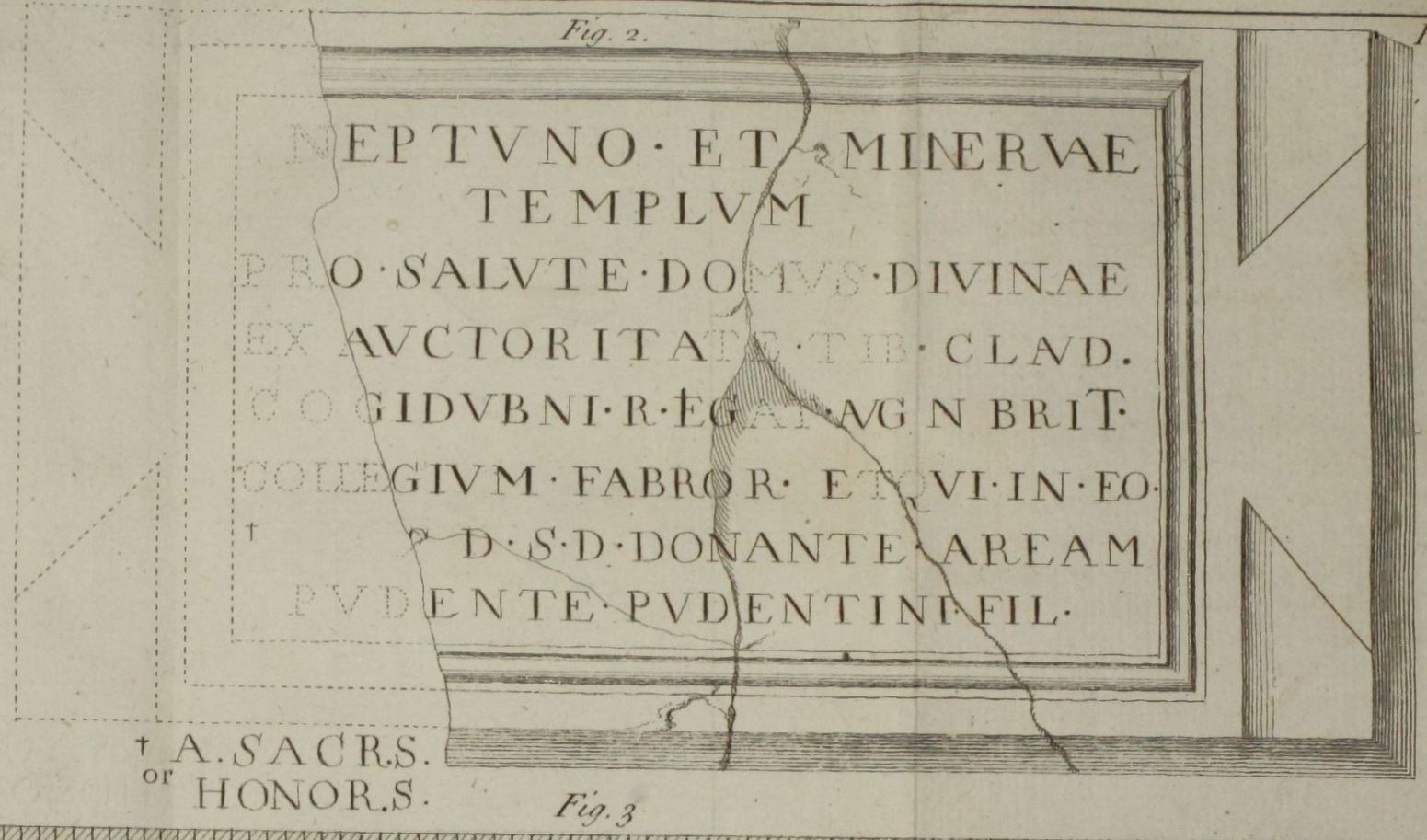
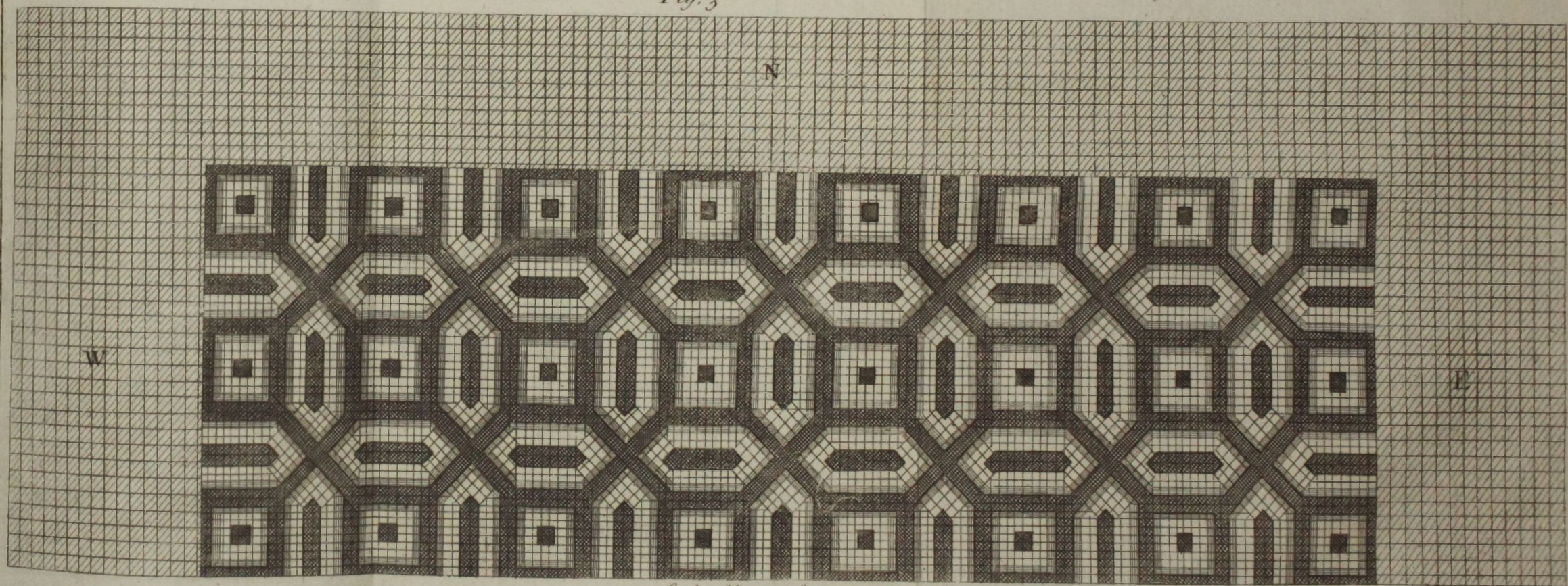


Fig. 2.



† A. SACR. S.
or HONOR. S.

Fig. 3



Scale of Roman feet

1 2 3 4 5 6 7 8 9

UNED

where our Pavement was discovered. Between *Paunton* and *Grantham* a *Road* passes the River at *Salter's Ford*, this Road is called *Salter's Gate*, and much frequented. I believe it has continued ever since the *Roman* Times, being the Passage from *Holland* in *Lincolnshire* by *Brigend Causey*, (a *Roman* Work) to all the Towns upon the *Foss-way* in *Nottinghamshire* and *Leicestershire*: For along this Way they carried Salt, made by the Sea Side, to those Mediterranean Parts, both in *Roman* and *Saxon* Times. Our Pavement stands within a Bow-shot of this Road, upon very high Ground, and seems to have been a *Summer-villa*, or Pleasure-house, where on one Side they were entertained with the Sight of Travellers going on the Road; on the other they commanded a most noble Prospect Northwards, of a prodigious Extent. When we are upon the Spot, we may without Difficulty see the Reason why they fixed it in that very Point, and 'tis the most delightful Place that can be imagined for a Summer-retreat. 'Tis placed just at the Head of a *Convallis*, or lesser Valley falling down into the great Valley of *Denton* underneath, from which *Denton* has its Name, signifying the *Town in the Valley*. This *Convallis* is extreamly beautiful, and running Northward, must needs be very pleasant and cool in the Summer-time. Our *Villa* had this further Advantage in its Situation, that it commanded a View between the Opening or Gap that in this Place appears, between *Barrowby* and *Wolsthorp Hills*; which leads the Eye into the boundless Prospect of the Vale of *Belvoir*. You see from hence *Newark*, the *Trent*, *Kelham Park* and *House*, *Southwell Minster*, the *Forest* of *Sherwood*, &c. besides the *neighbouring Castle of Belvoir*, where in these Times was a *Roman exploratory Camp*, likewise the *Roman* Camp of *Hunington*; insomuch that we may well commend the Wisdom and good Taste of the Builder, who contrived so well for *Security* and *Pleasure*. For *Air*, the Country hereabouts has always, and deservedly, been reckoned the *Montpelier* of *England*; for *Water*, *Wood*, *Heath*, and *Prospect*, it may be thought the *Frescati*.

VII. In quem finem equuleus primo institutus fuerit, & ad quem usum adhibitus, ex multis veterum scriptorum locis satis manifesto constat. Formam autem atque fabricandi rationem cum nemo eorum descripserit, in varias de hac re sententias, easque haud parum a se invicem discrepantes, doctissimi homines abierunt. Neque hoc mirum profecto ei videbitur, qui quam difficile haud raro sit de rebus per multa secula desuetis, & a conspectu remotis, certi aliquid statuere, secum perpenderit; idque praesertim si antiqui auctores, qui eas commemorant, leviter tantum id faciant, nec plene describant. Quod cum equuleo, ut dixi, evenerit; nec ullus eruditorum, qui post renatas literas hanc machinam nobis explicare suscepit, rem adeo feliciter expediisse mihi videretur, ut descriptio cum iis, quæ veteres de illa tradunt, per omnia congrueret; certius atque exploratius aliquid

Of the Equuleus, *or Wooden Horse of the Antients, by* John Ward, *Rhet. Prof. Gresh. F. R. S.* N°. 412. p. 231.

quid aſſequendi ſpem omnem prorſus abjeceram. Ceterum inter chartas quaſdam Roma tranſmiſſas, in quibus variæ imagines antiqui operis, jam illic extantes, delineatæ ſunt, quas vir eruditiſſimus, & Medicus Regius RICHARDUS MEADIUS, haud ita pridem mihi conſpiciendi copiam præbere dignatus eſt, in unam forte fortuna incidi, a marmore anaglyptico in palatio Principis *Burgeſii* adſervato deſcriptam; quæ, ut ſtatim conjectabar, hominem in equuleo ſuſpenſum exhibuit. Hujus igitur uſu mihi perhumaniter conceſſo, rem totam attentius conſiderare; loca apud veteres ſcriptores, in quibus equulei mentionem faciunt, ſtudioſius exquirere; & cum hac imagine diligenter conferre cœpi: unde tandem evenit, ut non ſolum omnes, qui ſeculis recentioribus de equuleo tractaverant, a vero aberraſſe, ſed & cauſas quoque errorum, ut mihi videbatur, plane perſpexerim. Quorum utrumque ex iis, quæ de antiqua hac machina jam dicturus ſum, ni fallor, manifeſto apparebit.

Equuleus igitur, ſi ad vocis originem attendamus, *pullum equinum*, vel *parvum equum*, ſignificat, ut ex his Tullii verbis intelligimus: *Chryſippus omnia in perfectis & maturis docet eſſe meliora; ut in equo, quam in equuleo* *. Atque hinc formam, pariter ac nomen, machina, de qua agimus, primo accepit.

Equuleum autem cum *cruce* nonnulli minus recte confuderunt. Crux enim patibulum fuit, cui ſervi affixi, aliique abjectae conditionis homines, ultimo ſupplicio afficiebantur. In equuleo autem quaeſtiones vi tormentorum habebantur ad crimina eruenda. Sic Val. Maximus de ſervo quodam meminit, qui ſexies in equuleo tortus culpam pernegavit; et nihilominus a judicibus poſtea damnatus, et in crucem actus eſt †. Nec forma igitur, nec fine inſtituto, equuleus cum cruce conveniebat.

Inter varias autem de equuleo ſententias duas tantum, utpote quae propius ad veritatem accedunt, hic memorabo. Altera eſt Hieron. Magii (quem ſequitur Gallonius ‖) qui *ad equi imaginem* factum recte judicavit §; altera vero eſt Caraccioli, qui *ſtipitem erectum* fuiſſe haud minus recte cenſuit *. In eo autem utrumque lapſum eſſe (ut de aliis erroribus taceam) quod unam ſemper formam habuiſſe exiſtimaverint, jam demonſtrare conabor.

Seculis igitur antiquioribus equuleum ad equi imaginem quodam modo fabricabant, dorſo in eam longitudinem ac latitudinem complanato, ut hominem in illud porrecto corpore impoſitum ſatis convenienter capere poſſet. Qui torquendus enim erat, non inſidebat, ſed brachiis ſub equulei pectore retortis, vinctis manibus, pedibuſque protenſis, jacebat ſupinus. Duabus etiam trochleis diverſae magnitudinis equuleum inſtruebant; quarum minor inter clunes in hunc finem excavatos, major vero, eademque manubriata, ſub ventre collocabatur.

* De N. D. l. 2. c. 14. † L. 8. c. 4. ‖ De S S. Martyrum cruciat. c. 3.
§ De equul. c. 1. * Apud Ferrar. Elect. l. 1. c. 5.

locabatur. Tortor autem cum utrumque pedem funiculis vel nervis (qui fidiculae dicebantur) ligaſſet, hos deinde contorquens, ac per trochleam minorem ducens, majori affixit; tum majorem hanc trochleam manubrio circumagens corpus eo uſque extendere potuit, dum artus atque oſſium compagines haud ſine maximo dolore luxarentur.

Jam veterum ſcriptorum teſtimonia, quibus haec deſcriptio confirmari poſſit, proferemus. Formam igitur equinam ratio nominis (ut ſupra obſervatum fuit) aperte ſatis indicare videtur; ſicut apud nos hodie ſimile quoddam inſtrumenti genus, quod vocamus *the wooden-horſe*, ad poenas militares adhibetur. Idem quoque locutiones iſtae declarant, quae ab equo deſumtae de equuleo pariter uſurpantur. Ita non tantum *conjici*, et *imponi*, ſed etiam *ire in equuleum*, apud Ciceronem legimus *. Atque hinc Pomponii jocus in verſibus Atellanicis:

At ubi inſilui in cocleatum equuleum,
Ibi tolutim tortor †.

Ubi voces *inſilire* et *tolutim* ab re equeſtri aperte traxit poeta. Porro cum *cocleatum* [legerem *trochleatum*] equuleum dicit, cocleis vel trochleis fuiſſe inſtructum oſtendit. Homines autem in equuleo jacere ſolitos docet Seneca, cum ait: *Hoc nobis perſuadere conaris, nihil intereſſe, utrum aliquis in gaudio ſit, an in equuleo jaceat* ‖. Quin et fidiculis corpus fuiſſe extenſum teſtis eſt Fabius, apud quem pater, quod filium torquendo occiderat accuſatus, ita loquitur: *An tu quaeſtionem illam fuiſſe credis, qualis vernilibus corporibus adhibetur? Ideo enim equuleum movebam artifex ſenex, tendebam fidiculas ratione ſaevitiae, ut leniter ſedibus ſuis emota compago per ſingulos artus membra luxaret* §. Unde etiam Seneca hominem in equuleo *longiorem fieri* dicit *. Atque ut ea de cauſa manus pedeſque adſtringi neceſſe erat; ſic illa, qua diximus, ratione id factum fuiſſe infra oſtendemus. Huic autem equulei deſcriptioni, quod de Zenone philoſopho traditur, adprime convenire videtur. Is enim, *cum a Nearcho tyranno torqueretur, doloris victor, ſed ultionis cupidus, eſſe dixit, quod eum ſecreto audire admodum expediret; laxatoque equuleo, poſtquam inſidiis opportunum tempus animadvertit, aurem ejus morſu corripuit, nec ante dimiſit, quam et ipſe vita, et ille corporis parte privaretur* †. Jam homo in equulei dorſum, ut ſupra explicuimus, jacens tanto ſpatio ab humo diſtabat, ut ori ipſius alius commode ſatis aurem applicare poſſet; ideoque cum fidiculas tortor laxaſſet, attractis parum pedibus, et capite inflexo, aurem ejus morſu facile corriperet.

Porro veriſimile videtur aeneum taurum, quem confecit Perillus, et Phalaridi obtulit, hinc ortum ſuum habuiſſe. Ab hoc enim crudeliſſimo tyranno homines ϛρεϐλῶϑαι ſolitos teſtantur Plutarchus ‖ et Aelianus §; qua voce Aelianum *equulei extenſionem* intellexiſſe ipſe alibi oſtendit *.

* Tuſc. Qu. l. 5. c. 5. † Apud Non. in voc. *tolutim*. ‖ Epiſt. 66. § Declam. 19. * Epiſt. 67. † V. Max. l. 3. c. 3. ‖ Parall. c. 39. § Var. Hiſt. l. 2. c. 4. * Apud Suid. in voce ϛρεϐλούμενος.

Sic in Gloſſar. Philoxeni, ς῾ρεβλωτὴς *equuleus*. Cum peritus igitur iſte ſceleris artifex, Perillus, homines in equuleo tortos gemitibus ſuis et ejulatibus ſonitum, taurorum mugitui non prorſus abſimilem, edere, obſervaſſet; quo artis adjumento res quam proxime adſimilari poſſet, de equina effigie in taurinam mutanda, hominibuſque ei includendis primum cogitaſſe haud abſurde credatur.

Ceterum equina iſta ſpecies non ſemper, ut diximus, equuleo permanſit; ſed poſteris aetatibus in aliam longe diverſam fuit mutata. Forma autem converſa, ut idem nomen retineret, huic machinae cum multis aliis rebus fuit commune. Nam, ut alias omittam, machina iſta bellica, quae ab arietini capitis ſimilitudine *aries* dicebatur, non eam perpetuo ſpeciem habuit, unde ab initio nomen accepit *.

Equuleus igitur hiſce temporibus ſtipes erat in altum erectus; cujus ſummae parti lignum tranſverſum, atque cornuum more utrinque curvatum, impoſitum eminebat. Duplici etiam trochlea, ut prior iſte, inſtruebatur; minori imae parti ſtipitis, ad eam recipiendam excavatae, inſerta; ac majori manubriata, poneque affixa. Torquendus autem homo in equuleum ſublatus, brachiis in lignum tranſverſum retortis, manibuſque poſt tergum ſtipiti devinctis, pendebat; fidiculis etiam pedes ligabantur, quas per trochleam deinde minorem tranſmiſſas major averſae equulei parti affixa recipiebat, cujus circumactu corpus extendebatur.

Cum de hac autem equulei ſpecie veteris eccleſiae ſcriptores, qui martyrum acerbiſſimos cruciatus ſub Romanis imperatoribus literis conſignarunt, ſaepiſſime mentionem faciant; eorum potiſſimum teſtimoniis utemur in forma illius demonſtranda. *Stipitem* inter alios S. Hieronymus appellat †. Item Prudentius:

Jubet amoveri noxialem ſtipitem ‖.

Atque in altum fuiſſe erectum ex eo apparet, quod torti homines in illo *ſuſpendi* ac *pendere* dicebantur; ut ex Euſebii & Prudentii verbis mox adducendis videbimus. De ligno tranſverſo nihil apud antiquos auctores invenio; quod multis eruditorum allucinationibus in hac machina deſcribenda cauſam dediſſe, fas eſt ſuſpicari. Sed in imagine, quam infra delineatam exhibebimus, lignum illud bicorne plane conſpicitur. Trochleis quoque inſtructum fuiſſe, ex illis Euſebii verbis colligi poteſt: *Quidam, manibus poſt tergum revinctis, ad ſtipitem ſuſpendebantur, ac membrum unumquodque* μαγγάνοις *quibuſdam diſtendebatur* §. Ubi vocem μαγγάνοις, quae machinae cuicunque fere nervis aut manubrio inſtructae convenit, plurali numero adhibens, trochleas ſignificare videtur. Porro ut manus poſt tergum vinctas fuiſſe hic docet Euſebius; ſic brachia retorta memorat Prudentius, ubi judicem ita imperantem inducit:

Vinctum

* Vid. Lipſ. Poliorcet. l. 3. dial. 1. † Epiſt. ad Innoc. 49. ‖ Περὶ ς῾εφ. Hymn. 10. v. 114. § Hiſt. Eccleſ. l. 8. c. 10.

Vinctum retortis brachiis
Sursum ac deorsum extendite,
Compago donec ossium
Divulsa membratim crepet *.

Item pedes vinciri solitos ex alio ejusdem poetae carmine apparet, in quo martyr ex equuleo sic loquitur:

Miserum putatis, quod retortis pendeo
Extentus ulnis, quod revelluntur pedes †.

Quo pedes autem revelli possent, prius adstringi debebant. Ex utriusque etiam scriptoris verbis stipitem, ut diximus, erectum fuisse apparet. Atque hinc judex *sursum ac deorsum* eodem tempore corpus extendi jubet. Etenim hac corporis positione, dum pedum revulsu inferiores ejus partes deorsum extenderentur, humeros transverso ligno suffultos, nexuque manuum ad stipitem repressos, sursum protrudi atque luxari necesse erat. Et quia ab humo elevati pendebant, hinc apud Sozomenum praeses Christianum hominem in equuleo torquendum ἀιωρεῖσθαι, *sublimem tolli*, praecipit; cui is, latera nudans, non opus esse inquit, ut lictores ipsum in equuleum levando, ac postea deponendo, frustra defatigentur ‖. Imo quo poenae conspectiores essent, equuleos in catasta fuisse constitutos, haud male sensisse videtur Ferrarius §; de qua martyris verba apud poetam, jam saepius laudatum, intelligi posse observat:

Emitto vocem de catasta celsior *.

Quibus et illa, ni fallor, ejusdem carminis adjungi possint:

Incensus his Asclepiades jusserat
Eviscerandum corpus equuleo eminus
Pendere †

Catasta autem pegma vel tabulatum est, in quo apud nos qnoque ii collocantur, quibus *numellae* poena infligitur. Sigonium ‖ igitur, aliosque viros doctissimos, catastam de ipso equuleo perperam accepisse censet Ferrarius. Et revera, ni equuleus in catasta collocatus esset, qua ratione *corpus* in eo *eminus pendens* tortores ungulis suis ferreis *eviscerare* possent? Proinde fidiculas ad corpus extendendum in hac forma equulei, aeque ac priori, adhibitas fuisse, ex Codice Justiniani discimus; ubi Valentiniani imp. edicto *decuriones exsortes omnino earum esse poenarum, quas fidiculae et tormenta constituunt*, jubentur §. Hisce autem verbis equuleum veteres haud raro describere satis notum est.

Jam si verba et locutiones, quae diversis temporibus equuleo tributa sunt, paulo attentius consideremus; eidem formae nequaquam congruere, necessario fateri cogemur. Primum enim ex novo adjecto nomine formae mutationem colligere licet. Nam vox *stipes* machinae ad equi imaginem factae nullo modo convenire potuit. Quare aut effigiem equinam, contra certam vocis *equulei* interpretationem, ac veterum

* Ubi supra, Hymn. 5. v. 109. † Ibid. Hymn. 10. v. 491. ‖ Hist. Eccles. l. 5. c. 2. § Elect. l. 1. c. 6. * Ubi supra, Hymn. 10. v. 467. † Vers. 108. ‖ De Judic. l. 3. c. 17. § L. 16. de quæst.

locutiones ab illa desumtas, nunquam habuisse dicendum est; aut cum stipes deinceps vocari coepit, aliam formam accepisse. Praeterea antiquius *jacere*, postea vero *pendere* et *suspendi* in equuleo homines dicuntur; qui duo corporis situs, tam longe diversi, formam machinae haud minus diversam requirunt. His accedit, quod alteri formae alterum effectum adscribi videtur. Vetustioribus enim seculis corpus simpliciter *extendi* dicitur, utpote in planum porrectum; sequentibus vero aetatibus *sursum ac deorsum*, quod pendenti convenit, id fieri jubetur. Denique in priori equuleo homo decumbens ea fuit altitudine, ut in aurem alicui susurrare posset; quod in posteriori suspenso propter nimium a solo spatium haud omnino congruit. Et quis jam non videt hanc verborum ac locutionum discrepantiam ad duplicem equulei speciem necessario referendam esse? Certe homines isti eruditi, qui aliter senserunt, dum omnia apud veteres de hac re loquendi genera sententiae suae accommodare conati sint, eis difficultatibus fuerunt impliciti, unde nullo modo sese explicare potuerunt.

Verum ne qua hoc in dubium vocandi ansa in posterum restet, duo testimonia ex iis temporibus, quibus stipitis formam equuleo supra tribuimus, a Gallonio in contrarium allata *, breviter diluemus. Alterum ex illis S. Hieronymi verbis petitur: *Cum equuleus corpus extenderet, et manus post tergum vincula cohiberent; oculis, quos tantum tortor alligare non poterat, suspexit ad caelum* †. Ex quo loco necesse esse, ut in equuleo torti corpore prostrati jacerent, contendit Gallonius. At nemo non clare perspiciet, hominem eo modo, quo diximus, suspensum, aeque facile *ad caelum suspicere* posse, ac si corpore supino jaceat. Alterum testimonium ex Amm. Marcellino adducitur: *Innocentes tortoribus exposuit multos, vel sub equuleo cepit* [rectius Valesius *caput*] *incurvos, aut ictu carnificis torvi substravit* ‖. Et alibi: *Quanquam incurvus sub equuleo staret* §. Unde idem vir doctus novum quoddam et inauditum cruciandi genus excogitavit; quasi tortores nonnunquam doloris augendi gratia, laxatis funiculis, corpus sub ventrem equulei cadere, atque ibi incurvatum pendere sinerent. Verum non *sub equuleo cecidisse* vel *pependisse* dicit Ammianus, sed *stetisse*: quod qua ratione cum Gallonii sententia convenire possit, non intelligo. Sed quia mos fuit eos, qui in equuleo torquendi erant, prius flagellis verberari, *incurvus* fortasse dixit, quod verberibus laceratus recto corpore stare amplius non potuit; idque *sub equuleo*, hoc est, juxta equuleum; ut cum dicitur, *sub hasta venire* *: quod de voce etiam *incurvos* in altero Ammiani exemplo pari ratione dici potest. Ni quis potius de catenis onustis, earumque pondere incurvatis, voces istas intelligere malit; quemadmodum et in re simili scribit Paulinus Aquitanus:

Moestorum pallens infelix ordo reorum
Haerebat, nexis per squallida colla catenis,

Incutiens

* De SS. Martyr. cruciat. c. 3. † Epist. ad Innoc. 49. ‖ L. 26. c. ult. § L. 28. c. 1. * Liv. l. 5. c. 16.

Incutiens fractis stridentia vincula membris,
Et motans tardos, incurvo pectore, gressus *.

Hic voces *incurvo pectore* eodem sensu, quo Ammianus *caput incurvos*, usurpasse videtur. Nonnullos etiam ex hoc infelici ordine equuleo destinatos fuisse post pauca significat.

Ast alii sursum porrecti robora ligni,
Triste ministerium, furioso corde parabant;
Ut caro distentis propere, male pendula, membris
Tortori laceros crucianda exponeret artus.

Ubi etiam verba *sursum porrecti robora ligni*, et *caro pendula*, erectam equulei formam plane demonstrant.

Ceterum cum neque verberibus, neque membrorum extensione, ut rem quaesitam confiteretur, homo tortus evinci potuit; ignes et ardentes laminae aevis antiquioribus corpori admovebantur. Ita Fabius, rem totam ordine recitans: *Ego scindo vestes, tu intremiscis; ego ad flagella nudo corpus, te facit pallor exanimem; ego posco flammas; tu non habes in meo dolore patientiam* †. Et V. Maximus: *Rupit verbera, fidiculas laxavit, solvit equuleum, laminas extinxit; priusquam efficere potuit, ut tyrannicidii socios indicaret* ‖. Sequentibus autem seculis, cum jam stipitis speciem equuleus receperat, hisce omnibus torquendi modis ungulae etiam ferreae adjiciebantur, quibus latera et aliae corporis partes laniari solebant. Sic in Codice Justiniani praecipitur: *Si convictus fuerit, et ad proprium facinus detegentibus repugnaverit pernegando, sit equuleo deditus, unguliisque sulcantibus latera perferat poenas proprio dignas facinore* §.

Attamen quo tempore haec formae immutatio inter Romanos fieri coeperit, pro certo affirmare nequeo. Ad Fabii saltem aetatem, hoc est, imperium Domitiani, speciem mansisse equinam eo credibile videtur, quod pater, qui in Declamatione supra citata ob filium a se tormentis occisum defensionem sibi instituit, tanquam jacentem in cruciatibus illum describit. Ratio autem mutationis satis, opinor, probabilis adferri potest. Inferioribus enim Romani imperii aetatibus non tantum Christianos, sed alios etiam eximiae dignitatis homines majestatis crimine postulatos, equuleo traditos fuisse saepius legimus. Quamdiu autem in quaestionibus jure constitutis solum adhibebatur, nihil amplius erat necessarium, quam ut ea, quae a reo dicerentur, ipsi judices, aliique quorum interesset, exaudire possent; cui proposito forma equina satis conveniebat. Postea vero cum crudelissimis istis tyrannis ad suspicionibus suis indulgendum, atque Christianos vexandum, hac machina abuti placuit, erecta forma sine dubio omnium fuit commodissima. Nam ita crucis speciem quodam modo referebat, quo major poenae esset ignominia; et praeterea homo tortus oculis circumstantium ad alios deterrendos magis exponebatur. Apud Graecos sane, unde Romani acceperunt, figuram equinam

* De vit. B. Martini, l. 5. v. 261. † Declam. 7. ‖ L. 3. c. 3.
§ L. 7. de malefic.

equinam in usu fuisse, cum Perilli taurus, tum etiam Zenonis historia supra memorata, manifesto satis declarare videntur.

Verum enimvero ut discrimen inter has duas machinas clarius pa-
Fig. 4, 5. tescat, ac melius inter se conferri possint, utriusque imaginem hic conjunctim exhibebimus. [Prior forma equulei, (*Fig.* 4.) Posterior forma equulei, (*Fig.* 5.)] Priori adstat tortor, majoris trochleae manubrium tenens, quo hominem in dorsum equulei impositum extendat. Posterior autem, quam a clarissimi MEADII exemplari delineatam dedimus, tres humanas figuras habet adjunctas; quarum una est hominis in equuleo suspensi, duae reliquae sunt tortorum. Ex his alter, chlamyde (quam vestem tortori etiam tribuit Hieronymus*) ab laevo humero pone rejecta, dextrum equulei cornu dextra prehendit, quasi recte aliquid compositurus; alter vero, utpote prioris adjutor, nudus, ac genu nixus, ad pedes torquendi hominis vinciendos se parat. Quod sinistrum autem equulei cornu dextro sit brevius, injuria temporis accidisse credamus; quia summa pars plane abrupta esse videtur. Quaedam aut ipse artifex, aut saltem delineator omisit. Etenim nec inferior pars stipitis, ubi conspici posset, nec trochlea ad imum conspicitur: nam alteram trochleam pone collocari solitam supra notavimus. In eo autem alteruter manifesto erravit, quod hominem in equuleo ita constituerit, ut pedum digitis solum tangere videatur; quod neque pendenti, neque veterum testimoniis de hac re supra adductis, omnino convenit. Sed vetustis hujusmodi monumentis haud raro accidere invenimus, ut partes praecipuas, et quae summam operis continent, artifices diligenter ac studiose effinxisse contenti, reliquas vel prorsus neglexerint, vel minus
Fig. 6. saltem accurate expresserint. Ceterum ne quis ea diutius frustra requirat, quae in exemplari desiderantur, seorsim delineata oculis subjecimus, una cum tortore trochleam convertente. Arcus autem, qui juxta hominis suspensi caput sinistrorsum conspicitur, nihil cum equuleo habet commune; sed ostii alicujus partem, carceris forsan unde productus fuit, exhibet.

Jam si duplicem hanc equulei formam, ac singulas partes inter se conferamus, eundem plane torquendi modum sub diversa specie utrique fuisse facile videbimus. Si priorem enim, ad equi imaginem factam, in altum modo erectam mente concipiamus; trochleae, fiduculae, retorsio brachiorum, et totius corporis extensio, haud aliter atque in posteriori constitui apparebunt. Praeterea nihil difficile, nihil operosum videtur; sed facilis et expedita cruciandi ratio nobis se offert, quae in publicis suppliciis praecipue requiritur.

At nequis post omnia, quae hactenus dicta sunt, *furcam*, hoc est, *crucem* ad furcae imaginem factam, pro equuleo nos protulisse suspicetur; sciendum est hanc equulei speciem furcae non admodum fuisse dissimilem. Hoc Theophili cujusdam verba, a Gallonio plane contra sententiam suam allata, demonstrant: *Ecce*, inquit, *modo Christianus*

* Ubi supra.

Fig. 4.

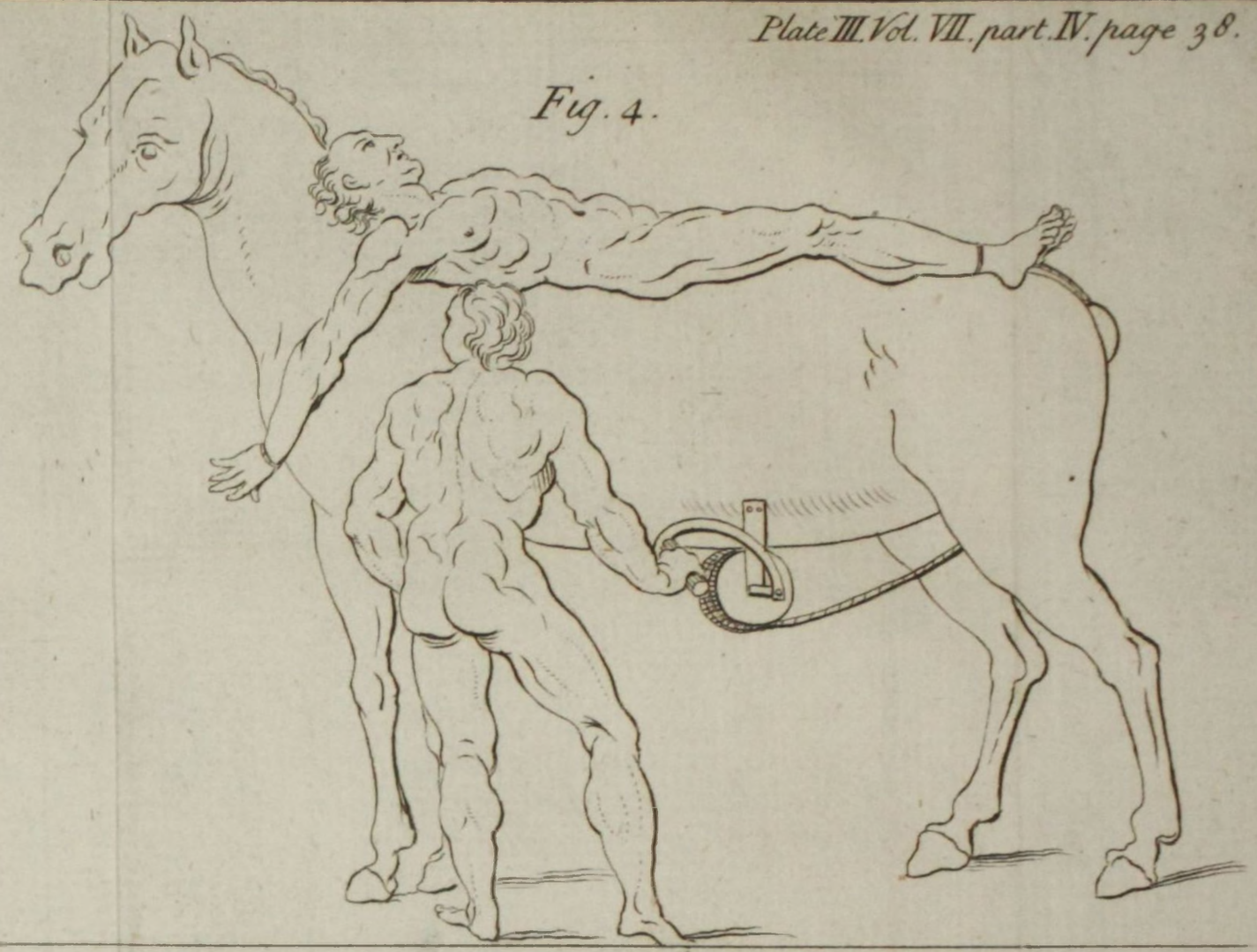


Fig. 5.

Fig. 6.

UNED

Christianus sum, quia in cruce, id est in equuleo, suspensus sum. Equuleus enim crucis quandam similitudinem gerit *. Nihilominus tamen furca in multis ab equuleo differebat. Primum enim ima pars cornuum ad formam V literae in acumen coibat; deinde cornua multo erant longiora; praeterea, qui in furcam agebatur, brachiis supra caput, non post tergum, retortis pendebat; denique manus haud stipiti conjunctae, sed cornibus dispansae ligabantur, ut ostendit Lipsius †. Et tamen alibi vir idem eruditissimus Ausonii verba de *Cupidine torto* cruci assignat ‖, quae ad equuleum omnino referri debent. Locus Ausonii ita se habet:

Hujus in excelso suspensum stipite Amorem,
Devinctum post terga manus, substrictaque plantis
Vincula moerentem, nullo moderamine poenae
Adfligunt §.

Cum poeta hic ait, *devinctum post terga manus*, non crucem, sed equuleum plane describit. Porro cum Sulpicius Severus de B. Martino loquens ait, gloriam martyris eum adeo affectasse, ut, si licuisset, *equuleum sponte ascendisset* *; machinae figura ac ratio suspensionis, quemadmodum id facere potuisset, aperte satis ostendunt: in furca autem se ipsum nemo suspendere potuit.

In summa autem, cum tota hujusce rei probatio veterum scriptorum testimoniis praecipue nitatur, ut plura adferre, quae haud parva copia sese obtulerunt, supervacaneum duximus; ita nec pauciora ad plenam ejus explicationem sufficere existimavimus. Verum quaecunque de ea apud antiquos leguntur, uni aut alteri speciei supra descriptae facile tribui possunt. Qui ad auctoris igitur aetatem, et diversos loquendi modos diversis temporibus de equuleo usurpatos attenderit; nihil, opinor, difficultatis in posterum inveniet, quid de hoc tormenti genere statuere debeat; in quo explicando tot viri eruditi hactenus se frustra torserunt.

VIII. The learned and judicious Author takes occasion from some antique Brass Implements found near the Wall of *Antoninus Pius*, now named *Graham's Dyke*, in *Scotland*, to give us this curious Dissertation upon the *Stylus*, an Instrument used by the Ancients for Writing, with the Figures of some of them annexed in a Copper Plate; two of which are represented in the Shape and Form of the *Roman Fibula*; but the Author is of Opinion they were designed for a different Purpose, for which he produces very cogent Reasons.

An Extract of a Dissertation De Stylis Veterum, & diversis Chartarum generibus, [*by the Hon. Sir* John Clerk, *one of the Barons of the Exchequer in* Scotland, *and F. R. S.*] *By* Roger Gale, *Esq; V. P. and Tr. R. S.* N° 420. P. 157.

He observes, that before the Use of Pens the Ancients performed their Writing with an Instrument called by them a *Stylus* or *Graphium*. The Matter of it was Gold, Silver, Brass, Iron, or Bone; the Shape various, but alike in being pointed and sharp at one End, and flat and broad at the other End: The first for writing, or rather cutting their Letters,

* De SS. Martyr. cruciat. c. 3. † De cruce, l. 3. c. 6. ‖ Ibid. l. 1. c. 5. § Idyll. 6. * Epist. 2.

Letters, the latter for defacing or rubbing out whatever wanted Correction; for all which, as well as for every thing elſe aſſerted by him, he produces ſufficient Proofs from proper Authors.

He informs us, that the *Styli* made of Iron, were ſometimes uſed as Daggers, and quotes two Paſſages out of *Suetonius* to prove it; one where *Julius Cæſar* is ſaid to have wounded *Caſſius* in the Arm, *Graphio*; the other, where he tells it was cuſtomary with *Caligula* to get his Enemies murdered, *Graphiis*, when they came into the Senate-Houſe, and confirms theſe two Paſſages by a third, taken from *Seneca*'s Firſt Book *De Clementia*. He ſuppoſes the *Stylus* made of Bone was for the Uſe of Women and Children, as leſs dangerous than thoſe of Metal; by a Quotation from *Prudentius*, it appears that *Caſſianus* the Martyr was killed by his Scholars with Iron *Styli*.

He agrees with *Petavius*, or his Editors, that the Implements, which gave Birth to this Diſſertation, were *Styli*, and not *Fibulæ ad connectendas veſtes*, as *Monfaucon* and other Antiquaries have imagined, and thinks an Objection that the Tongues of the *Styli* muſt have been much longer than the Tongues of their ſuppoſed *Fibulæ*, to be of little Weight; ſince there muſt have been ſome of them longer, and ſome of them ſhorter, according to the different Fancies of the Writers. Military Men might ſometimes write with the Point of their Daggers, and from this Practice the Words *Stylus* and *Pugio* came to be confounded; but Men of Buſineſs and private Perſons cannot be ſuppoſed to have made uſe of Daggers for Writing. He obſerves alſo, which is no ſmall Argument for his Side of the Queſtion, that if *Monfaucon* had conſulted the numerous Draughts he has publiſhed of the Habits belonging to the old *Greeks* and *Romans*, he would not have found one of theſe Implements, either as a Faſtening, or an Ornament upon them.

He proceeds next to a Deſcription of theſe *Styli* found in *Scotland*, and ſhews how they were accommodated to the Buſineſs he ſuppoſes them deſigned for; but as the Copper Plate prefixed to his Diſſertation will give us a much clearer Notion of that, I ſhall refer you to it, and only take Notice that the fifth Figure in it is ſo entirely different from the others, that he himſelf is in ſome Doubt about it, and owns it might have ſerved the Aruſpices, in examining the Bowels of Animals, and have been one of thoſe Inſtruments called *Exſtiſpicia*. However, he thinks that if he ſhould pronounce it to have been a *Stylus*, he ſhould not be much out of the Way, ſince the Ancients had their *Thecæ Graphiariæ*, which Name will agree very well with this Braſs Caſe, and the Inſtrument found within it. From the *Stylus* uſed to form Letters comes that figurative Expreſſion, that a Perſon writes ſuch or ſuch a ſort of a *Style*, to denote his Manner, as a *lofty Style*, or a *low Style*; which way of ſpeaking our own and other modern Nations have introduced into their Language.

As

As to the ſeveral Sorts of *Charta* uſed for Writing, he obſerves the moſt ancient were made of Barks of Trees, or Skins, or were ſuch as are called *Pugillares.* The oldeſt were of the inner Bark of Trees called *Liber* in *Latin*, whence a Book had the Name of *Liber* ; but very little of this Sort is now in Being, except the *Ægyptian* Paper may be accounted one Species of it.

The *Papyrus* was called Βύβλος or Βίβλος by the *Greeks*, and thence their Books Βίβλοι or Βιβλία. This Sort of *Charta* was made of a Plant that had many pelliceous Tunicles, as *Pliny* informs us, which were ſeparated from one another by a Needle, and then glued again together, to give them a Strength and Firmneſs ſufficient to retain what might be written upon them. *Alexandria* was the Place moſt eminent for this Manufacture. There are ſome Fragments of this Sort ſtill extant in Libraries, particularly the famous Manuſcript of St. *Mark*'s Goſpel at *Venice.*

The *Chartæ Membranaceæ* are made of the Skins of Animals, dreſſed either like our Glove-Leather, or modern Parchment. The firſt Sort was commonly uſed by the *Jews* for writing the Law of *Moſes* upon it, and from the rowling up of theſe Skins comes the Word *Volumen.* But the Skins which *Varro* and *Pliny* ſay were firſt made by *Eumenes* King of *Pergamus* were in more common Uſe: However, *Eumenes*, who is related by theſe Authors to have made them in Oppoſition to *Ptolomy* King of *Ægypt*, that had forbid the Exportation of the *Papyrus* from his Dominions, does not ſeem to be the Inventor of the *Chartæ Membranaceæ*, ſince *Herodotus*, who lived long before his Time, informs us, that the *Ionians* and other Nations were uſed to write upon Goat and Sheep-Skins. *Joſephus* alſo tells us, that the *Jews* ſent their Laws written upon Skins in Letters of Gold to *Ptolomy* ; by which it ſeems as if the writing upon Skins was no new thing at that Time among the *Jews.*

The Uſe of the *Pugillares* was alſo very ancient, being mentioned by *Homer*, and among the *Latins* by *Plautus.* They were made of all Sorts of Wood, Ivory, and Skins covered over with Wax. They were likewiſe of ſeveral Colours, as red, yellow, green, ſaffron, white, and others. Being waxed over, any thing was eaſily writ upon them by the Point of the *Stylus*, and as eaſily rubbed out, and altered by the flat Part of it. Sometimes theſe *Pugillares* were made of Gold, Silver, Braſs, or Lead, and then there was a Neceſſity of an Iron *Stylus* to write or cut the Letters upon them, which explains that Paſſage in the 19th Chapter of *Job*, *Quis mihi det ut exarentur in libro, Stylo ferreo & plumbi lamina, vel celte ſculpantur in Silice.* They conſiſted ſometimes of two, three, five, or more Pages, and thence were called *Duplices*, *Triplices*, *Quintuplices*, and *Multiplices* ; and by the *Greeks*, Δίπτυχα, Τρίπτυχα, *&c.*

The *Diptychs* and *Triptychs* that were covered with Wax, ſerved only for common Occurrences, the other Sorts received every thing elſe

that was written upon *Chartæ* or *Membranæ*, and were ſometimes called by the *Greeks Palimpſeſtæ*, from the rubbing out of the Letters upon them.

The *Chartæ Linteæ*, and *Bombycinæ*, which were made of Linnen or Cotton, were of a much later Date; and from theſe we learned to make the Paper now in Uſe of Linnen Rags, an Invention probably of about 600 Years ſtanding.

Writing was practiſed upon all theſe *Chartæ* with a Reed, and afterwards with a Pen, except upon the *Pugillares*. Theſe Reeds grew upon the Banks of the *Nile*; the *Greeks* alſo uſed Reeds imported from *Perſia* for the ſame Purpoſe. *Calami argentei* are alſo mentioned for Writing.

Their Letters were formed with Liquors of various Colours, but chiefly black, thence called *Atramentum*, and in *Greek* μέλαν or μελάνιον. It was ſometimes made of the Blood of the *Cuttle* Fiſh, ſometimes of Soot. *Apelles* compoſed a *Black* of burnt Ivory, which was called *Elephantinum*. They had Ink alſo from *India* of an approved Compoſition, as *Pliny* ſays.

The Titles of their Chapters and Sections were written in Red or Purple: Hence the Titles of the *Roman* Laws called *Rubricæ*. Their *Purpura* was an exceeding bright Red or Crimſon, much in Vogue with the *Byzantine* Writers, and called Κιννάβαρις, which was a Liquor made of the *Murex* boiled, and its Shell very finely powdered; or, as *Pliny* relates, of the Blood of that Fiſh. Almoſt all the ancient Emperors wore this Colour, their Names were painted in it upon their Banners, and they frequently wrote with it, and wore it. This Colour was often the Diſtinction of a *Roman* Magiſtrate, and to put on the Purple was the ſame thing as to aſſume the Government. This Colour was ſo admired by the Poets, that they called every thing which was very bright and fine, Purple; as *Horace* compliments the Swan, which is never of any Colour but white, with

Purpureis ales oloribus.

We find even *Snow* honoured with the ſame Epithet, whence ſome have imagined that *purpureus* ſignifyed *white*.

The Children of the Emperors, and ſuch as had a Proſpect of riſing to the Throne, and their Guardians, ſometimes wrote with Green; Gold alſo was employed for the like Purpoſe. They that deſire to ſee more upon this Subject may have Recourſe to *Mabillon De Re Diplomatica*, and *Monfaucon* in his *Palæographia Græca*.

CHAP.

CHAP. II.

MISCELLANEOUS PAPERS.

A surprising Shoal of Pumice stones *found floating on the Sea, by Mr.* John Dove. N°. 402. p. 444.

I. ON the 22d of *March*, 172$\frac{4}{5}$, at Noon, being in the Latitude 35°, 36′ S. and Longitude 4°, 9′ W. with Variation 3°, 16′, W. we discovered several *Pumice-stones* on the Sea; but not expecting any such thing at that Distance from the Land, (the Islands *Tristan d' Acunha* being the nearest, which I judged to bear from W. 9°, 10′, S. Distance 186 Leagues) we were in Dispute what it might be; when about 1 P. M. we took up a Piece in a Bucket, (the Ship going then but 3 Knots) which confirmed my Opinion of its being *Pumice-stones*. Towards Night it was spread all round us as far as we could see: The Wind being variable from N. by E. to E. we stood to the Eastward: Towards Morning, the Wind veering to the Northward, we steered E. S. E. The *Pumice-stones* were very thick, in Drifts, lying N. N. E. and S. S. W. and extended out of our Sight at the Mast's Head, encreasing as we ran to the Eastward. To the 23d at Noon I made our Course S. 38°, 30′ E. Distance 76 Miles: Latitude by Observation 36°, 35′ S. Longitude 3°, 24′ West, from the Meridian of *London*. On the 24th clear Weather and fresh Gales, variable from N. E. by N. to N. by W. with a long Swell from the Eastward. We continued our Course E. S. E. 140 Miles, the *Pumice-stones* being thicker; so that from Yesterday Noon, till four this Morning, some of the Drifts were about a Cable's Length broad, and so thick, we could scarce see the Water between them; and there was much the same Breadth between the Drifts, with several *Pumice-stones* interspersed. Towards Noon, I found the *Pumice* somewhat thinner: Latitude 37°, 35′ S. and Longitude 1°, 4′ W. On the 25th, from Noon till two this Morning, had a fresh Gale at N. and N. by E. afterwards little Wind from W. to N. W. with a N. E. Sea: we steered E. by S. 101 Miles. In the Evening the Drifts were near as large as above, but towards Morning decreased much; so that about Noon we were clear of these *Pumice-stones*, several of which were as big as a Man's Head. We have sailed 317 Miles since we first discovered them. They lay just in the Track for Ships outward bound, and we have no Account of them before; but all the Ships that went out the same Year, and since, (who go so far to the Southward) have fallen in with them. In the Morning we tried the Current, but found none: And no Ground at 130 Fathoms. At Noon Latitude 37°, 54′ S. Longitude 0°, 38′ E. The

following Evening Variation 6°, 12′ W. At Noon, I judge *Triſtan d' Acunha* then bore from us W. 3°, 39′ N. Diſtance 256 Leagues, ſuppoſing it to lie in Latitude 37°, 5′ S. and Longitude 15°, 38′ W.

An Account of the Norwegian Finns, *or* Finlanders, *by* Peter Kinck, *Eſq*. N°. 400. p. 357.

II. In the Kingdom of *Norway*, in thoſe Confines which border upon *Sweden*, live a Sort of People called *Finns*, whoſe Habitation is in the Woods and Foreſts, and who are ſome of them under the *Daniſh*, ſome under the *Swediſh* Juriſdiction, of whoſe Original, Nature, and Manner of Life, I ſhall give ſome Account. And

I. Of their *Original*, which was from *Swediſh Finland* Eaſtward of the Sea of *Bothnia*, from whence for Want of the Neceſſaries of Life, they formerly tranſported themſelves into *Sweden* and *Norway*, where in the Foreſts and Wilderneſſes they got Leave to build and inhabit. For the common People of *Finland* are ſtrong and hardy, and by Conſequence fruitful and long-lived. *Finland* formerly was not ſo well cultivated as at preſent it is; ſo that the Produce of the Earth was not ſufficient to ſubſiſt the Numbers of People born there; inſomuch that Abundance of them (as the *Goths* and *Vandals*) were obliged to ſeek out new Quarters: And tho' theſe People have for the moſt Part kept to their native Language, yet have they made ſeveral Alterations in their Manners and Ways of Living.

Their Language.

As for their *Language*, (tho' the much greater Part of them both underſtand and ſpeak the *Norwegian* Tongue, as well as the *Swediſh*) yet they moſtly uſe their own, which has not the leaſt Affinity or Reſemblance of either the other Two. As for Example, where the *Swedes* and *Danes*, in numbering tell 1, 2, 3. *Een*, *Toe*, *Tree*, they in theirs tell *Yx*, *Kax*, *Kolime*; and as the firſt ſay, for give me Bread, *Giv mig brod*, they ſay *Alla mina leip*, &c. And when we ſtand and hear them converſe together, we are ſurprized to conceive how they underſtand each other, ſince they ſpeak ſo very low, that we can ſcarce hear them.

Their Nature.

They are generally low of Stature, but ſtrong and hardy, and healthy; their Eyes are lively, their Noſes high, and their Teeth even and white, their Feet ſhort. The Women are generally ſo ſtrong of Conſtitution, that in Child-bearing they ſeldom need any Aſſiſtance, and ſoon return to the Buſineſs of the Family again, except here and there a weakly Conſtitution. They are generally ignorant and ſilly; but this muſt be attributed to the little Converſe they have with each other and the reſt of World, ſince the *Men*, whoſe Affairs call them often to traffick with their Neighbours, and in different Provinces, are of good natural Parts, ſharp, and look well to their Intereſt. They are frugal, parſimonious and humble, fearful of giving Offence, and very reſpectful to their Superiors: They will work whole Days without any Food, if they can only have Tobacco to ſmoak or chew.

Their

Their Food consists chiefly in a sort of Fish which they call *Oret*, and which answers to our Salmon-Trout; ('tis a very delicious fat Fish, which they catch in the Rivers that run thro' the Woods) and next to that, in Bread and Flour of *Rye*, which they sometimes get in great Plenty, by cutting down and burning whole Forests, and sowing the Ground with Rye, which sometimes produces 30 or 40 Fold. But this Method of producing has been of late very strictly forbidden, under very severe Penalties, by the Landlords of those Forests, by Reason of the immense Damage it does, by the Loss of so much Timber; and because the Fire sometimes lays waste immense Tracts of Land: So that it is with great Difficulty extinguished, burning whole Months together, to the great Detriment of Trade. They frequently use *Bathing*, at least once a Month, thinking thereby they prevent Sickness, and dissipate all Weaknesses from the Body: And their Method of Bathing seems so very particular, as would scarce agree with any other Constitution, or meet with Approbation from Physicians. The Method is this: In the Middle of the House (which generally consists of one large Room, built all of whole Timbers laid cross, and notched in at the Ends to let them close, and then caulked with *Moss*, as the Seams of a Ship are with *Okam*) they build an Oven with Stone without Mortar, and without a Funnel; the Smoak going out at a Hole in the Roof, which is left open while the Wood is burning in the Oven, but shut close as soon as 'tis all burnt to a bright Coal, which keeps in all the Heat. When the Oven is thus made red hot, they then strip, both Men and Women, without any Reserve, and place themselves on Benches made near the Roof on Purpose: Then cold Water is brought in, which from Time to Time is sprinkled upon the Oven; from whence arises a thick Steam on the Bathers, which makes their Bodies so warm, that they sweat very plentifully. Each Person has a Rod in his Hand, with which they gently beat their whole Bodies; and if they find themselves so hot that they cannot well endure it, they call for cold Water, which they pour over themselves in so dextrous a Manner, that it diffuses its self over their whole Bodies, and so cools them again. Thus when they have bathed sufficiently, they go directly out into the Air, though in the most inclement Season of the Year; and what is more, will roll themselves in the Snow for a good while together, and get no Harm by so doing: And this Method of Bathing they make Use of as their ordinary Cure, when they find any Indisposition of Body upon them. In the Winter, when the Ground is covered with Snow, they make use of a Sort of long wooden Shoe, *Inducunt soleas ligneas 3 vel 4 ulnas longas*, on which they go so swiftly, that in 2 Hours Time they will run 13 or 14 Miles: And as they are generally good Marksmen, with their Guns they kill abundance of wild Game, both to help to support their Families, and sell to buy themselves Necessaries. They are very ignorant

Their Manner of Life.

A singular way of Bathing.

Remarkable Shoes.

rant of Christianity, by Reason of their great Distance from any Towns; but that Misfortune the present King of *Denmark* has taken some Measures to remedy: Yet though they seem so ignorant and barbarous, yet 'tis very rare that any of them are guilty of any considerable Crime.

A Comparison of the *Paris* Weights with the *English*, by the Rev. J. T. *Desaguliers*, L.L.D. F. R. S. N° 366. p. 112.

III. Finding the Accounts which we have of the *French* Weights different in different Books, I sent to a curious Gentleman for some *Paris* Weights, exact to the Standard Weights at the Chatelet, and found upon Tryal the *Paris* Ounce, which contains 576 of their Grains, to be equal to 476 of our Grains Troy; from which Experiment all the other Proportions may be deduced.

The *French* Pound contains 16 Ounces.
Ounce ——— 8 Drams, or 576 *Paris* Grains.
Dram ——— 3 Deniers.
Denier ——— 24 Grains.

Of the Arcutio, by Oliver St. John, *Esq*; F. R. S. N° 422. p. 256. Fig. 7.

IV. When I consider how many are charged overlaid in the Bills of Mortality, I wonder that the *Arcutio's*, universally used at *Florence*, are not used in *England*. I here send you the Design of one, drawn in Perspective, with the Dimensions, which are larger than usual.

a, The Place where the Child lies. *b*, The Head-board. *c*, The Hollows for the Nurse's Breasts. *d*, A Bar of Wood to lean on when she suckles the Child. *e*, A small Iron Arch to support the said Bar. The Length 3 Feet 2 Inches and a half. Every Nurse in *Florence* is obliged to lay the Child in it, under Pain of Excommunication. The *Arcutio*, with the Child in it, may be safely laid entirely under the Bed-cloaths in the Winter, without Danger of smothering.

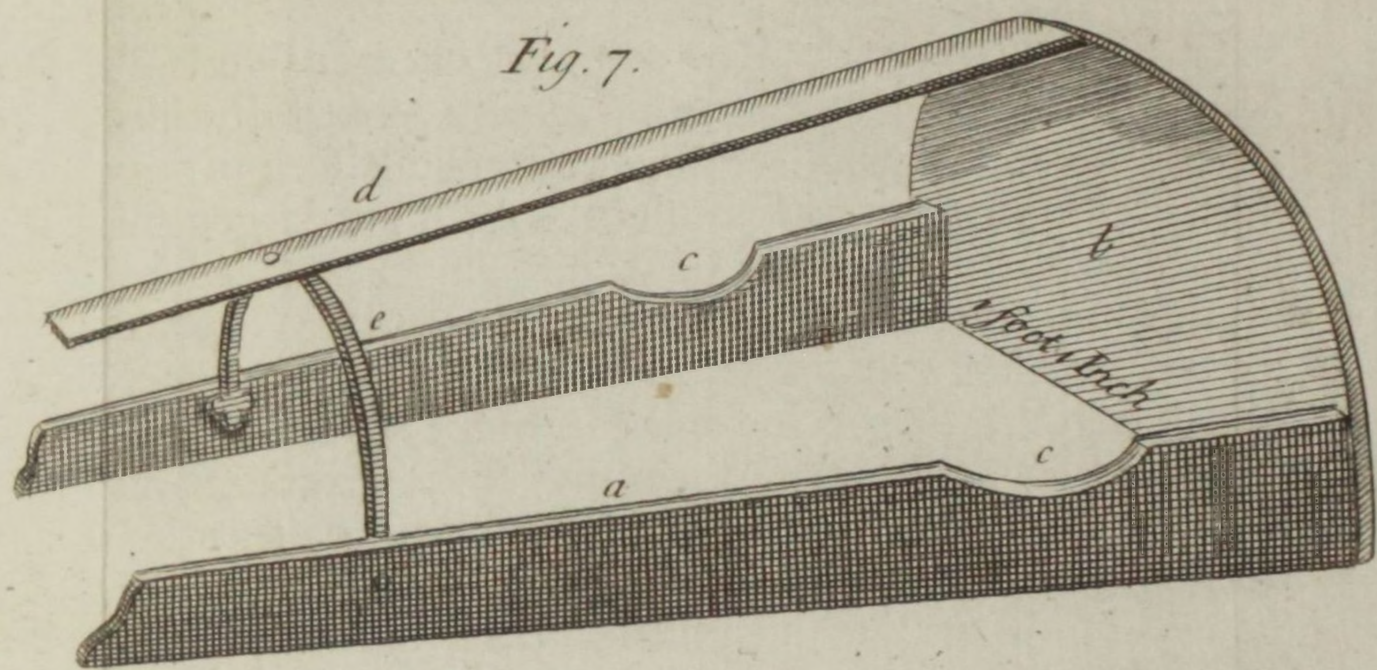
The Bills of Mortality, &c. of several considerable Towns in Europe. *Beginning with the Year* 1717, i. e. *from* Christmas 1716, *to* Christmas 1717, *Extracted from the* Acta Breslavienſia. *By* Conr. Joach. Sprengell, M. D. F. R. S. No. 380. p. 454.

Breslaw, *in* Silesia,

	Buried.		*Christened.*	
V. 1. In January	91		Males	584
February	113		Females	576
March	136			
April	108			1160
May	127		*Among the Buried were*	
June	144		Married Men	226
July	144		Married Women	144
August	208		Widows and Widowers	157
September	128		Bachelors	60
October	96		Maidens	57
November	113		Boys and Girls under Ten Years old	419
December only till the 24th,	77			397
			Stillborn Boys	37
			Stillborn Girls	17
	1485			1514

N. B. Here

Fig. 7.



UNED

N. B. Here, in the Sum Total, are 29 more than in the Number of the Buried above, by Reaſon of ſeveral Stillborn Children which had no regular Burial, and ſo were not reckoned.

In the Imperial Town Vienna, *there died*,

Young People	3179
Old	2026
Total	5205, among which were,

Of 90 Years old	2	Of 99	2
91	1	100	1
92	3	102	2
93	1	103	1
94	3	104	1
95	2	115	1
96	3		

Born and Chriſtened 4030 Children.

In *Dreſden*, *Saxony*, died 1908
Chriſtened 1443

In *Dantzick* died 1605
Chriſtened 2102

In *Eſperies*, or *Eperies*, alias *Epperies*, a Town in Upper *Hungary*, died 132
Chriſtened 157

Moſt of theſe died of the Small-Pox.

The Bills *of* Mortality *from* Chriſtmas 1717, *to* Chriſtmas 1718. BRESLAW.

Buried.		*Chriſtened.*	
From the 25th of Dec. to the 31ſt.	21	Males	598
January	129	Females	554
February	112		1152
March	108		
April	98	*Among the Dead were,*	
May	88	Married Men	238
June	97	—— Women	141
July	86	Widows and Widowers	122
Auguſt	118	Bachelors	60
September	98	Virgins	60
October	119	Children to ten Years of Age { Boys	282
November	100	Children to ten Years of Age { Girls	280
December till the 24th	81	Stillborn { Boys	47
		Stillborn { Girls	25
Total	1255		1255

In *Vienna* died	Men	1432	Women	1129
	Boys	1844	Girls	1705
	In all	6,10		Amongſt

Amongst which were froze to Death in the Street	2	By taking wrong Physick	1
Murdered	2	Trod to Death by Horses	4
Killed by a Waggon	2	Drowned	5
By Falls from Houses, *&c.*	11	Beat to Death	1
Killed with Swords, Knives and Sabres	9	Smothered in a House of Office	4
		Cut their Throats	2
		Killed by the Fall of Houses	5

Among the Dead were found,			*Christened.*	
8	Persons of 90	Years old.	Males	2185
7	92		Females	2057
2	93			
3	94		Total	4242
3	95			
1	96			
2	97		Amongst which were 48 Pair of Twins, and once *Tergemini.*	
2	98			
2	99			
1	105			

In *Ratisbon* died of the *Lutherans*, 235 Persons; amongst which were 117 Children, 13 young Men, and 11 young Women.

An Account of several Cities in Saxony.

	Christened.	*Bastards.*	*Buried.*	*Pair Married.*	*Communicants.*
In Dresden	1578	99	1412	501	78875
Wittemberg	286	16	317	61	13536
Leipzick	861	68	953	303	
Torgau	136	9	148	54	7917
Freyberg	340	13	373	104	24098
Stolberg	88		112	27	7314
Pulsnitz	73		75	39	4381
Konigsbruck	67		95	16	3351
Elstra	63		45	11	3021
Bautzen	207	5	135	55	14520
Annaberg	146	19	112	37	8426
Chemnitz	173	4	166	38	10690
Oschatz	103	3	82	20	5169
Altenburg	141		248	57	12901
Eulenberg	96	5	86	41	6194
Pirna	138	2	133	43	9164
Marienberg	91		194	18	5903
Georgenstad	182		191	36	3580
Harta, *near* Waldheim	40	3	20	29	3291

N° *Years*

A List *from the Year* 1617, *to* 1717 *inclusive, in the Electoral City of* Freyberg, *a famous and pleasant Town, near the Banks of the* Molde *in* Saxony. *Lat.* 51. *Long.* 32, 43. *about* 8 *Miles* S. W. *from* Dresden.

N° *Years.*	*Pair Married.*	*Christen'd*	*Bastards.*	*Buried.*	*Communicants.*
1617	89	539	4	430	10530
18	122	423	10	384	9631
19	124	495	13	371	9789
20	97	428	10	451	10093
21	106	430	6	507	9676
22	110	380	7	517	9536
23	100	357	8	589	9206
24	96	383	4	417	9509
25	98	375	7	454	10058
26	78	381	6	549	11642
27	108	372	7	331	11027
28	82	371	4	318	10745
29	87	412	19	536	11531
30	80	330	7	1114	11180
1631	135	353	4	284	10524
32	88	425	5	1343	11326
33	174	163	4	879	9131
34	170	375	1	175	7447
35	87	285	9	231	7323
36	61	299	11	181	7590
37	68	386	3	383	7723
38	53	262	9	151	7682
39	45	292	4	354	9609
40	65	268	6	173	7594
1641	61	226	2	163	7562
42	48	309	4	193	8128
43	60	383	7	340	7770
44	65	231	7	156	7699
45	62	196	5	163	7050
46	57	230	6	187	7263
47	59	201	2	136	7173
48	59	197	1	182	7698
49	44	222	5	201	7739
50	65	199	1	162	7639
1651	65	232	1	168	8148
52	50	190	2	202	7948
53	62	208	2	215	8342
54	62	234	3	211	8648
55	73	202	1	194	6351
56	60	237	5	151	8493
57	58	230		174	8730
58	61	198	4	184	8561

N° Years.	Pair Married.	Christen'd.	Bastards.	Buried.	Communicants.
59	57	251	3	177	8431
60	66	230		240	8856
1661	47	225	3	217	8962
62	53	203	2	206	9423
63	47	206	2	247	9264
64	48	219	2	179	9279
65	61	213		207	9406
66	65	218	4	216	9979
67	79	223		306	9448
68	63	228	5	232	9588
69	55	232		204	9572
70	70	218	4	206	9564
1671	65	237	3	291	10080
72	64	207	2	286	9221
73	69	234	1	215	9912
74	55	228		204	9678
75	60	233	1	246	10093
76	58	226	1	277	9956
77	80	240	3	296	10462
78	70	256	4	302	10422
79	91	225	4	254	10356
80	63	292	4	267	11349
1681	87	285	5	218	11043
82	69	282	7	253	10894
83	77	315	8	333	11054
84	78	334	6	314	10623
85	73	249	4	251	11070
86	73	282	5	243	11488
87	80	327	6	292	11542
88	88	308	11	234	11300
89	59	276	4	301	11393
90	72	290	5	310	11380
1691	72	269	6	289	11724
92	58	284	7	296	12679
93	72	316	10	253	11597
94	65	236	7	355	12533
95	57	239	6	339	13196
96	85	277	10	290	14900
97	76	216	4	180	15619
98	73	274	7	218	15677
99	64	264	5	258	16155
1700	74	251	7	310	18569

1701

N°. *Years.*	*Pair Married.*	*Christen'd.*	*Bastards.*	*Buried.*	*Communicants.*
1701	81	283	10	188	19282
2	88	272	2	239	20383
3	95	271	6	241	20494
4	88	319	11	273	20837
5	72	295	12	357	20743
6	85	332	10	245	21813
7	82	310	18	378	21367
8	83	310	17	288	21838
9	71	302	10	305	21708
10	83	313	15	283	21699
1711	81	327	8	311	22334
12	82	310	9	325	22837
13	87	308	9	340	23627
14	70	349	6	237	23470
15	82	323	8	283	23273
16	105	317	14	361	23371
17	79	373	13	325	23904
Total	7546	28851	582	30295	1211761

Here is to be obſerved, That in the Years 1625, 26, 27, 32, and 33, the Plague raged very much; as alſo, that in the Year 1630, there died of the Plague meerly, 764. and in 1680, 103. Beſides that, amongſt the Chriſtened in 1713, a Girl was baptized, which was born and bred in *Turkey*, but from *Chriſtian* Parents. But, in general, it may be obſerved, That this Place was more populous before the War than it is at preſent; though in this Century it cannot but very much recover and increaſe.

In the Kingdom of Pruſſia.

Year.	*Born.*	*Pair Married.*	*Buried.*
1715	19606	4571	12000
16	20669	4530	12155
17	21443	4743	12301
18	20994	4287	11047
Sum	82712	18131	47503

In the Electorate of Brandenburg.

Year.	*Born.*	*Pair Married.*	*Buried.*
1715	14820	4368	11663
16	15758	4995	13149
17	16636	4539	10805
18	17319	4657	12891
Sum	64533	18559	48508

In the Newmark.

Born.	*Pair Married.*	*Buried.*
5487	1683	4757
4973	2010	4502
7052	1850	4673
6684	1882	5069
24196	7425	19001

In the Dutchy of Magdeburg.

Year.	*Born.*	*Pair Married.*	*Buried.*
1715	7185	2064	4982
16	7225	2186	5602
17	8746	2306	6291
18	8325	1934	5744
Sum	31481	8490	22619

The Dutchy of Cleve.

	Born.	*Pair Married.*	*Buried.*
——	6772	1964	5066
——	7313	2001	6221
——	7582	2051	6055
——	7542	1891	5865
Sum	29209	7907	23207

The Dutchy of Pomerania.

1715	7243	2190	5373
16	7386	2407	5557
17	8196	2108	5020
18	7896	2138	6231
Sum	30721	8843	22181

The Principality of Halberſtad.

——	2371	710	1834
——	2567	759	2542
——	2759	764	1961
——	2527	715	2022
Sum	10224	2948	8359

The County of Hohenſtein.

1715	528	164	406
16	639	155	444
17	644	148	449
18	612	158	416
Sum	2423	625	1715

The Principality of Minden.

——	1711	579	1618
——	1788	564	1829
——	1991	542	1419
——	1832	552	1486
Sum	7322	2237	6352

The City of Meurs.

1715	406	151	386
16	439	161	331
17	454	166	281
18	470	170	368
Sum	1769	648	1366

In Geldern.

——	——	——	——
——	——	——	——
——	1990	497	1066
——	2053	489	1064
Sum	4043	986	2130

The County of Ravenſberg.

1715	2188	679	1987
16	2410	716	2349
17	2312	672	1817
18	2344	641	1951
Sum	9254	2708	8104

The County of Tecklenberg.

——	342	153	513
——	553	163	543
——	505	186	370
——	507	135	387
Sum	1907	637	1813

The

The County of Lingen.

Year.	*Born.*	*Pair Married.*	*Buried*
1715	628	213	484
16	699	154	638
17	697	248	449
18	706	221	840
Sum	2730	836	2411

In Lauenburg *and* Butow.

Year.	*Born.*	*Pair Married.*	*Buried.*
——	585	144	362
——	587	169	420
——	586	118	366
——	554	153	321
Sum	2312	584	1469

In the French *Colonies.*

Year.	*Born.*	*Pair Married.*	*Buried.*
1715	——	——	——
16	——	——	——
17	607	181	564
18	603	136	639
Sum	1210	317	1203

The Sum Total of all that were Born in 4 Years 306046
— — — — Of all that were Married 81881
— — — — Of all that were Buried 217941
More Born than Buried, in Number, 88105

Here is alſo to be obſerved, that in the Year 1718, there died 84 Perſons above 91 Years old, and 32 above 100; and 1 died in the 116th Year of his Age. Beſides in that very Year are reckoned 2088 Baſtards.

A particular Liſt of ſeveral Borough Towns in the Kingdom of Pruſſia, *received from the* Chancery *of* Koningſberg, *of all that died in the Year*, 1718.

In the Borough of	*Died.*
— Brandenburg	581
— Schacken	346
— Fiſhauſen	312
— Taxium	456
— Balga	392
— Preuſs Eylau	319
— Bartenſtein	167
— Barthen	185
— Oſterode *and* Hohenſtein	277
— Seheſten	159
— Neudenburg *and* Saldau	330
— Lyck	141
— Oletzko	188
— Angerburg	182
— Rhein	107
— Orſelſburg	220
— Johanniſburg	141
— Lotzen	137
— Neuhauſen	148
— Labiau	249
— Raſtenburg	275

In the Borough of	*Died.*
— Preuſs Holland	264
— Marungen *and* Liebſtadt	206
— Marienwerder *and* Rieſenburg	393
— Preuſs Marck	312
— Tilſit	529
— Ragnit	381
— Inſterburg, — Georgenburg, — Salau	808
— Mummel	556
— Schonberg	126
— Gerdauen *and* Nordenburg	269
— Gilgenburg	109
— Teutſch Eylau	41
— Neuhaff	15
In the three Cities of Koningſberg	1756
Sum	11077

In all theſe forementioned Places were Chriſtened 20994
Pair Married 4287

In

	Died.	*Christened.*	*Married.*
In *Dantzick* in the Year 1718.	1579	1470	446 Pair.
In *Epperies.*	123	173	

In the Royal Hospital at *Lisbon* out of 1251 Foundlings maintained by the King, without knowing their Parents, there died 469, remained 782.

Continued by the same. N°. 381. p. 25. *A List of those that were Born and Buried in* Breslaw, *from* Dec. 25, 1719. *to* Dec. 24, 1720.

Buried.

2.	From Dec. 25, to the 31st,	40
In	January	160
	February	107
	March	139
	April	192
	May	158
	June	120
	July	131
	August	182
	September	189
	October	130
	November	132
	Dec. only till the 24th	127
		1816

Christened.

Males	564
Females	556
	1120

Married 460 Pair

Among the Dead were

Married Men		385
Married Women		186
Widows and Widowers		285
Bachelors		113
Maidens		113
Children to ten Years of Age	Boys	345
	Girls	300
Stilborn	Boys	53
	Girls	30
		1810

In 1720. *In* Lignitz *were*

Married	92 Pair.
Christened	283
Buried	366

Among which were 149 Children.

In Jauer.

Christened of *Protestants*	100 Ch.
Buried	175

In Oels.

Christened	180
Buried	203

In Schweidnitz.

Married	218 Pair.
Christened	920
Buried	250

In Vienna.

From *Jan.* 1. to *Dec.* 31.

Buried	6825
Christened	4126

In Lobau.

Married	58 Pair.
Born	160
Buried	355

Amongst which were Born 80 Boys and 80 Girls: Buried 95 Men and 48 Women, besides 4 who died in Childbed; 26 Bachelors and 22 Maidens: 36 Boys and 42 Girls: 25 Chrisoms: 7 Stilborn: 55 Widows and Widowers. Likewise 51 Persons between 60 and 70 Years of Age: 29 between 70 and 80: 7 betwixt 80 and 90: 1 of 90, and one of 99.

In

In Dresden.

Married 368 Pair.
Born 1448
Among which were 719 Boys, and 641 Girls, legitimate: Illegitimate Boys 44 and Girls 44.
Buried 1733
Amongst which were 255 married Men and 182 married Women, 189 Widowers and Widows: 88 young Men and 84 young or single Women: 883 Children, *viz.* 461 Boys and 422 Girls, amongst which were Stilborn 72, *viz.* 37 Boys and 35 Girls.

In John-George *City.*

Married 24
Christened 148
i. e. 79 Boys and 69 Girls, among which were 2 Stilborn, and 10 Bastards.
Buried 243
viz. 37 married Men and 18 married Women: 5 Widowers and 37 Widows, 6 Bachelors, and 18 Maidens: 64 Boys, 58 Girls, *&c.*

In St. Annaberg.

Married 18 Pair.
Born 105
i. e. 63 Boys and 42 Girls, among which were two Pair of Twins, and 4 Bastards.
Buried 180
viz. 96 Men and 84 Women: among which were 34 married Men and 18 married Women, 1 in Childbed; 12 Widowers and 28 Widows: 12 Bachelors, and 17 Maidens: 38 Boys and 20 Girls, among which was 1 dead born.

In Schneeberg.

Married 12 Pair.
Born 89
As 44 Boys: 45 Girls; among which were 4 Stilborn, and 3 Bastards.
Buried. 157
viz. 28 married Men, and 11 married Women: 1 Childbed Woman: 5 Widowers and 25 Widows: 9 Bachelors and 10 Maidens: 68 Children, *viz.* 49 Boys and 19 Girls.

In Leipsic.

Married 314 Pair.
Born 790, *viz.* 405 Boys and 385 Girls.
Buried 1264
Among which were 233 Men and 146 Women: 86 Bachelors, and 62 Maidens: 233 Boys and 195 Girls: 9 Women in Childbed: 98 Chrisoms, *i. e.* 53 Boys and 45 Girls: 58 Stilborn, as 36 Boys and 22 Girls.

In Berlin.

Married 669 Pair.
Born 2276
Buried 2426

In Wismar.

Christened 168.
Buried 100

In Epperies.

Born 171
Buried 116

In Rawitz.

Born 134
And just as many Males as Females, except two Pair of Twins.
Buried 95

Among

Among which were 15 Child-bed Women and 3 Stilborn.

In Dantzig.

Born 1862

Buried 1610

Married 442 Pair.

This is merely of the City, and not of the Suburbs of *Dantzig*.

A List of the several Cities and Towns of the Kingdom of Prussia.

In 1720.	*Christened.*	*Pair Marr.*	*Buried.*
In Angerberg	535	88	259
Balga	638	133	395
Bartenstein	224	63	188
Barthen	337	66	246
Brandenburg	936	213	576
Teutsch-Eulau	100	25	82
Fishausen	478	103	270
Gerdauen	489	98	206
Gilgenburg	225	56	137
Insterburg	2386	336	1398
Johannisburg	378	68	188
Labiau	616	92	273
Liebstadt	440	73	343
Lotzen	256	45	148
Luck	364	65	174
Marienwerder	769	145	641
Mummel	953	168	448
Neydenburg	5[illegible]2	104	437
Neuhausen	243	62	141
Neuhoff	28	6	10
Oletzko	688	111	261
Ortelsburg	476	82	330
Osterode	784	92	300
Preuss Eulau	479	112	282
—— Marck	705	130	478
—— Holland	705	125	557
Ragnit	930	93	516
Rastenburg	610	155	452
Rhein	482	89	193
Schacken	576	96	259
Schonberg	276	51	230
Sehesten	354	62	181
Taxium	876	157	441
Tilsit	1139	187	647
The City of Koningsberg	1682	474	1402

Of the Year 1721. *In* Breslaw.

Buried.	
From the 25th of *Dec.* to the 31th, 1720.	38
January 1721,	123
February	129
March	161
April	127
May	149
June	132
July	86
August	103
September	125
October	99
November	121
December, till the 24th,	89
Total	1482

Christened.		
Males		610
Females		585
Total		1195
Married		405 Pair.
Among the Dead were		
Married Men		301
—— Women		157
Widows and Widowers		208
Bachelors		92
Maidens		82
Children to ten Years of Age	Boys	324
	Girls	248
Stilborn	Boys	42
	Girls	28
Total		1482

In

In *Jauer.*

Buried 114. Christened 124.

In *Vienna.*

Buried 6490. Christened 4104.

So that there died 2386 more than were Christened.

Among the Dead were 43 *Casualties.*

Besides 8	Persons of 90	Besides 3	Persons of 96
1	91	1	98
2	92	4	99
3	93	2	100
3	94	1	105

In *Dresden.*

Buried 1850. Christened 1396. Married 404 Pair.

Amongst the Buried were				
Married Men	274	Girls		400
—— Women	206	Stilborn	Males	50
Widowers	42		Females	28
Widows	238	*Among the Baptized were.*		
Bachelors	128	Boys		701
Maidens	93	Girls		690
Boys	479	Bastards	Males	40
			Females	51

In *LEIPZIG.*

Buried.														*Christened.*			
							Chrysoms.		*Stilborn.*								
	Married Men.	*Married Women.*	*Bachelors.*	*Maidens.*	*Boys.*	*Girls.*	*Childbed Women.*	*Males.*	*Females.*	*Males.*	*Females.*	*Widowers & Wid.*	*Summa.*	*Males.*	*Females.*	*Total.*	*Pair Married.*
Jan.	28	25	13	11	15	14	1	1	1	2	3	20	134	43	31	74	13
Feb.	17	12	15	9	16	10	2	4	3	7	2	17	114	31	23	54	30
Mar.	28	29	13	12	14	15	0	1	3	3	3	17	138	34	31	65	1
Apr.	31	24	9	10	17	22	2	2	3	2	0	13	135	32	38	70	
May	25	23	10	9	23	16	3	6	5	0	0	16	136	31	22	53	20
June	28	16	17	4	15	13	2	3	6	2	2	12	120	21	31	52	24

July	7	10	7	5	8	12	2	1	4	0	3	15	74	37	26	63	21
Aug.	14	8	6	6	19	11	3	2	3	3	2	9	86	27	38	65	17
Sept.	14	14	1	2	13	18	2	4	4	1	1	7	81	29	46	75	30
Oct.	17	10	4	7	14	20	6	7	2	7	4	5	103	38	33	71	20
Nov.	12	13	3	6	20	7	1	3	7	2	0	11	85	37	34	71	52
Dec.	16	12	2	12	19	17	10	3	3	2	1	7	94	27	20	47	1
Sum.	237	196	100	93	193	175	24	37	44	31	21	149	1300	387	373	760	268

So that in this Year there died 1300. Born and Christened 760. Hence there are 540 fewer born than died.

Among the Dead were

218	from 60	to 69	Years
82	70	79	old.
16	80	88	
2	90	91	

Besides 1 Bachelor of 60, and 2 of 61; and 5 Maidens of 60, 62. 66, 70, and 73 Years old.

Among the Christened were

8 Posthumous:
14 Twins:
63 Bastards:
And 2 *Jews* baptized.

In the Marck. Christened 16086 Amongst which were 596 Bastards.
Married 4613 Pair.
Buried 13511

More born 2575 than buried.

Among the Buried were 28 Persons of 90 Years old and upwards, besides 3 of 100, 1 of 101, 1 of 102, 2 of 104, 2 of 107, and 1 of 112 Years.

In the whole Royal Prussia. Born 75275. Buried 58017. That there are more Born 17258 than Buried.

The Special List of the Kingdom of Prussia.

	Christened.	*Pair Marr.*	*Buried.*
In Angerberg	518	104	282
Balga	605	168	381
Bartenstein.	278	65	218
Barhrten	357	64	208
Brandenburg	944	222	695
Dutch-Elau	103	20	78
Fishausen	498	112	390
Gerdauen	490	75	219
Gilgenburg	110	37	76
Insterburg	2235	359	889
Johannisburg	463	76	174
Labiau	569	92	277
Liebstadt	431	94	252
Lotzen	247	68	180
Lyck	352	96	183
Marienwerder	765	162	400
Mummel	914	193	522
Neydenburg	545	121	326
Neuhausen	234	59	138
Neuhoff	34	10	40
Oletzko	631	103	312
Ortelsburg	497	92	282
Osterode	369	144	183
Preuss Eylau	503	113	428
—— Holland	605	166	376
—— Marck	657	134	335

Rangnit

	Christened.	*Pair Marr.*	*Buried.*		*Christened.*	*Pair Marr.*	*Buried.*
Rangnit	791	95	336	Taxium	870	159	508
Raſtenburg	738	165	537	Tilſit	1245	185	584
Rhein	416	108	211	The Cities of Koningsberg	1655	424	1776
Schacken	514	87	326	Total	20768	4313	12412
Schonberg	255	61	147				
Scheſſen	330	80	233				

In Ratisbon.

Chriſtened Males 130
Females 120

Total 250

Amongſt which were 3 Pair of Twins, *viz.* 2 Boys and 4 Girls. Beſides 6 Baſtards, *i. e.* 3 Boys and 3 Girls.

Buried 220, *viz.* Married Men 41. Married Women 43. Young Men 11, Young Women 15. Children 110 *i e.* 67 Boys and 43 Girls. Amongſt which, Widows 23. Lying-inn Women 2. Stilborn 2. Married 67 Pair.

In Nurnburg.

Buried.		*Chriſtened.*	
Married Men	234	Males	541
—— Women	257	Females	543
Bachelors	48	Total	1084
Maidens	73		
Boys	232		
Girls	191		
Stilborn	18		
In the Suburbs	10		
Total	1063		

Twenty-one more born than died, among the Chriſtened were 16 Pair of Twins.

In Copenhagen.

Born 2630. Buried 2247.

In Amſterdam.

The following Liſt contains ſeven Years.

Anno 1715	died	7633 Perſons.	19	9726	Perſons.
16		7078	20	7820	
17		7451	21	7632	
18		8644			

In Epperies.

Born 214. Buried 142.

In Dantzick.

Born 1833. Buried 1435. Married 457 Pair.

Continued by the same, for 1722, *and* 1723. N°. 400. p. 365.

A List of those that were born and buried, &c. in Breslaw, *&c. in the Year* 1722.

Buried.

3. From the 25th of Dec. to the 31st, 1721.	35
January, 1722.	100
February	94
March	129
April	121
May	122
June	182
July	185
August	203
September	167
October	173
November	190
December, 'till the 24th	90
	1791

Christened.

Males	665
Females	670
	1335

Married 424 *Pair.*

Among the Dead were

Married Men		231
Married Women		149
Widows and Widowers		150
Bachelors		57
Maidens		52
Children to 10 Years of Age	Boys	570
	Girls	499
Stilborn	Boys	53
	Girls	30
		1791

In Vienna.

Buried,

Men,	1038
Women,	942
Boys,	1551
Girls,	1430
	4961

Among which was, 1 of 105, 1 of 110, and another of 111 Years of Age.

Christened.

Children 4417

In Dresden. Buried 1519. Christened 1514. Married 451 Pair.

In Leipsig.

	Buried.						*Chrysoms.*				*Stilborn.*			*Christened.*			
	Married Men.	*Married Women.*	*Bachelors.*	*Maidens.*	*Boys.*	*Girls.*	*Childbed-Women.*	*Males.*	*Females.*	*Males.*	*Females.*	*Widowers and Widows.*	*Summa.*	*Males.*	*Females.*	*Total.*	*Pairs Married.*
Jan.	13	6	9	4	20	23	3	4	0	5	3	11	101	44	21	65	25
Feb.	17	11	11	8	14	7	0	3	3	4	2	13	93	30	26	56	21
Mar.	10	6	3	4	21	11	3	9	1	6	2	8	84	36	31	67	29
Apr.	19	9	4	10	17	8	1	3	3	1	2	15	92	39	28	67	0

May

May	19	13	13	2	20	14	2	5	2	2	4	15	111	39	41	80	53
June	11	7	4	2	22	26	0	4	2	5	5	1	89	40	35	75	23
July	11	8	4	2	24	22	3	4	3	1	2	3	87	40	39	79	55
Aug.	8	5	6	3	16	9	1	4	3	2	4	2	68	40	34	74	27
Sept.	8	3	1	1	19	14	1	3	2	1	2	6	61	34	43	77	22
Oct.	6	9	4	5	12	8	1	6	1	3	6	4	65	49	30	79	24
Nov.	11	7	3	3	10	14	1	7	0	1	2	5	64	33	38	71	76
Dec.	11	7	4	4	19	13	0	6	3	4	2	6	79	39	39	78	6
Summa	144	91	66	53	214	169	16	58	23	35	36	89	994	463	405	868	361

So that in this Year there died 994, and Christened 868. Hence there are 126 fewer born than died.

Among the Christened were 2 Posthumous, 12 Twins, 99 Bastards, 1 Foundling.

Among the Dead were

78 from 60 to 69 Years old,
50 70 79
15 80 98

Buried 143, Christened 190. Among the latter were 107 Boys and 83 Girls, and among these were 6 Twins and 1 Bastard. 73 Pair were Married. *In* Weimar.

Buried 2499, Christened 2701. Among which were 260 Bastards. Married 742 Pair. So that there were 202 more Born than Buried. *In* Berlin.

The Special List *of the Kingdom of* Prussia.

	Christ-ened.	*Pair Marr.*	*Buried.*
In Angerberg	565	92	212
Balga	604	145	400
Bartenstein	268	42	124
Barthen	309	97	170
Brandenburg	937	223	546
Dutch-Elau	157	20	54
Fishausen	473	105	405
Gerdauen	545	92	187
Gilgenburg	205	63	98
Insterburg	2047	381	1013
Johannisburg	382	68	191
Labiau	608	99	280
Liebstadt	443	76	179
Lotzen	263	57	110
Lyck	360	93	119
Marienwerder	791	185	398
Mummel	913	225	521
Neydenburg	674	153	301
Neuhausen	217	62	141
Neuhoff	37	2	25
Oletzko	726	123	270
Ortelsburg	501	91	260
Osterode	506	97	207
Preuss Elau	490	96	276
—— Holland	666	147	334
—— Marck	142	170	287
Ragnit	803	109	371
Rastenburg	553	118	301
Rein	551	81	174
Schacken	524	130	390
Schonberg	279	66	114
Sehesten	356	76	137
Tapiau	846	176	401
Tilsit	1267	218	632
The Cities of Koningsberg	1664	442	1688
Total	20672	4420	11316

In

In *Cuhrmarck Brandenburg*	18334	4732	11602
Neumarck	7509	1705	4047
The Dukedom of *Magdeburg*	8402	2264	6006
Of *Cleve* and *Mark*	6921	1886	5740
Pomerania	7256	1858	4424
Halberstadt	2899	724	2040
Hohenstein	589	151	403
Minden	2140	479	1351
Ravensberg	2270	605	1600
Moers	491	160	369
Geldern	1686	447	1449
Tecklenburgh	579	118	398
Lingen	729	242	529
Lauenberg and *Butow*	630	156	372
French Colonies	663	130	572
Of all the King of *Prussia*'s Dominions } Summa	81770	20077	52218

So that there were 29552 more Christened than Buried. Among the Dead were 71 above 90 and 100 Years of Age; and 1 of 120.

In Nurenberg

Buried.	
Married Men	194
—— Women	233
Bachelors	42
Maidens	61
Boys	285
Girls	230
Stilborn	12
Summa	1057

Born.	
Males	501
Females	554
Summa	1055

Among which were 12 Twins.

In Copenhagen.

	Born.	*Married.*	*Buried.*
Males	1345	785 Pair	1999
Females	1256		
	2601		

So that there were 602 more Born than Buried.

In *Amsterdam Died* 8421

In *Epperies* were Born 213. Buried 135.
In *Dantzig* were Born 2092. Married 490 Pair. Buried 1442.
In *Rawitz* were Born 200. Buried 74.

From

The Bills of Mortality of 1723. *In* Breslaw.

Buried.	
From the 25th of Dec. to the 31st, 1722.	22
January, 1723.	118
February	114
March	122
April	102
May	115
June	119
July	93
August	124
September	124
October	85
November	114
December, 'till the 24th	69
	1321

Christened.		
Males.		711
Females		684
		1395
Married 422 *Pair.*		
Among the Dead were		
Married Men		220
Married Women		118
Widows and Widowers		150
Bachelors		48
Maidens		46
Children to 10 Years of Age	Boys	369
	Girls	306
Stilborn	Boys	38
	Girls	26
		1321

Buried 5443. Among which were 1079 Men, and 974 Women, 1758 Boys, and 1632 Girls. Christened 4457. *In* Vienna.

Buried 171. Christened 226, and 70 Pair Married. *In* Lobau.

Buried 321. Christened 362. *In* Freyberg.

Buried 1654. That is, 165 Married Men, 136 Married Women, 36 Widowers, and 138 Widows, 68 Bachelors, 64 Maidens, 580 Boys, and 467 Girls. *In* Dresden.

Stilborn, Boys 54 and Girls 46. Christened 1510. That is, 756 Boys and 754 Girls. Among which were Bastards 66 Boys and 41 Girls. Married were 396 Pair.

Buried 928. Among which were 126 Married Men and 88 Married Women, 53 Bachelors and 36 Maidens, 199 Boys and 164 Girls, 21 Women in Childbed, Newborn Boys 60, and Girls 46, besides Stilborn Boys 37, and Girls 30; also 68 Widows and Widowers. Christened were 966; as 489 Boys and 477 Girls. Among which were 11 Pair of Twins and 99 Bastards. Married have been 306 Pair. *In* Leipsig.

Buried 448. Christened 666. *In* Erfurt.

In the Elector of *Mentz*'s Dominion, in 75 Villages are Buried 543, Christened 872.

Buried 2618. Christned 2770. Among which are 289 Bastards. *In* Berlin.

In the Towns and Villages of the *Old*, *Middle*, and *Uckermark* are Christened 19058. Among which are 995 Bastards. There were Married 4943 Pair, and Buried 13317. Among which were 23 who lived to 90, 100, and 1 to 112 Years old. So that there were 5741 more Born than Buried.

In

In the reſt of the King of *Pruſſia*'s Dominions.

	Born.	*Married.*	*Buried.*
In the Kingdom of *Pruſſia*	21384	4957	10762
In the Elect. of *Brandenburgh*	18774	4863	13015
In *Neumark*	6907	1813	4193
In the Dutchy of *Magdeburg* and County of *Mansfield*	8858	1781	5579
Cleve and *Mark*	6645	1924	6848
Pommern	8544	2241	5294
Halberſtad	2943	808	2162
Hohenſtein	604	165	389
Minden	2087	565	1925
Ravensberg	2061	613	1833
Moers	484	156	371
Geldern	1866	436	1478
Tecklenburg	475	141	437
Lingen	701	270	641
Lauenberg and *Butow*	588	149	340
French Colonies	594	177	563
	83515	21059	55830

Among the Born are 2157 Baſtards, and among the Buried 77 that were above 90 and 100 Years old. So that there were 27685 more Born than Buried.

In *Copenhagen* were Born 2604. Buried 1914, Married 701 Pair. Therefore 690 more Born than Buried.

In *Amſterdam* there Died 7119, and were Married 2289 Pair.

In *Epperies*, Born 203. Died 132.

In *Dantzig*, Born 2002. Buried 1495, and Married 537 Pair.

Continued for 1724, *and* 1725, *by* J.G. Scheuchzer, M.D. *F.R.S.* N°. 409. p. 110.

A Liſt of thoſe that were Born and Buried at Breſlaw *in* 1724.

	Perſons.
4. From the 25th to the 31ſt of Dec. 1723.	17
January 1724.	115.
February	101
March	129
April	79
May	122
June	99
July	129
Auguſt	177
September	141
October	134
November	126
1 Dec. to 24 Dec.	97
Sum Total	1466

Among the Dead were,

Married Men		231
Married Women		148
Widows and Widowers		154
Bachelors		57
Maidens		66
Children to 10 Years of Age	Boys	417
	Girls	326
Stilborn	Boys	36
	Girls	31
	Total	1466

Chriſtened.

Males	709
Females	613
Total	1322

Married 386 Pairs.

In

Buried 5524	Years of Age.	*Buried* 5524	Years of Age. In *Vienna.*
among whom	— 3 of 90		1 — 99
	2 — 92		2 —100
	2 — 93		3 —101
	5 — 95		2 —103
	2 — 96		1 —106
	1 — 97		
	3 — 98		27 of 90
Christened 4427.			and upward.

Buried 135. *Christened* 166. *Married* 38 Pairs. At *Lubau.*

Christened — Boys 107 Girls 116 Total 223

Buried	Maried Men	— 29	*Buried*	Infants	— 23
	Married Women	— 19		Still-born	— 17
	Batchelors	— 7		Widows and Widowers	— 18
	Maidens	— 15			
	Children Boys	— 68		Total	— 257
	Children Girls	— 61			

At *Lauban.*

Among which there died 97 Children of the *Small-Pox.* There were married 73 Couple.

Christened Boys — 715 Girls — 712 Bastards Boys—60 Girls—70 Total 1557 At *Dresden.*

Buried	Married Men	— 161	Children	Boys	— 522
	Married Women	—151		Girls	— 508
	Widowers	— 35	Still-born	Boys	— 58
	Widows	— 143		Girls	— 40
	Batchelors	— 72			
	Maidens	— 71		Total	1761

Being 204 more than were Christened. Married Couple 413.

Christened in	January	— 79	*in*	July	— 78
	February	— 71		August	— 94
	March	— 99		September	— 79
	April	— 78		October	— 79
	May	— 74		November	— 50
	June	— 69		December	— 63
				Total	913

At *Leipsic.*

Christened in all 913. Boys 491, Girls 422; among whom there were three Children at one Birth, born *Oct.* 31. one being alive, the two others Still-born, besides 14 Twins.

Buried		*Among which were*		
In *January*	55	Married Men		122
February	78	Married Women		81
March	87	Bachelors		51
April	109	Maidens		44
May	100	Children	Boys	234
June	74		Girls	210
July	90	Women in Childbed		17
August	86	Infants	Boys	59
September	77		Girls	28
October	73	Still-born	Boys	33
November	70		Girls	28
December	64	Widows and Widowers		54
Total	961	Total		961

Married Couple 276

At *Erfurt.*

Christened	659
Buried	612
Married Couple	188

At *Salfeld.*

Christened	119
Buried	90
Married Couple	24

At *Gera.*

Buried		
Married Men		28
Married Wom.		15
Widowers		4
Widows		22
Bachelors		6
Maidens		4
Children	Boys	76
	Girls	42
Total		197

Including 10 Still-born.

Christened			
Boys	153	Including 6 Twins; one of which was Still-born.
Girls	143	
Total	296	

Married Couple 82

At *Berlin.*

Christened	2798	*Buried*	2492
		Married Couple	864

In all the King of Prussia's Dominions.		Born.	Married Couple.	Buried.
	In the Kingdom of *Prussia* — —	21685	4611	13680
	Churmarck Brandenburg — —	19507	5019	12949
	New Marck — —	7044	1838	4285
		48236	11468	30914

	Born.	Marr. Coup.	Buried.
Brought over	48236	1 468	30914
Dukedom of *Magdeburg* and County of *Mansfeld*	8584	2073	6035
Dukedom of *Cleves* and County of *Marck*	6949	2071	7182
Duchy of *Pomerania*	8168	1949	5670
Principality of *Halberstadt*	2889	781	2326
County of *Hohnstein*	593	171	399
Principality of *Minden*	2203	684	2030
County of *Ravensberg*	2417	680	2166
Principality of *Mirs*	426	166	529
Dukedom of *Geldren*	1861	420	1860
County of *Teklenburg*	497	146	517
County of *Lingen*	769	255	647
Lauenburg and *Butow*	607	133	361
French Colonies	711	185	546
Total	84910	21182	61182

Among the Christened were 2215 Bastards. Among the Dead 66, who lived to 90 and upwards as far as 100.

Christened Boys	172	*Buried* Married Men	34		
Girls	126	Married Women	46	Including 13 Widows, & 4 that died in Child-bed.	*At* Regenspurg, *among the Protestants.*
Total	298	Bachelors	13		
Among which were 5 Twins.		Maidens	7		
		Children Boys	79		
		Children Girls	110		
		Total	289		
		Married Couple	68		

At *Amsterdam.*		At *Venice.*	
Buried	7622	*Buried*	4590
Married	2294	*Born*	5046

At *Copenhagen.*		*Buried*		
Christened Boys	1306	Men	486	
Girls	1183	Women	343	
Total	2489	Boys	991	
		Girls	931	
		Total	2751.	Being 262 more than

than were born, and 837 more than there died in this City the Year before; this extraordinary Mortality being ascribed to the Small-Pox being very rife. Married Couple 748.

At *Dantzic.*

Christened 1999 Married Couple 488 Buried 1872, or 377 more than the Year before.

Bills of Mortality for the Year 1725.

At *Breslau.*

From *Dec.* 25 to 31, 1724	30	*Among which were*		*Christened.*	
January 1725	125	Married Men	259		
February	115	Married Women	153	Boys	664
March	129	Widows and Widowers	158	Girls	675
April	166	Bachelors	64	Total	1339
May	122	Maidens	58		
June	106	Children to 10 Y. old B.	364	*Married.*	
July	121	Children to 10 Y. old G.	306		
August	107	Still-born B.	44	363	Couple.
September	115	Still-born G.	35		
October	141				
November	97.		1441		
Dec. 1, to 24	67				
Total	1441				

At *Vienna.*

Buried Men	1007	Among which	8 of 90
Women	1433		1 — 91
Boys	1865		3 — 92
Girls	1560		2 — 93
			1 — 94
Total	5865.		3 — 95
			2 — 96
			2 — 98
			1 — 99
Christened	4708		3 — 100
			1 — 102
			1 — 103
			1 — 106
			29 of 90 and upwards.

Christened

Christened Boys		758	*Buried*	Married Men	225	At *Dresden.*
Girls		714		Married Women	174	
Bastard	Boys	68		Widowers	36	
	Girls	60		Widows	65	
Total		1600		Bachelors	99	
				Maidens	167	
			Children	Boys	478	
				Girls	398	
				Total	1642	
			Among which, Still-born	Boys	53	
				Girls	33	
			Married Couple		519	

Christened Boys		478	*Buried*	Married Men	113	At *Leipsick.*
		1 *Jew*, 20 years of Age.		Married Women	75	
Girls		461		Bachelors	49	
Total		940.		Maidens	34	
Among which were Post-humous Births		6		Boys	165	
Twins		12		Girls	106	
Bastards		141		Women in Childbed	10	
And among them 3 Twins.			Children	Boys	58	
				Girls	51	
Married 260 Couple.			Still-born	Boys	45	
				Girls	24	
				Widows & Widowers	77	
				Total	807	

Buried 617 *Christened* 624 *Married* 183 Couple. At *Erfurt.*

Christened Boys		105	*Buried*	Married Men	35	At *Coburg.*
Girls		101		Married Women	35	
Total		206		Women in Childbed	2	
				Batchelor	4	
Among which 3 Twins and 8 Bastards.				Maidens	10	
				Children	96	
				Total	182	
				Six of the Children were Still-born.		

Christenings

According to the Months.

	Christenings.	Burials.		Christenings.	Burials.
January	17	22	*July*	12	18
February	27	13	*August*	10	14
March	24	18	*September*	21	13
April	18	20	*October*	23	15
May	16	11	*November*	11	9
June	15	10	*December*	12	19
	117	94		89	88
				117	95
	Married Couple	46			
			Total	206	183

At *Regenspurg* among the Protestants.

Christened	Boys	142	*Buried*	Married Men	42
	Girls	126		Married Women	39
	Total	268		Bachelors	13
	Among which 4 Twins.			Maidens	11
				Children { Boys	58
				Children { Girls	50
				Total	213
				Married Couple	80

At *Franckfort* on the *Main*.

Christened	Boys	346
	Girls	385
		731.

Including 10 Twins, 4 Posthumous Births 1 *Jew*, 2 Foundlings, and 22 Bastards. Buried 843.

Christened at *Sachsenhausen*,

Boys	87
Girls	79
	166.

Including 2 Twins and 9 Bastards.

Buried at *Sachsenhausen* 168

Married Pairs at *Franckfort* and *Sachsenhausen* 209

Marriages at *Amsterdam* in the Reformed Church.

In	1724	2294
	1725	2249

At *Venice*		At *Dantzic*.	
Born	4836	*Christened*	2012
Buried	4816	*Buried*	1678
		Married Couple	46

VI. 1. *Epheme-*

VI. 1. *Ephemerides* hae *Meteorologicae* notantur pro ſingulo anno in Tabula chartacea maxima, quae duodecim Areolas continet, pro unoquoque menſe unam, quarum Illam Menſis Januarii Anni 1731. Speciminis gratiâ in Fig. 8. apponitur: Quoniam autem omnia ſigna in caeteris Tabulae partibus uſurpata in hoc menſe non occurrunt, in Fig. 14. alia ſpecimina nonnullorum Dierum diverſorum Annorum, quae cuncta complectuntur ſigna, adjunguntur. In calce Fig. 8. ſigna, quibus uſus fui, in Meteoris annotandis, explicata habentur, unde cuncta in hujuſcemodi TABULIS METEOROLOGICIS conſtruendis neceſſaria facilè & primo intuitu intelligentur. Cum plena eorum, quae in hiſce Ephemeridibus annotantur, hîc loci futura ſit nimis prolixa Enarratio, res ſolummodo magis notabiles recenſebo.

A Regiſter of Meteorological, Barometrical, Thermometrical, Epidemical, and Magnetical Obſervations at Utrecht, *in* 1729; *by* Peter Van Muſchenbroek, *L.A.M. Med. & Phil. D. Phil. & Mathef. Prof. in Acad.* Ultraj. N° 425. *p.* 357.

Siniſtro Tabulae lateri menſis nomen ponitur, huic dextrum verſus adjacent numeri altitudinem Barometri in pollicibus Rhenolandicis, eorumque lineis indicantes, hi parte infima incipiunt à 28, deſinuntque in 30, quia raro in hiſce provinciis Mercurius ad minorem altitudinem quam 28 pollicum in tubo deprimitur, rariſſime ad 30 uſque pollices adſcendit: commode idcirco omnis altitudinis varietas, cui Mercurius in Barometro ſubjicitur, intra aſſignatos hos numeros ſcribi potuit; idque ſolius puncti ope, poſiti accurate in loco, qui Mercurii altitudinem exprimebat: Captae ſunt Barometricae obſervationes ter quocunque die, manè horâ ſeptimâ; in ipſa meridie; & veſperi horâ undecimâ, quibus temporibus quoque Thermometri altitudines fuerunt notatae. Thermometro uſus fui, Mercurii pleno, quod Fahrenheytius ſecundum ſuam tabulam fecerat, cujus conſtruendi modum tradidi in commentariis, quos Florentinis tentaminibus experimentalibus adjunxi: ſcala ita ſe habet, ut Mercurius in tubo deſcendat ad graduum initium, ſive 0, cum Thermoſcopium hyeme Nivi cum Sale Ammoniaco permiſtae imponitur; inde ſurſum verſus gradus 32 eſt, cum aqua gelare incipit; gradus eſt 214, ad quem aſſurgit Mercurius, cum ebullienti aquae tubus immiſſus fuerit: quae pauca notata ſufficiunt: ſuſpenſum in aperto aëre, ſed umbroſo manet ſemper hoc Thermoſcopium, ita ut vere Atmoſpherici aëris calorem frigusve indicet. Vides in Tabula Meteorologica numerum 29 pro Barometro, ab eo per medium menſis dextrum verſus ſcripti ſunt dies menſis ab 1 & 31, lineis nigrioribus diſtincti cum ſuis numeris, quilibet dies binis tenuioribus intermediis lineis, in tria diſtinguntur ſpatia, tribus quotidianis obſervationibus deſtinata, quae memoratis horis captae ſunt: obſervationes Thermometricae ſcribuntur in ſerie ſuprema menſis, à ſiniſtris dextrorſum: Ventos, eorum plagas & vires excipit ſeries ſecunda. Pluviae copiam capit tertia ſeries; hanc colligo ſimili methodo ac in obſervatorio Pariſienſi. In quarta ſerie numeri denotant copiam aquae, quae ex vaſe aperto, ſed umbroſo in loco poſito, in auras exhalat. Eſt hoc vas plumbeum accurate parallelepipedum, cujus quodlibet ſupremum latus 6 pollicum, altitudo 18 pollicum; hoc impletur ſingulo menſe ad altitudinem

Fig. 8.

Fig. 14.

dinem 16 pollicum, & curatur, ut ſemper aqua duobus pollicibus ſit margine ſupremo depreſſior. In alia ſerie notavi Lunae phaſes, ut viderem quaſnam mutationes hic planeta noſtrae Atmoſpherae induceret. Denique in ſerie undecima habetur Inclinatio Acûs magneticae, qualis ipſa meridie fuit : eſt haec acus quatuor longa pedes, quâ, opinor, nullam exſtare aeque perfectam, ejus deſcriptionem tradidi in Diſſertationibus Magneticis, pag. 190. Tandem in ſerie infima conſpicitur Declinatio Acus Magneticae, 6 pollices longae, incluſaeque Machinae, quam in Diſſertationibus Magneticis, pag. 233, delineavi : haec inſiſtit grandi lapidi plano, medio in horto, ita ut recta, quae per notam ſeptentrionis & meridiei tranſit, verae lineae meridianae inſiſtat ; ita facillime & abſque ullo labore, quocunque tempore Magneticae acûs declinationem obſervare licet ; tempus ipſum meridianum ſemper elegi, ut melius Inclinationem cum Declinatione comparare poſſem. Haec Tabulis Meteorologicis intelligendis ſufficiunt ; addam nunc alia, quae Tabulis inſeri nequeunt, quaeque praeter notata animadverti.

Regnavit menſe *Januario* intenſum frigus, praecipue die 6, 11 & 19, dubitoque utrum in his regionibus quis unquam acrius gelu obſervaverit, cum Thermoſcopium ad gradum uſque quartum ſubſederit: interim a 1 ad 15 *Januarii* erat humilior Mercurius in Barometro, quam, cum gelat, apud nos eſſe ſolet: preterea gelavit vento ex qualibet mundi plaga ſpirante, quod non admodum frequenter contingit: plerumque die uno vel altero praecedente Lunae phaſin, ſive ea plena ſive nova, ſive in quadraturis fuerit, mutabatur tempeſtas remittente aliquantum gelu : tantum hoc ſidus in aërem noſtrum efficaciam habet, quo tempore enim maxime gravitare incipit in terram, atque haec in ipſam, condenſari videntur quoque nubes, coeunteſque vaporoſae particulae graviores fieri ; quam ut ab aëre in equilibrio ſuſtineantur, decidunt ita ſub forma pluviae, nivis, grandiniſve, & ventos ſuſcitant, qui ſuo attritu calorem gignunt, utque regelet, faciunt. Memoranda eſt nivis forma, quae ante meridiem diei ſexti cecidit ; erat nix omnis roſacea ſtellata, aut ex partibus ſemiformatarum Stellarum, ruptarumve conſtabat : Microſcopio eam ſollicite inſpexi, videbatur eſſe nix quatuor ſpecierum, omnis tamen hexangula, fere ſimilis illi, quam Carteſius anno 1637, Amſtelodami obſervavit, ſed quam multo elegantius depinxit Hookius in Micrographiae Schemate viii, pag. 88, aut Caſſinus in Pariſinae academiae monumentis, anni 1692, figuras Nivis à me obſervatas accurate delineavi in Fig. 9. roſaceam refert, quae maximam faciebat partem erat diverſae magnitudinis, quippe nonnullarum diameter partem erat $\frac{7}{100}$ pollic. Rhenol. aliarum $\frac{16}{100}$ aliarum $\frac{11}{000}$. Hujus quoque magnitudinis fuerunt flocculi figurae 2 & 3. Ramoſi autem erant alii Fig. 12. Quorum magnitudo $\frac{20}{100}$ vel $\frac{21}{100}$ pollic. Rhenol. Sed quam rara erat haec nix! non memini me ullam ſimilem vidiſſe, implevi eâ vas parallelopipedum, 12 altum pollices, quod in calido

Fig. 9.

Fig. 12.

poſitum loco ſolutam nivem praebuit ad dimidii pollicis altitudinem, adeo ut nix haec vigeſies quater aqua rarior fuerit: haec raritas profecto inſolita, nam Sedilavius, de la Hirius aliique nivem raram aquâ eſſe ſextuplo leviorem, hic autem nivem rariſſimam duodecuplo leviorem obſervavit, at duplo adhuc rarior nix à nobis notata fuit. Quomodo hexangula ejuſmodi progignatur nix, non exponam, variae videantur opiniones apud Carteſium in princip. Philoſ. Keplerum de Nive ſex angula. Eraſm. Bartholinum de figura Nivis. Millietum in Tract. de Meteoris, tum Acta Philoſ. Britan. N° 92 & 376. Delapſa haec nix ſecum terribile frigus & gelu advehebat, praecipue poſt horam 5 veſpertinam, quod perduravit ultra horam 12 nocturnam; toto hoc tempore Vinum, quod ex profunda deferebatur cella in angulum conclavis, ubi largus exſtructus erat focus, momento citius conglaciabatur, imo vix, in tabula, non procul à foco poſita, à congelatione deſiſtebat infuſum Scyphis: pari modo, quicquid in glaciem abire poterat, infeliciſſime rigebat. Simile frigus omnia exuſſit 11 hujus menſis die; verum providiſſimus rerum humanarum arbiter voluit, ut brevis modo eſſet hoc acerrimum gelu durationis, conſulendo & proſpiciendo multorum animantium vitae, & vegetabilium conſervationi. Alterius forme, quam ſupra memini, nix rarariſſima cecidit 8 Januarii horâ 3 poſt meridiem, conſtabat ex meris tantum oblongis ſpeculis, quae vix $\frac{1}{10}$ pollicis parte aequabant, tenuiſſimae caeteroquin, & proinde ſimpliciſſimi Nivis flocculi.

Duravit gelu uſque ad 22 diem, unde adeo craſſa evaſit glacies, ut in nonnullis amplioribus foſſis, aquam ſtagnantem comprehendentibus, eam altitudinem 20 pollicum Rhenolandicorum acquiſiviſſe dimenſus ſim: in fluvio rapide decurrente, minima glaciei craſſities fuit 12 aut 13 pollicum: ut cunque craſſa fuerit, reſoluta erat penitus 1 Februarii, ita ut plurimis in foſſis ſuburbanis vix glaciei indicium daretur; quae ſubitanea contigit regelatio propter maximam pluviae copiam, que poſt 22 diem cecidit.

In principio Januarii erant hinc & inde Morbilli, ſed mitioris indolis, quibus correpti infantes leviſſime aegrotabant, nulli, aut ſaltem pauciſſimi interierunt: quamdiu interim regnavit gelu, uſque ad illud tempus, quo remittere caepit, nullis civitas laborabat fere aegritudinibus, frigore quaſi aeque ex aëre ignem, ac morborum quorumcunque ſemina propellente: at ſimul ac regelabat, hoc eſt 24 Januarii, jam Anginae & Ardentes febres Tragoediam inchoabant, cum corpora ab acri gelu antea conſtricta, nunc à pluvioſo, tepente humidoque aëre, furibundis agitato ventis, ſubitiſſime relaxabantur, quippe increverat calor ipſâ meridie diei frigidiſſimae à gradu 8 add 44 die calidiſſima ſecundum Thermometri ſcalam, quem caloris mutationem intra tam anguſtam temporis ſpatium humana corpora incolumi ſanitate ferre non poſſunt. Sed praecipue ad maximam ponderis Atmoſpherici mutationem attendendum eſt, ſubſedit enim in Barometro Mercurius nocte inter 24 & 25 diem intermedia adeo celeriter, ut

vix meminerim rapidioris Mercurii delapſus ; ſtetitque in humillima fere ſtatione parum ſupra 28 pollices ; quoniam igitur humani corporis ſanguifera vaſa, antea à magno Atmoſpherae pondere compreſſa, & ab intenſiſſimo frigore magis adhuc conſtricta ; nunc citiſſime relaxabantur, tam à calore, quam ab Atmoſphaerae leviſſimo pondere, non potuit non ſanguis errore loci in vaſa tam ſubito aperta irruere, atque inflammationem, hanc vero febrim cum aliis ſymptomatibus ſuſcitare.

Lubet autem Anginarum tum regnantium brevem adnectere hiſtoriam, quia hae non ſemper ejuſdem naturae ſunt, eam igitur ex propriis obſervationibus depromam. Saniſſimos, eoſque qui cubitum euntes nullam alicujus aegritudinis indicium perceperant, mediâ nocte corripuit Angina, inflammans ſubito amygdalam dextram, uti in pleriſque contigit : mox acceſſit febris, cum capitis dolore, rigore cervicis & dorſi, quod etiam non aliter frigere credebatur quam ſi frigidâ perfuſum fuiſſet. Sequenti die cum eodem dorſi rigore febris perſtitit, homotonos : nonnulli quos levior corriperat febris, alterâ nocte in largiſſimos ſponte illapſi ſudores, mane ſurgebant ſani, prorſus à morbo liberati, ſed plus debilitati, quam à tam brevis durationis febre contingere ſolet : quod latentis alicujus malignitatis ſuſpicionem incuſſit. Non adeo beati alii fuerunt, acriori febre laborantes, his enim Angina increvit uſque ad tertium diem, etiamſi liberalis Venae fectio & larga purgatio alvi à principio morbi inſtituta fuerit ; quae bina tamen bis terve repetita levamen tertio die attulerunt : interim Urinae erant flammeae, faetentes inſignitur : ſudores nulli, nulluſque ſomnus, capitis ingens dolor, artuumque omnium Laſſitudo, ac ſi fuſtigati fuiſſent : lingua vix obducta : evanuit morbus in nonnullis quinto die, cujus criſis largus ſudor fuit, manente Urinâ per totum morbi decurſum rubicunda, limpida. Corripuit haec Angina abſque diſcrimine Infantes & Adultos. In multis, ab Angina jam curatis, poſt biduum recruduit febris continua, à quâ aegroti non niſi 6, 7ve diebus elapſis curabantur. Jam ab aliquot retro obſervavi annis, hyeme poſt praeteritum gelu Anginas increbeſcere ſimul ac regelare incipit ; præcipue ſi ſubito regelet.

Saeviebant praeterea aliae Febres continuae, ardentes, quotidie circa veſperam, novo comitante frigore, exacerbatae : Aegrotantibus lingua erat arida, fuſca, ſitis magna, inſomnolentia, deliria ; capitis dolores cruciantes, per totum morbi decurſum continuati ; oculi fixi, & quaſi immobiles, cum ſcintillis obvolitantibus : nonnullis abdomen inferiori parte rigebat, atque hi non niſi cum difficultate urinam dimittebant ; aliorum cervicem prorſus rigidam reddidit febris : aliis totum corpus ſtatuae inſtar rigebat, hi nec videre nec audire, nec ſe movere per biduum ante mortem poterant. Alii crebris convulſionibus agitabantur aliquot ante obitum diebus : plurimi moriebantur 14 die, ab invaſione morbi prima ſupputando,

nullum evaſiſſe obſervavi, cui in morbi principio ſanguis liberaliter eductus non fuit; etiamſi remediis diluentibus humectantibus, refrigerantibus fuerit uſus: ſed plerumque incolumes evaſerunt, quibus larga & repetita ſecta fuit Vena: ſanguis eductus non multum à ſano ſtatu receſſiſſe videbatur, gerens vix ulla Inflammationis veſtigia. Debiliores nonnunquam aphthis corripiebantur, denſis, flavis, certo lethiferis: obſervavi hanc febrim aeque in Infantibus ac in Adultis.

Quoniam in doctrina Magnetica aetatem terere in animum induxi, quotidie Inclinationem & Declinationem acuum ipsâ meridie obſervavi: Miratus ſum non mutari Declinationem, quo tempore inclinatio mutatur: quod non tantum hoc menſe Januario ita ſe habuit, ſed tribus annis, quibus obſervandae huic rei incubui, idem obtinere animadverti. Novis Magneticis viribus impregnaveram primo Januarii utramque acum, ut quamdiu vis illibata in ferro maneret notare quoque poſſem: in acu Inclinatoria ſatis generoſa 2 ½ annorum ſpatio perſtitit, non diutius: quam diu in vulgari Verſorio conſtabit, propter infortunium infra memorandum determinare nequeo, aeque diuturnam tamen ac vim priorem fore, nullus dubito, novi enim vulgares Compaſſus in navibus ex Orientali India noſtros in portus redeuntibus, adhuc dum vigere, qui ſolventes abhinc Magnetica virtute impregnati fuerant. Attende ad ventos, hos in Magnetem imperium non habere obſervabis, quippe Inclinatio & Declinatio variat duobus ſe ſequentibus diebus, quibus tamen idem ventus ſpiravit: altera occaſione ex alia plaga ſpirante Vento diebus binis ſibi proximis, immobilem perſtitiſſe Inclinationem una cum Declinatione notabis. Multo minus aut coeli ſerenitas, pluvia, nix, tempeſtas, aliquid in vim Magneticam operantur: Nam ſaepe obſervavi unius menſis ſpatio oſcillatorio actam fuiſſe motu aeque acum Inclinatoriam ac Declinatoriam: nunc enim Inclinatio major, nunc iterum minor eſt, & verſus Occaſum quae nunc datur Declinatio, hodie increſcit, cras decreſcit, major iterum ſequenti die. Diſcrimen inter Inclinationem minimam, quae fuit 67 gradum, & maximam quae fuit 68° 28′, eſt 1° 28′. Declinatio verſus occaſum minima 12° 40′, & maxima 13° 20′, dat diſcrimen 40 Minutorum.

Feb. 8 dabatur Halo circa Lunam, ab hora 7 ad 9 ½ veſpertinam, ejus diameter erat 3 ½ vicibus major, quam Lunae apparens diameter erat; tenet fama eſſe praeſagium imminentis tempeſtatis, quod fabuloſum videtur, ſequenti enim die coelum tranquillum fuit.

Vigeſimo quinto hujus menſis plurimi Coryza correpti ſunt homines, cum a 20 ad 24 magnus, ratione temporis habita, in Atmoſphaera obtinuerat calor, qui totum humanum corpus laxaverat; ſupervenit nox 24 diei frigida, flante Boreâ, hinc illico conſtringebantur vaſa à frigore, ſuſcitataque fuit inflammatio in Membranis aëri maxime expoſitis: vix ullas pertinaciores hiſce animadverti Coryzas, inflammatione membranae Schneiderianae proſerpente per totam Aſperam arteriam uſque in Pulmones; hinc tuſſis, quae interdiu quidem mitis

& rara, ſed exacerbabatur ab horâ nocturnà 11 uſque ad 3, à quo tempore miteſcens, aegrotis requiem concedebat: moleſtiſſima haec tuſſis 3, 4, imo plurium ſeptimanarum ſpatio duravit, quibuſvis reſiſtens auxiliis, Venae ſectioni, purgantibus, ſudoriferis, emollientibus, humectantibus, narcoticis, expectorantibus: optime aliquando auſcultabat revulſioni factae ope Tabaci Braſiliënſis, è quo turundae naribus immiſſae maximam irritationem, & verſus nares materiae acris derivationem praeſtiterunt: quae huic quoque reſtitit remedio, tuſſis, tantum temporis longinquitate curata fuit. Maxima inclinatio magneticae acus fuit 69° 30′, minima 68° 25′. Maxima declinatio fuit 13° 20′, minima vero 13° 10′.

Martii 27, hora veſpertina 10 ½ prima hujus anni à me conſpicebatur *Aurora Borealis*, aliquantum inſolitis ſtipata apparitionibus: à plaga coeli Boreâ occaſum verſus, uſque ad plagam N. W. t. N. tum à Boreâ quoque ortum verſus, uſque ad plagam N. N. O. ab horizonte uſque ad altitudinem 20 graduum, obductum erat coelum nube tenuiſſimâ, & quidem adeo rarâ, ut Stellae ſecundae & tertiae magnitudinis per eam tranſlucerent, lucebat tamen notabiliter: ſuperior ejus limbus inaequali margine deſcriptus erat: ex loco ejus quodam intermedio columna exſurgebat, in horizontem perpendicularis, 10 gradibus ſupra ſupremum eminens limbum, tranſiens per mediam Caſſiopeam, ejus lux erat aequabilis, placida, nequaquam mota, & diutiſſime perſtabat: imo nec ex nube ulli radii columnaeve igneae, quales emitti in auroris hujuſmodi ſolent, excutiebantur: fuit igitur haec aurora ultra ſolitum placida, coelum erat coeteroquin admodum ſerenum, ſpirante Euro ſatis valido, impetuſque ſecundi: verum ſupra Venti hujus regionem materia hujus Aurorae in abſoluta ſuſpendebatur tranquillitate: adeoque ad inſignem altitudinem ejuſmodi materia ſive propter levitatem, raritatemve, in atmoſphera adſcendere videtur, uti quoque ex aliis obſervationibus probari facile poſſet.

Sequente die reliquiae hujus aurorae adhuc aderant, componebant tantum nubeculam tenuem, vix lucidam, non ultra 20 gradus ſupra horizontem elevatam, neque emittentem ullos lucentes radios columnaſve, nec à Borea longe Ortum aut Occaſum verſus porrectam; fulgebat adhuc mediâ nocte, poſtea evanuit nullo ſui relicto ſigno.

Interim hoc menſe ſiccior vix ullus unquam fuit, cum pluviae copia modo lineam 1 ¼ adaequaverit: in principio ſatis ſtrenue gelavit, ita ut 10 Martii omnium foſſarum glacies adeo denſa evaſerit, ut quaquaverſum iter calepodiis ferratis incedendi conceſſerit civibus, neque ulla navibus via libera fuerit, verum 12 *Martii* gelu aliquantum remittente, Sol per purum aërem tam fortiter interdiu radios ſuos in glaciem vibrabat, ut magna ejus pars 13 die liquefacta fuerit, & navis hac veſpera ex noſtrae urbis portu ſoluta Amſtelodamum petierit; quae ambo, gelu nempe tam intenſum hoc menſe, & tam celeris regelatio, in his regionibus rariora ſunt. Tam ſubita aëris mutatio

tio non poterat non morborum esse causa, imo hinc illico dabatur Pleuritis & Peripneumonia, quae utraque mitis & benigni moris fuit: quippe in Pleuriticis febris quidem primo die fuit: continua, sed exigua, cum leviusculo lateris punctorio dolore, occupante Thoracis superiorem anterioremque partem: sequenti die usque ad inferiores costas dolor descendit, interim sputa excreabantur flava, striis intersperſis sanguineis, tussis nec molesta, nec frequens: alvus satis naturalis, somnus bonus atque reficiens, linguae color vix mutatus, parva sitis, Urina parum intensior solito, limpida: quae optima profecto mitissimae indolis erant indicia; 3 etiam die febris una cum omnibus symptomatis penitus cessabat: curabatur haec pleuritis resolutione benignâ naturae, absque Venae sectione, sed copiosa ptisanae potatione, usu mellis, leviorumque Ciborum; potissimum afflixit hic morbus senes & adultos.

Eodem tempore in Scenam prodibat Peripneumonia, incipiens cum capitis magno dolore, febre exigua, pectoris angustiâ modica, respiratione solito breviori: ilico tamen magna aegros infirmavit debilitas, quo plus mali latere suspicatus fuissem, nisi Pleuritides, tum grassantes, adeo benigne fuissent: sanguis Venae sectione eductus, nequaquam inflammati speciem praebebat, sed naturalis instar erat: Urinae intensioris rubedinis, sudor moderatus; somnus quoque modicus, quietus, semper reficiens: jam abhinc 2 aut 3 die in urina nubecula dabatur, satis gravis: sputa excreabantur levia tenuia, tussis admodum molesta, capitis dolorem exacerbans, sitis modica, linguae dorsum ruffescens, alvus constipata; postero die mitigatior febris, Urina materiae criticae plena; qualis sequentibus diebus mansit, ado ut morbus omnino intra 7, 8ve dies terminatus fuerit: tussis autem aliquanto pertinacior diebus 2, 3ve ulterius durabat, fugata tamen feliciter usu mellis: vix postulabat hic morbus medici auxilium, evanuitque, sive secta vel non secta fuerit Vena; sive remedia, sive nulla fere propinata fuerint. Verum sub finem Martii multo atrocior Peripneumonia grassari coepit, cum spirante Euro noctu gelebat, interdiu autem coelo admodum sereno Atmosphaera meridianis horis non parum calebat, usque ad gradum 54, 58, 59 Thermoscopii: ejusmodi caloris frigorisque subitaneis vicissitudinibus ferendis humana corpora vix paria sunt, quin in acutissimos incidant morbos: ideo perquam acuta febris, quotidie circa vesperam exacerbata, cum frequentissima tussi, aegros extemplo corripuit, sanguinemque admodum inflammatum reddidit, uti Venae sectione apparebat: singularia symptomata per totum morbi decursum non adfuerunt, perierunt solito plures aegroti, qui evaserunt, 14 dierum curriculo decubuerunt.

Inclinatio acus Magneticae maxima hoc mense fuit 70 graduum, minima 68° 10′. Declinatio maxima 13° 40′, minima 13° 15′. Suppeditavit *Aprilis* 28 ante meridiem pulcherrimum Phaenomenon,

quod hora 10 ½ detexi, verum quod uſque ad horam 11 ¼ ſpectatum fuit.

Fig. 13. *Fig.* 13. Ut clare hoc intelligas, concipe ſpectatorem P faciem verſus Auſtrum, dorſum, verſus Boream direxiſſe, atque ita oculos ad coelum ſuſtuliſſe, apparebant tum duo circuli in coelo cum interrupta parte alterius, quorum omnium planum erat ad horizontem parallelum: erat ſpectatoris Zenith Z, centrum circuli maximi F K H G, ſive potius annuli, cujus diameter interna fuit 58° 15′, latitudinem autem non bene metiri poteram, judicabam eſſe majorem 30 minutis: nullos quoque in ipſo detexi colores, & tantum apparebat albus. Secundi circuli A B D centrum occupabat Sol S, ſecans priorem in duobus locis K, H. Eumque aliquouſque ingreſſus: ab altera ſectione H, in circulo priori albo erat locus aliquis G, ſplendidior reliquo magnitudinis ejuſdem apparentis cum ſole, à parte Solem ſpectante coloribus erat variegatus, diſtantia H G fuit 50° 30′, diameter interna circuli A B erat 45° 30′, coloribus tingebatur hic circulus variis, à parte interna Solem verſus rubebat, extima parte albebat, intermedii colores erant coerulei pallidi; clariſſime conſpiciebantur in tractu D aliquouſque protenſo: mirabar hunc circulum non fuiſſe ubivis aeque latum, ſed anguſtiſſimum eſſe in K D H. Latitudo hujus annuli fere duplo minor priori mihi viſa fuit, non tamen pro voto ſatis accurate dimenſus fui. Tangebatur hic circulus ab arcu aliquo circuli tertii E, maxime meridionalis, qui quoque albus, omnibuſque coloribus deſtitutus videbatur: Hic arcus primus omnium à conſpectu evanuit: tum pars orientalis A circuli colorati aufugiebat, quam pars meridionalis E ſequebatur: tum peribat quoque portio F orientalis circuli albi: cujus interitum ſequebatur occidentalis pars B circuli colorati; mox evaneſcebat occidentalis portio G circuli albi, ejuſque tandem pars maxime ſeptentrionalis.

Coelum toto hoc tempore erat exiguis nubibus, hinc inde quaſi interruptis obductum, non quidem denſis, ſed quoque non admodum raris, quae tamen altiſſima in atmoſphaerae regione ſuſpenſae videbantur: durante phaenomeno ventus flabat Euro boreus, inter primum & ſecundum impetum: qui increvit ad ſecundum gradum evaneſcente phaenomeno, atque ita horae ſpatio perſtitit, lenior iterum poſtea. Contigit hoc tempore Novilunii, atmoſphaerae calore temperato: ſollicitus attendi, an quaedam corpuſcula è coelo deciderent, ſive glacialia ſive aquae, quibus ceu cauſae adſcribi apparitio circulorum potuiſſet, quemadmodum in Pareliis contigiſſe Hugenius, Maraldus aliique eruditi annotarunt, verum nihil collegi aut obſervavi: relatum eodem die a viris fide dignis mihi fuit, binis praecedentibus diebus ſeſe ante meridiem circa Solem annulum animadvertiſſe; quem cum non viderim, nihil de illo affero.

Obſervavi hoc menſe morbillos, etiamſi non frequentes, mitioris quoque genii, ita ut nullum infantem, meae curae commiſſum, trucidarint.

darint. Circa medium hujus menſis, calore jam relaxante corpora diuturno hyemali frigore conſtricta, inceperunt Tertianae intermittentes, quae omnes, uti Vernales plerumque eſſe ſolent, erant benigni moris, increſcebant tribus primis paroxyſmis, tum decreverunt, ceſſantes ut plurimum intra ſex paroxyſmos vel ſuâ ſponte, vel uſu amarorum calefacientum, aut aliquorum Salium lixivioſorum.

Tertianae duplices quidem paulum pertinaciores, ſed adeo faciles curatu tamen, ut non parum honoris medicinae tribuerint.

Hinc inde peripneumoniâ ſenes tentabantur, admodum lethali, nulli remedio auſcultante morbo.

Inclinatio magneticae acus maxima fuit hoc menſe 71 graduum, minima 68° 45′. Declinatio acus maxima 13° 35′, minima 13° 10′.

Maii principium non niſi ingratos acris hyemis & triſtes diuturni frigoris effectus ſpectandos praebebat, nulla enim arbos gemmas protruſerat, niſi quod hinc inde mala Armeniaca & Perſica, Soli maxime expoſita in tepentibus locis vento non expoſitis floris conglobata petala oſtendere incipiebant: ſero admodum: Tiliae, ambulacra urbis ornantes, triſtes adhuc & abſque foliorum indiciis, nec laetiora erant adhuc prata: verum poſt diem 20 calor effuſis quaſi a Sole Venis omne Vegetabile perfudit, ita ut impetu facto prorumperent folia floreſque ex arboribus, molliumque herbarum cacumina increſcere ad ſpectatoris oculos feſtinarent: quod annum admodum fertilem reddidit, abundarunt mala Armeniaca & Perſica, ſuo poſtea tempore probe matura. Liberaliſſimam Ceres ſuorum fructuum colonis largita eſt meſſem, cum aeſtas & autumnus coelo fruebantur ſereno, calido, modicâ irriguo pluviâ. In his regionibus jamdiu obſervatum eſt; hyemem diuturnam, non nimis acrem, vernalem calorem ſero venientem, annum fertilem portendere, nam plerumque in principio Maii noctes frigidae, imo gelantes, dantur; corrumpentes tenellos florum fructuumque embryones; quamobrem ſi hi ſero prorumpant, certam ſpem fructuum relinquunt.

Quarto *Maii* hora 10 verſpertina ambiebatur Luna coronâ, in quâ nihil inſolens, eam quoque nec ſecuta eſt tempeſtas, nec impetuoſior ventus.

Poſt 25, Fluvius Lecca, ſeſquimilliaris diſtantia ab hac urbe fluens, tanta aquae copia impletus erat, ut prope Batavodurum aggeres ſuperaverit; infra hanc urbem oceanum verſus, 5 pollices altius ſtetit aqua, quam erat nota periculi imminentis, quae nonnullis aggerum locis impoſita eſt; manabat aqua ex Rheni ſcaturigine, excipientis nives vernali calore celeriter ſolutas: Nivis autem prodigioſa quantitas cecidit circa Genevam a 16 Maii ad 20, quae omnes operuit vias, quod ea anni tempeſtate in illis terrae locis oppido rarum: haec nix ſoluta Rhenum adeo turgefecerat, hic Leccam.

Una cum menſe incoabant Pleuritides mites, in quibus vulgaria modo ſymptomata, fugabanturque ſatis cito, Venae ſectione, refrigerantibus diluentibus humectantibus. Verum inter Infantes regnavit Febris Scarlatina, inficiens omnes, quotquot eaſdem aedes inhabitabant, eaſdemve

demve scholas frequentabant: primo die correpti febre Infantes, de dolore circa praecordia querebantur, qui posteris duobus diebus eos adhuc affligebat, cum siti magna, hinc arida lingua albo obducta muco; febris interim continua, homotonos: sub finem 3 diei & in principio 4 totius corporis cutim occupaverunt exiguae postulae, planae, adeo sibi contiguae, ut vix spatium intermedium relinquerent; hinc coccineo colore totum corpus rubebat: in facie tamen pauciores pustulae, palpebrae autem exiguis punctulis rubris, tenuissimam acûs cuspidem non superantibus, perfossae videbantur; sequentibus temporibus lingua ruberrima evasit: somnus prioribus 4 diebus nullus, aut saltem continuo interruptus, cum convulsionibus & delirio; 5 die accessit somnolentia, rubedo minus intendebatur, accedente inani alvum deponendi perpetuo conatu: decrevit febrilis impetus: labia autem oris torrida, fractaque incisuris, quibus posteris diebus febris magis decrevit, incolumes evaserunt 10 die, sequente totius cutis desquammatione: verum in aliis aucta febris 5 die suscitavit deliria, convulsiones, quibus 8 die moriebantur: Lethalis fuit hic morbus nonnullis.

Inclinatio acus maxima fuit, 70° 35′. Minima 69° 25′. Declinatio maxima 13° 8′. Minima 12°.

Junio fuerunt dies calidissimi, quibus similes reliquo anni decursu non fuerunt, uti 19, 21, & 22, hisce enim diebus Thermometrum meridie ostendit gradus 86, 90, 92. Noctes tamen aliquae hujus mensis fuerunt frigidissimae, quibus gelavit, ut 9, 10, 11, 12 contigit diebus. Quam funestis luctatus fuit hic annus cum Variolis! Mense hoc inceperunt, discretae, mitissimi generis, ut postea tanto lugubriorem Tragoediam luderent, quae nunc dabantur, accusari non possunt, nihilque insoliti praestabant. Post medium hujus mensis Synochi putres dabantur, oriundae proculdubio a magnis vicissitudinibus caloris frigorisque, cum enim prioribus noctibus gelaverat, interdiu à maximo calore corpora admodum relaxabantur, hinc febres acutae, dominantes tamen potius in vulgus, negligentiorem sui corporis curam gerens, quam in temperatos cives.

Inclinatio acus maxima fuit 71° 15′. Minima 70° 25. Declinatio maxima 13° 45′. Minima 12° 17′.

Julio pauci observabantur morbi, Variolae tamen manserunt, virium incrementum capientes, atque ideo hinc inde lethales: vidi florentis aetatis virginem cum confluentibus luctantum variolis, tanto sanguinis impetu laborasse, ut menstrua copiosa 4 die prodierint, extraordinario tempore, quibuscum die 6 periit. Erat hic mensis siccissimus, totus aër arebat, exsiccans plantas & animalia, hinc faucibus exsiccatis oriebantur hinc inde anginae inflammatoriae, quae magis increbuissent, nisi 27 & 28 die benignum Numen pluviam è coelo dimisisset, aquâ refecta fuerunt Vegetabilia & cuncta animantia.

Inclinatio acus maxima fuit 72° gradium, minima 71° 30′. Declinatio maxima 12° 55′, & minima 12° 28′.

Augusto

Auguſto frequentia mugiebant tonitrua, delapſaque copioſa fuit pluvia. Miteſcere parum, doloſae adeo, videbantur Variolae, plurimos quidem invaſerunt, ſed diſcretae erant fere omnes, vix iis correpti aegrotabant, nullaque exigebant Variolae remedia, ſicque feliciſſime curabantur.

In Scenam quoque prodibant Febres Tertianae intermittentes, veluti Autumno fieri ſolet, ſed aeque benignae ac Vernales fuerunt, feliciter profligabantur aut amaris antifebrilibus, aut ſalibus Lixivioſis, vel Ammoniaco, raro ultra ſextum paroxyſmum durantes.

Inclinatio acus maxima fuit 72° 3′. Minima 71° 0′. Declinatio maxima 13° 36′. Minima 12° 25′.

Septembris 26, inter horam 5 & 6 veſpertinam magna corona circa Solem conſpecta fuit ; eam tamen ipſe non vidi ; quoniam narrationibus indoctorum non multum fidi poteſt, malui ab hujus coronae deſcriptione abſtinere.

Interim Tertianae intermittentes increbuerunt, prioribus maligniores, adeo ut primis tribus quatuorve diebus, Autumnalium more, febres continuas aemularentur ; ubi deferbuerat primus aeſtus, ſe aut ſimplices aut duplices Tertianas eſſe probabant, quae fortioribus remediis, quam illae menſis Auguſti, erant ſuperandae : reſiſtere non potuerunt Vomitorio & Salibus, aut Peruviano Cortici. Ardentes acutiſſimaeque etiam inſurrexerunt febres, conjicientes aegrotos in magnum diſcrimen, nulloſque, niſi vi ex Orci faucibus ereptos relinquentes, plurimos trucidantes : puellam 6 circiter annorum viſitavi, quae tam ardenti febre laborabat, ut 3 ab invaſione die non modo deliraverit, ſed ſanguinem ex ore, naribus, ano, pudendis copioſe depoſuerit, & intra diem 4, miſeris convulſionibus tentata, animam efflaverit.

Jam Variolae vires ſumpſerant, & plerumque erant confluentes, 8 & 9 die enecantes plurimos, foedamque edentes inter infantes, adultoſque ſtragem : nondum tamen ad ſummum malignitatis faſtigium increverant quemadmodum ſequentibus menſibus.

Inclinatio acus maxima fuit 72° 30′. Minima 71° 45′. Declinatio maxima 13° 40′. Minima 13° 11′.

Per totum *Octobrem* anginae fuerunt, magis aquoſae mucoſaeve, quam Inflammatoriae, cum vix febris, aut exigua modo eas comitabatur, amygdalae imprimis tumebant, propendente quoque Uvulâ : curabantur ſatis facile fortiori alvi purgatione, atque calefaciente emplaſtro, faucibus circumpoſito.

Dyſenteria hinc inde dabatur, nequaquam lethifera, & ſolâ radicis Hypecacoannae doſi feliciter curata.

Tertianae ſive ſimplices, ſive duplices, nec erant copioſae, nec pertinaces, ſeptem periodis plerumque terminatae, levioribuſque remediis obedientes.

Quot non circa finem *Octobris*, poſt diem 26 Coryza afficiebantur ? Magna profecto civitatis pars : nec febris aberat propter inſignem

Schneiderianae membranae inflammationem, causam accusabant omnes frigus nocturnum vigesimi sexti, quo gelu saevierat notabile.

Verum Variolae praecipua morborum pars ah quam parvae, quam confluentes, quam malignae, quam lethales erant! Strages edebant in civitate dolendas. Qui evaserunt, quam deturpatâ foedati facie, perpetua pessimae hujus luis gestare debuerunt toto vitae curriculo signa!

Vigesimi primi vespera Auroram Borealem, sed exiguam notavi, in qua nihil insolitum: in ipso septentrione ex nube arcuata, parum supra horizontem elevata lucidae, uti fieri solet, surgebant columnae, nec alte adscendentes, nec multum fulgentes, cessavit totum phaenomenon intra horam, incepit 7 ¾ vespertina. In litteris cursoriis proditum est, eodem die in Italia Auroram Borealem fulsisse.

Maxima acus Inclinatio fuit 72° 30′. Minima 70° 45′. Declinatio maxima fuit 13° 48′. Minima 13° 20′.

Novembris 16 splendidissima emicuit, cui nullam parem vidi, Aurora Borealis; sive magnitudinem, sive fulgorem, sive miros apparitionum diversissimarum lusus considerem: quamobrem paulo prolixius eam à me observatam exponam: Maxima fuit haec Aurora, observata in plurimis Hollandiae urbibus, Leidae à Zumbachio, Rotterodami ab Anonymo, hic descriptionem inseruit Litterariis Diariis hujus anni, alter in Dissertatione Phaenomenon explicuit. Spectata quoque fuit Berolini à Kirchio, ejusque observationibus Astronomicis inserta. Circa horam vespertinam 8 Phaenomenon detexi; tum occupabat plagam Coeli Boream, Orientalem, Australem; sola Occidentalis tum immunis erat. Coelum erat serenum, verum alba & opaca nubes 15 alta gradus supra horizontem incipiebat à Borea, extenta abhinc ultra Ortum, verum obliquo in horizontem terminata margine, ita ut inter Ortum & Austrum infra eum descenderit. Haec Nubes ejaculabatur albas, lucentes, non tamen admodum claras, virgas: quarum aliquae ad Zenith directe ferebantur, aliae oblique: aliquando sibi in Zenith occurrebant, quae ex varia adscenderunt plaga, tum vorticali actae motu in gyrum, petebant Austrum, Occasum, aliamve inter hos mediam plagam, prolapsae quasi versus horizontem: saepius hoc ab aliis in Auroris Borealibus contigisse traditum est. Jam vero in plaga Orientali ingens & minax stabat perpendiculariter ad horizontem erecta columna ignea; haec sex lata gradus, 45 alta videbatur. Magna ejusmodi moles non tam fugax, ac leviores radii, brevissimae plerumque durationis: haec plurium minutorum spatio immutata perstabat figurâ & magnitudine; lento tamen motu versus Austrum ferebatur, elapsoque horae quadrante è conspectu evanuit: Eodem tempore in Australi coeli plaga, sub altitudine circiter 24 graduum, duae jacebant ardentes columnae, horizonti parallelae, magnae, latae, in longitudinem exporrectae, quarum una extremitas spectabat ortum, altera occasum: ita trium Minutorum spatio spectabantur, tum lente ad se accedebant, miscebantur

ambae

ambae in unam, deinde duobus elapſis minutis penitus evanuerunt, nullum ſui veſtigium relinquentes, coelo ibidem loci manente ſereno. Verum pulcherrima phaenomena viſebantur horâ 9 ½. Quippe latiſſima columna perpendiculariter ſupra horizontem aſſurgebat, in parte coeli à Borea 20 gradibus verſus ortum, haec candentis ferri inſtar rubebat, denſior aliis albentibus virgis, vix enim primae magnitudinis ſtellam per eam ſpectare potui; renovata fuit haec ſaepius, ita ut cum ejuſmodi columna 5 vel 6 minutis fulgebat, quia nova ſurgebat continuo, ultra horam duraverit: eodem tempore ex ipſa ſeptentrionali plaga aſſurgebat Zenith verſus, lucis albiſſimae multum fulgentis Virga, ubi nubi adhaerebat clariſſima, obſcurior quo altius adſcenderat, hujus latitudo multo minor priori: promovebatur lente à Borea per ortum, verſus Auſtrum, ſitu ſibi parallelo. Hora 10 undique coelum ardebat, certabantque de clariori fulgore inter ſe quatuor mundi plagae: nunc enim quae ſiluerat huc uſque coeli pars, Boream & Occaſum inter, evomebat vario tempore plurimos lucidiſſimoſque radios, delatos partim verſus Zenith, partim obliquo ſitu in horizontem à ſeptentrione verſus occaſum; momento poſt inſurgente vento jucundiſſimum dabatur ſpectaculum, cui ſimile nec antea nec poſtea vidi unquam: Aurorae Borealis materia haeſerat huc uſque ſupra eum aëris tractum, in quo regnabat ventus Euro-boreus: adſcendens parumper ventus, lambebat inferiorem Borealis Aurorae partem, abrumpenſque portiones hinc inde, effecit, ut interruptis coruſcationibus, in undarum trementium modum, celerrime promotis coelum fulgeret: in plaga Orientali ultra horam hoc contemplatus fui, non quod ſemper aderat, ſed nunc videbatur, per 2, 3ve minuta ſilebat, renovatum mox, atque interruptis micabat vicibus. Utinam omnia, quae ſimul aderant phaenomena notare potuiſſem! Verum centum oculi ſat negotii ad id habuiſſent, totidem ſimul dabantur, cumque ad unam plagam direxeram aciem, multa interim in averſa parte contingebant. Poſt horam 10 in plaga coeli Occidentali uſque ad ſeptentrionem 3 nubium atrarum ſeries, diverſae altitudinis, ſupra ſe poſitae, oriebantur. Infima erat arcuata, cruribus horizontem verſus inclinatis; aliae binae ſeries, diſtinctae à ſe mutuo, rectis finibus, horizonti parallelis deſcriptae erant: ex his quaſi pectinatim emittebantur breves, vixque lucentes radii, hinc inde nonnunquam fulgentior exibat, multo longior, quam juraſſes fumum fuiſſe lucidum ex camino magno cum impetu propulſum. Hora undecima coelum adhuc ab omni parte micabat, potiſſimum plaga Auſtralis, non quod ex Auſtro columnae aſſurgebant verſus Zenith, ſed à Zenith verſus horizontem deprimebantur, agitatae nempe per ventum Borealem à ſeptentrione per Zenith verſus Auſtrum: increverat jam ventus ad impetus gradum ſecundum, quo lente minui ſpectacula videbantur, non adeo frequentes generabantur columnae, brevioris erant conſtantiae, citius provolvebantur, donec

hora 12 coelum nubibus incepit obduci, brevi post iterum serenum, ast multo minus fulgens quam antea: hora tandem 2 post mediam noctem omnia cessaverunt, superstitibus partim nubibus densioribus, partim albis, haerentibusque in plaga Occidentali, Borea, & Orientali, ad altitudinem circiter 45 Graduum ab horizonte, reliquo coelo manente sereno: vigente hoc spectaculo adeo lucebat coelum, ut litteras majores distinguere potuerim, fere aequae facile ac nocte serena fulgente luna, nondum plena: cum totum ardebat coelum, nullibi umbrae ab aedibus projectae: Contigit hoc Boreale lumen post Ventum Australem impetuosissimum, qui noctu praecedente saevierat.

Animadverti hoc mense nonnullos Rheumatismos, qui vulgaribus stipati symptomatibus, aliquando auscultabant remediis, interdum tamen è medio tollebant decumbentes, morbosâ materiâ raptâ in Cerebro, aut in Intestinis: Pleuritis quoque adfuit, sed benignae indolis, & repetita Venae sectione, refrigerantibus diluentibus auxiliis satis facile profligata: Verum cum horrore Variolarum reminisco, quae adeo pestilentes & malignae, ut nunquam forte ullibi terrarum pejores, nulla fere ab iis intacta domus in hac civitate: Solent mensis *Novembris* singula septimana efferri 20, aut ad summum 25 ad funera: sed quot nunc efferebantur à Variolis prostrata! prima septimana numerata sunt 65: altera dabantur 74, tertia 69, quarta Septimana 59. Quo tempore pestis in hac urbe maxime saeviit, tradentibus annalibus tot homines qualibet septimana diem suum non obiverunt. Variolae prostraverunt aliquos 4, 5ve die à primâ invasione: alios 8, 11, 14, 16, imo post mensem, cum nempe tabe computruerant corpora. Qui evaserunt, Orci faucibus proximi fuerunt omnes: perierunt subito nonnunquam, quibus Variolae benignae optimisque cum signis: incolumes evaserunt alii, quibus omnia pessima, & gangraena correpta videbantur: nemo jam vitae alicujus aegrotantis fidebat, eludentibus perpetuo vel prudentissimos Medicos hisce Variolis. Spes quidem aliquando magna, sed presagium certum dabatur nullum: Vidi & tractavi, quibus post 14 diem novae recrudescebant Variolae, satis copiosae, in facie & reliquo corpore, quae 22 die tantum suppuratae erant, aegro tamen superstite: Quoties non vidi Linguam, palatum, fauces gingivas adeo variolis obsessas, ut ne quidem locum, sinapeos grano aequalem, liberumque invenisses! sed hi omnes perierunt: Vidi per plurimos dies depositas albas faeces, pure plenissimas, adeo ut totus intestinalis ductus, non nisi Variolarum armamentarium fuerit, ipseque Cholidochus ductus ab iis obsessus, claususque, aliqui horum perierunt, alii in pristinam sanitatem reconvaluerunt: plurimorum aegrotantium accuratissimas conscripsi historias, ut ipse mirum morbi genium addiscerem; sed prolixiores sunt, quam ut his Ephemeridibus inserantur. Utinam quis adeo beatus, qui huic contagio specificum invenisset remedium: postquam varia tentaveram, animadverti, feliciores fuisse aegrotos, qui sibi relicti manus medicas respuerant; hinc qui nihil agendo Medicinam exercebat,

plurimos

plurimos ſervabat. Nonnulli aegrotos infuſo foecum ovinarum officiociſſime necabant ; alii ſpiritubus acidis, uti Nitri, illove dulcificato, vel Oleo Vitrioli Ptiſanis, &c. nequaquam feliciores: aeque nocebant calefacientia, ſudorifera, quam diluentia, refrigerantia: Venae ſectio primis diebus ante eruptionem puſtularum, fere certo lethalis: pudet pigetque plura de hoc morbo, cruce & infamia medicorum, commemorare.

Inclinatio acus maxima fuit 72 graduum, minima 70° 35′. Declinatio maxima 13° 28′. Minima 13 grad.

Decembris fuit admodum pluvioſus, nec memini quatuor annorum ſpatio, quibus obſervationibus hujuſmodi ſollicite operam impendi, tantum pluviae copiam ſtillaviſſe, quae fuit 4 ½ pollicum. Baroſcopium ſexto die humilius concluſit Mercurium, quam unquam intra 4 annos fuit ſcil. ad 27 poll. cum 10 lineis.

Variolae adhuc dominari pergebant, uti ſuperiori menſe, minus tamen lethales, quoniam ſubjectorum, in quos ſaevire poterant, parcior copia. Circa medium *Decembris* aliquae repullulabant Tertianae, ſed exquiſitae, benignae ; quemadmodum etiam Pleuritis fuit, paucos interimens cives, neque ullis ultra ſolitum ſtipata ſymptomatibus.

Inclinatio maxima acus hoc menſe fuit 72° 48′. Minima 71° 10′. Declinatio maxima 13° 21′. Minima 13° 13′.

Tota quantitas pluviae hoc anno delapſae altitudinem perpendicularem habuit 25 poll. 1 ¼ linear. Rhenol. Quantitas aquae, quae in vaporem abiit ex vaſe aperto & ſupra deſcripto fuit aequalis 32 poll. 2 ¾ linear. Rhenol. Rogat quis merito, majorne aquae copia in auras adſcendat, quam relabatur, ubinam haec maneat? Conſideret hic, ex Aquâ quidem à nobis obſervatam adſcendere copiam, non vero ex Terra, in quam tamen relabitur pluvia, ſi proinde copia pluviae in his regionibus deciduae, originem quoque in ipſis habuiſſet, & tanta Terrae quam Aquae ſuperficies fuerit, fere duplo major Aquae copia in auras ſub vaporum forma adſcendat neceſſe eſt, quam ſub pluviae ſpecie relabi videtur. In his terris non ſolum id obtinet ut plus aquae evaporet, quam pluit : idem, enim notante de la Hirio in Academiae regiae Pariſinae Monumentis Anno 1703, in Gallia obſervatur.

Quicunque obſervationes Magneticas intuetur, non poteſt non admirari viciſſitudines Inclinationis & Declinationis, quibus quotidie acus Magneticae ſubjiciuntur in eodem Terrae loco : hinc nunquam poterit nauta ex Declinatione acus ante aliquod tempus cognita, concludere ſe eſſe in eodem loco, cum eandem Declinationem obſervat : Quam irregulares vero ſunt mutationes? Nequaquam cum Atmoſphaerae mutationibus, ſive ejus calorem, pondus, motum ſpectes, conſentiunt : quamobrem cauſa, quae dirigit Magnetem in ipſo Terrae gremio, non ſupra ipſam, quaerenda erit : haec neceſſario perpetuis ſubjecta erit motionibus, quibus acus chalybeae in ſuperficie Terrae obediunt. Examinatis totius anni obſervationibus dubitavi,

an

an quidem unquam mortales eo usque Magneticam doctrinam promoturi sint, ut declinationes certis regulis adstringere queant, easque ad stata tempora praedicere pro qualibet Terrae regione: Nihilominus nec inutile, nec injucundum erit ejusmodi observationes colligere, quia casu aliquando plus indicabunt de causa, quam sperare possemus.

Continued by the same, for the Year 1730. N° 426. *p.* 408.

2. Si per totum Terrarum orbem unanimi opera Meteoris observandis notandisque incumberent Philosophi, brevissimo tempore Historiam ventorum, anniversariorum, liberorum, constantium, motionumque absolutam haberemus, qui enim Ephemerides, ubivis conditas, inter se compararet, originem cujuscunque venti, iter quod absolvisset, ubinam desiisset, manifesto detegeret: videret hic quomodo à ventis nubes versus quasdam delatae plagas ab oppositis ventis fuissent condensatae, aut ab aliis admistis nubibus, ex diversissima terrae regionae generatis, debebant producere pluvias, novos ventos eorumve impetus intendere, effervescentias suscitare, fulmina incendere & tonitrua; quorum omnium causam nunc tantum conjectando assequimur, aut ignoramus: Videret harum Ephemeridum spectator universae Atmospherae fabricam, & indolem; de quâ vix aliquid hucusque propter observationum penuriam cognoscimus. At dolendum paucissimos ejusmodi Ephemeridibus conscribendis eruditos operam navare, adeo ut vix ex hac alterave comparata inter se multum lucis utilitatisque capi queat: excitavit acutissimus *Jurinus* Epistola invitatoria aliquos, qui alacri animo hunc laborem non detrectarunt: gavisus fui Lipsiae diligentissimum Philosophum accuratissimas Eruditorum actis inseruisse Anni 1730, Observationes Meteorologicas, quae cum nostris comparatae ostendent, quantum eodem die variet Lipsiae & Ultrajecti Atmosphera, quam discrepantes regnaverint Venti: quantum gravitas incumbentis aëris major huic quam alteri loco fuerit, quae cuncta spectatorem voluptate certo certius perfundent: speranda in posterum meliora tempora, quibus plures Ephemerides simul lucem adspiciant, nunc ad nostras nos convertamus.

Januarius admodum moderate friguit, exhibuitque plurimos serenos dies; gelavit, sed cum frigidissima erat tempestas, Thermometrum modo subsedit ad gradum 18, idque semel tantum. Fuit Mercurius in Barometro die 21 ad altitudinem 29 $\frac{10}{12}$ poll. quae tanta est, ut non meminerim me eam unquam majorem animadvertisse. Coelum adeo pulchrum & serenum nec magnis nec subitaneis mutationibus caloris obnoxium fere omnes à mortalibus aegritudines proscripserat, si Variolas excipiamus, quae confluentes, malignae, ejusdemque indolis erant, ac sub finem elapsi anni notavi, pauciores tamen, quos invaserant, interfecerunt. Acus Magneticas in eodem reliqueram statu ac praeterito anno, nolens eas vi nova, ductu supra Magnetem, impregnare: mansit vis Magnetica per totum annum in Inclinatoria acu satis vivax, quid Declinatoriae contigerit mense Maio, infra notabo.

Maxima

Maxima inclinatio hoc menſe fuit 73° 25′. Minima 72° 45′. Declinatio maxima 13° 21′. Minima 12°. 58′.

Februarius ſatis humidus fuit, moderate frigidus, pauciſque aquilonaribus agitatus, nullae in Atmoſphera magnae aut ſubitaneae caloris frigoriſve viciſſitudines, unde pauciſſimi aegrotantes: Variolae tamen manſerunt confluentes, minus malignae prioribus. Die 15, hora veſpertina 10 Auroram Borealem detexi, ſive nubem modo lucentem, nullos vibrantem radios; cum nihil inſoliti continere videbatur, ipſi ulterius obſervandae non impendi tempus aut operam: vidi in Britannorum Actis Philoſ. eodem die Genevae Auroram Boream placidiſſimae lucis ſpectatam quoque fuiſſe, ejuſque elegantem deſcriptionem cum Societate communicatam in N° 413. p. 279.

Inclinatio acus maxima fuit 74° 10′. Minima 73° 15′. Declinatio maxima 14° 6′. Minima 13° 8′.

Admodum pluvioſus fuit *Martius*. In Baroſcopio Mercurius plerumque humilis, nullae tamen tempeſtates ſaevierunt, quibus caeteroquin hic menſis infamis evaſit. Aquilonares pauciſſimi ſpirarunt, hinc ſalubre coelum, vix morborum ſemina afferens diſpergenſve: Jam mitiores evaſerunt Variolae, diſcretae hinc inde dabantur, neque confluentes adeo copioſae, aut lethales quam ſuperioribus menſibus. Sexto die horâ veſpertinâ 8 Auroram Borealem ſpectavi; hac exigua erat; nubes in plaga ſeptentrionali parva, 10 gradibus ſupra horizontem elevata, inaequali terminata limbo ſuperiori, alba ſuperius, nigrior inferius, virgas aliquot emiſit lucentes, breves vix 30 gradibus ſupra horizontem elevatas, quae ſe mutuo excipiebant, interjecto tamen notabili temporis intervallo, quo nihil apparebat: hora 10 nullum amplius ejus veſtigium dabatur.

Inclinatio acus maxima fuit 75 grad. minima 66° 15′. Hic tamen aliquid mirandum contigit, cum enim 25 die inclinatio erat maxima 75′ graduum, poſtero die fuit tantum 66° 15′. Nulla tamen hujus diſcriminis cauſa in aedibus meis fuit, eſtque haec acus Inclinatoria illius indolis & probitatis, ut ſi ex ſitu ſuo turbatur, intra horam eundem Inclinationis gradum oſtendat, quemadmodum pluribus ſpectatoribus, atque inter eos nuper Sagaciſſimo *J. Th. Deſagulierio* me amiciſſime inviſenti oſtendi. Magis admirabar hoc Inclinationis diſcrimen, cum acus altera, quae Declinationem oſtendit, modo unius minuti differentiam exhibuerit: Quot non reſtant in Magnetica ſcientia à poſteris enucleanda? Inter omnes obſervationes hujus menſis in acu Inclinatoria captas, magnas mutationes obſervavi, nunquam vero vidi minores aliquo menſe, quam fuerunt illae in acu Declinatoria.

Laetus, moderate ſiccus ſucceſſit menſis *Aprilis*, cujus grato calore laete germinabant arbores & plantae, ita ut opima meſſis ex ridentibus undique pratis florentibuſque & virentibus arboribus ſpe maxima haberetur: fertilia bis mugiebant tonitrua: ſemel lumen Boreale apparuit, nihil praeter ſolitum exhibens. Pauciores iterum regnabant Variolae: Vernales Intermittentes Tertianae more ſolito in Scenam

prodierunt, nequaquam pertinaces, aut malignae, nec etiam copioſae, nec inſueta ſymptomata excitantes. Hinc inde Peripneumoniam animadverti, ſed benignam, quae nonnunquam ſponte reſolvebatur, aliquando Venae ſectionem & remedia poſtulabat : pauciſſimos interemit.

Inclinatio acus maxima fuit 72° 30′. Minima 68° 45′. Iterum hoc menſe idem prodigium contigit, quod ſuperiori ; ut nempe acus ex Inclinatione maxima redierit ſequenti die ad minimam : acu declinationem oſtendente vix ulla interea temporis mutatione agitata. Declinatio maxima fuit tantum 13° 7′. Minima 12° 46′. Tantopere motu retrogrado acus nautica hoc menſe delata fuit.

Quoties menſe *Maio* non mugierunt tonitrua ? Vix id frequentius ullo tempore obſervatum fuit : eſt tamen Maius in his regionibus ſemper tonitruum ferax ; quippe tellus frigore praeteritae hyemis conſtricta, vix exſpirare ex ſe olea, ſulphura, ſalia potuit : ſimul ac idcirco calore Aprilis & Maii aperitur, affatim in Atmoſpheram exhalationes aſſurgunt oleoſae, ſalinae, diverſiſſimaeque indolis, quae permixtae ſecum, effervescunt, inflammantur, fulmina fulgura & tonitrua excitant.

Spiraverant in menſis principio Aquilonares Venti, ilico hinc Anginae & Tuſſes oriebantur ; Inflammatoriae erant Anginae omnes, Amygdalae admodum tumentes & rubrae ; nonnullae Synanchae, aliae Cynanchae erant : nec niſi larga repetitaque Venaeſectione purgatione, faucium fotibus externis, gargariſmatibus, diluentibuſque potibus profligari poterant : Tertianae quoque ab hoc Vento crebriores ; eo enim inimicior corpori humano hoſpes vix datur : aderant adhuc Variolae, ſed pauciores mitioreſque.

Inclinatio acus maxima fuit 72° 25′. Minima 70° 45′. Declinationem obſervavi uſque ad diem 19, quo hora 11 ante meridiem fulminaverat, vidi fulmen ſupra aedes, ſed tamen in altiori coeli parte tranſiiſſe, ita ut nullam actionem ab ipſo exſpectaverim ; hora 12 venio obſervatum in horto, quomodo ſe declinatio acus Magneticae haberet, ſublato operculo avocor quodam caſu, interim exigua pluviae copia, vix memoranda cadit, quae parumper vitrum, quo acus tegitur in capſula, ipſamque acum humectaverat ; abſtergeo accurate, impono ſtylo, quid noto ! paralytica evaſerat quaſi acus, vi orbata Magnetica, quieſcens ſemper quocunque in ſitu poneretur : duco ſupra egregium Magnetem hanc acum, bene impraegnari noluit, cum nunquam verſus plagam, ad quam aliae acus ſuper eodem Magnete ductae, diregebatur : capituli cavitatem polivi, purificavi, applicationem acus ad Magnetem repetii, aeque vano cum ſucceſſu : tum ad dexterimum fabrum Amſtelodami miſi, qui cum ante biennium ipſam mobiliſſimam fecerat, nunc irrito conatu variis temporibus reſtituere eam cupiebat ; ſed non potuit coactus fabrefacere novas : excurrit idcirco multum temporis, quo Declinationem acûs notare non potui, atque ideo hiulcum harum obſervationum ponere coactus fui.

An hic effectus à fulmine? Affirmari non audeo, sed contigit tempore fulminis, quod si acum tetigisset, explicari ex analogis observationibus, quas in Dissertatione de Magnete collegi, utcunque posset.

Junius paucos exhibuit serenos dies, temperatus admodum, hinc morbi acuti rarissimi fuere, Tertianae intermittentes adhuc dabantur, sed benignae satis, & facillimae curatu, jam paucissimae Variolae, quae ultra annum saevierant. Inclinatio acûs maxima fuit 74° 31′. Minima 71° 50′.

Maxima maduit *Julius* pluviae copia, unum alterumve serenum modo exhibens diem: calor multo minor erat, quam quem Cerealia aut fructus arborum ad maturitatem legitimam postulabant: inundabantur pascua, imo quae nunquam aquis obtecta fuerunt, jam oceani faciem, ad altitudinem duorum pedum sub aquis demersa, induerant: Fluvius Lecca ad summas usque oras impletus, transcendisset aggeres, nisi vigilatum prudenti praefectuum consilio & industria fuisset: jam desperare colonus de messe, anxiusque altiora pro pecore pascua quaerere. Non tamen ubivis terrarum hic mensis aeque pluviosus, consule Richterianas observationes circa Lipsiam captas, serenos fulsisse saepe Soles invenies, imo & ita in Gallia se habuit tempestas. Utcunque humescebat *Julius*, morbos tamen non produxit, soletque hic mensis plerumque Æsculapii filiis ferias aliquas largiri.

Inclinatio acûs maxima fuit 77° 25′. Minima vero 72° 15′.

Fuit *Augustus* quoque in principio admodum humidus; computruerunt ex arboribus mala pyraque, quorum fructuum in Trajectina Diocoesi magna penuria: quam deploranda seges! grana tritici exigua, plurimum furfuris, parum farinae concludentia, maxima pars propter pluvias continuas germinaverat: collecta haec Ceres vix emptores invenit, quippe mensura, quae 7 ½ florenis vendebatur praeteriti anni tritico impleta, vix 3 florenis extrudi potuit. Incipiebant Tertianae intermittentes, Autumnalium more, sed satis benignae. Fuerunt quoque Synochi, simplices, sed qui nulla symptomata singularia, aut decursum extraordinarium habuerunt. Inclinatio acûs maxima fuit 76° 30′. Minima 70 graduum.

September iterum pluviosus, pulchros tamen dies aliquot in initio concessit, post 12, nullum amplius. Aurora Borealis fulsit 10 die, vespera ab hora 10 ad 11, ex nube vix supra horizontem in parte Borea lucentes virgas ejaculans, nihil insoliti edens.

Jam plures Tertianae & Quartanae Febres intermittentes visebantur, non tamen mali moris, caeteroquin quia temperatus calor, vix alii morbi acuti regnabant.

Inclinatio acûs maxima fuit 70° 30′. Minima 69° 15′.

Octobri coelum pluviae maxima parte orbatum purgatumque quidem, sed frigidius propter humidum praeteritis mensibus solum; pauci quoque sereni dies, hinc non maturuerunt in nostris Terris uvae: in Gallia contrarium obtinuit, ubi September & October satis calidi excoxerunt egregie uvas, suppeditaruntque Vinum generosissimum,

& praeſtantius quam aliquibus anteactis annis. Pauci quoque hoc menſe morbi, aliquot Tertianae ſimplices, duplices, Quartanae quoque, non pertinaces.

November pluvia abundans, temperate tamen frigidus: & quia totus annus humidior frigidiorque ſolito fuit, boves in paſcuis laetiſſime veguerunt, pinguiſſimae factae, nec aliter ſe habuerunt Aves omnes, gallinae, ferae quaelibet, adeo ut fructuum damnum obeſioribus bobus reſarcitum expertus fuerit colonus. Quinto & ſexto die Auroram Borealem obſervavi, nihil inſoliti exhibentem: fuerunt hae binae hujus anni ultimae Aurorae, adeo ut fulſerint ſexies: intuendo omnes animadvertebam, non curare has Auroras quinam venti ſpirent, ex quacunque etiam plaga. Cum tamen in plagis Boreis primum ſemper apparent, indeque verſus Auſtrum ferantur, earum materia altiori in aëris regione natat, quam in qua venti inferiores dominantur: promoventur autem Aurorae à Borea verſus Auſtrum, proculdubio à vento ſuperioris Atmoſphaericae regionis hac directione latae.

Jam Inclinatoria acûs maximae depreſſa fuit ſub horizonte, quando cum eo angulum 69° 30′ fecerit, minime ſub angulo 68° 50′.

Decembri notanda eſt ſubitanea ponderis Atmoſpherici mutatio, cum enim vigeſimo ſecundo die Mercurius nocte in Baroſcopio ſuſpendebatur ad 28 $\frac{8}{12}$ pollic. mane adſcenderat ad 29 $\frac{1}{2}$ pollices. Quae mutatio intra 8 horas contigit.

Inclinatio acûs maxima fuit 69° 25′. Minima 67 graduum.

Fuit aër poſteriori ſemeſtri hominibus ſaluberrimus, ita ut pauci morbi, paucique diem ſuum obierunt, imo niſi prioribus hujus anni menſibus Variolae plures ſolito extinxiſſent, ſolito parciora funera texiſſet humus.

Pluviae copia, que hoc anno cecidit, perpendicularem altitudinem 33 pollicum, 5 $\frac{1}{3}$ lineas aequavit: In vapores autem modo abierunt 28 pollices, 1 $\frac{1}{3}$ lineae: adeo ut plus pluviae ceciderit, quam evaporatum fuerit, quod oppido raro, ſed id evenit, quia annus frigidus humidiſſimuſque fuit.

Continued for the Year 1731, *by the ſame.* № 426. *p.* 417.

3. *Januarius* Frigus moderatum attulit: quae notari merentur hoc menſe, ſequentia ſunt: gelabat diebus 14, 15, 16, 17, parum quidem, gelabat tamen, erat vero Mercurius in Baroſcopio admodum depreſſus, venti ſpirabant Auſtrales, ſed pigri: mirabar hoc, cum vix aut nunquam gelu inchoaſſe animadverterim Baroſcopio adeo depreſſo iiſque comitantibus ventis, deſiit admiratio ſimulac perceperim in littoribus Luſitaniae & Hiſpaniae ſaeviiſſe impetuoſiſſimas procellas, plurimas frangentes naves triſtiſſimae Tragoediae cauſas: dominabatur ibidem Ventus Auſtralis, qui quoque inde delatus ad noſtras uſque regiones, ſuas vires in aërem noſtrum exercuiſſet, niſi Boreas oppoſita directione ipſi reſtitiſſet; aër inde piger & tranquillus, quemadmodum Luctatores pari niſu, ſed oppoſito, in ſe agentes quieſcunt: ſuperante Auſtro, hic flare obſervabatur, ſuperante Borea hunc regnare vidimus. Quam ſobrie de futura atmoſphaerae conditione ex altitudine Mercurii in Baroſcopio ratiocinandum eſt! quippe

pe 26, 27 & 28 die hujus menſis regelabat, Mercurio jam perquam alto exiſtente ; & flante Vento Orientali : vix credo aliquem majores circa Barometrum Anomalias obſervaſſe unquam.

Variolas obſervavi aliquas, paucae fuerunt, plerumque diſcretae, quibus pauci infantes perierunt. A medio Januarii inceperunt Pleuritides, corripientes modo Operarios & ruſticos, mitioris indolis, raro in ſuppurationem tendentes.

Fuerunt quoque Tertianae duplices, quae ſolo ſalium aut Amarorum uſu brevi & feliciter curabantur.

Simulac regelabat, Coryzae exſtabant. Lecca fluvius hoc menſe parcam aquae copiam in ſe complexus fuit.

Jam mihi nova aliquot Verſoria comparaveram, ut iterum Declinationem Magnetis obſervarem : Acum Inclinatoriam ſibi reliqueram, viſurus an vis Magnetica, ante biennium cum ipſa communicata, adhuc anno hoc ſatis vegeta perſtaret ? Docuit experientia vim ſummopere hoc anno decreviſſe ita ut menſe Decembri acum denuo ſupra Magnetem ducendam eſſe judicaverim, noviſque his imbuta viribus multo magis inclinabat, ſuſpicor tamen vires ſatis ipſi conſtitiſſe uſque ad menſem Junium : Hiſce detectis arbitror nunquam nautas tuto ſuis confidere Verſoriis poſſe, quae ultra biennium Magneti applicata non fuerunt.

Inclinatio maxima acùs hoc menſe fuit 68 graduum, minima 67° 20′. Declinatio maxima 14° 55′. Minima 14° 15′.

Februarius diuturnum gelu, ſed moderatum, comes habuit ; id incepit die 2, & abſque interruptione gelavit uſque ad finem 21. Poſt ſextum diem Mercurius in Barometro deſcendit, donec ad infimam fere ſtationem ſui die 8 & 9 pervenerit ; coelo utcunque ſereno, placidis ventis, ex quacunque afflantibus plaga, perſtante gelu : ſed ejuſmodi anomaliis luxuriare inceperat, pergere ita ſtudebat annus. Nocte diei 5 valde fulguravit, in aliis Hollandiae urbibus ferocia micuerunt fulmina, & tremenda mugierunt tonitrua, praecipue ſupra pagum Alſmeriam ; 12 die cecidit veſperi intra horam 6 & 8 ingens nivis quantitas, quae altitudinem 15 pollicum aequavit, cum admiſta pluvia rara & tenuiſſima, tam prodigioſam nivis copiam intra breviſſimum tempus delapſam in hac regione nunquam obſervavi : Nivem ſolvi, ſoluta dedit 20 aquae lineas : haec nix proinde modo novies rarior aqua erat : contigit hoc prodigium nocte praecedente Lunae quadraturam. Ob continuatum gelu Fluvius Lecca obriguit ; poſt diem vigeſimum blandiſſime regelavit, ſoluta feliciter fluviorum glacies nullam cladem aggeribus intulit.

Hoc frigore durante ſiluerunt fere morbi : Variolae fuerunt, ſed benignae, diſcretae, vix quemquam è medio tollentes. Copioſa nix cum ſubſequentibus aquilonaribus poſt diem 12 Arthritidem excitavit, quae ſaevior fuiſſet, ſi aut majus regnaſſet frigus, aut Boreas diutius infeſtaſſet ; verum clementioris genii auſtrales non exiguum ſolatium aegritudini huic attulerunt. Cum vero per longiſſimum tempus,

18 se sequentium dierum, gelu absque intermissione corpora constrinxerat, impedita in nonnullis perspiratio fuit; hinc Diarrhoeae, non prius desinens, quam abundans in corpore materies excreta fuerit, restitutaque libere perspiratio; promptissimum idcirco remedium fortis purgatio & postea blandum sudoriferum. Verum alios invasit Angina inflammatoria, diuturnior quam periculosior; profligata cito Venae sectione, imprimis repetitis purgantibus. Postquam regelare coepit, & aër pluviâ humescere, Tusses oboriebantur, austris humidioribus valde relaxantibus pulmonum vesiculas, adeo ut oscula excretoriorum laxiora, nimisque patula, huc plus liquidi non nisi tusse excreandi, demiserint.

Inclinatio acûs maxima 68° 30′. Minima 68 graduum. Declinatio maxima 14° 20′. Minima 13° 45′.

Martio mense fere semper spiraveruut Venti Aquilonares, ingrata tempestate aeque Vegetantia ac Animalia afficientes: Hinc multi morbi, Arthritis, Pleuritis, Febres acutae continuae, Tertianae intermittentes, Quartanae, Variolae: post decimum quartum diem animadverti eos, qui Phthisi laborabant, multo pejus se habuisse, valde anxios fuisse: causam suspicari poteram nullam praeter antecedentes, diu continuatos Aquilonares.

Diei 7 vesperâ Auroram Borealem observavi, exiguam, nihil insoliti ferentem.

Inclinatio acûs maxima fuit 69° 15′. Minima 68° 20′. Declinatio maxima 14° 58′. Minima 13° 30′. Inter 5 & 6 discrimen Declinationis evasit aequale uni gradui, Inclinatione manente immutatâ.

Aprilis fuit siccus, valde frigidus, plurimis aquilonaribus infestus, sterilisque; hinc mense hoc elapso nondum ulla virebat arbos, sub finem florere coeperunt mala armeniaca, verum frigore perierunt flores; mala persica dein amiserunt flores, qui multum à frigore passi, foecundiores tamen fecerunt fructus.

Jam crebriores Arthritides ingrati frigidique Aquilonares excitaverunt: jam Tertianae simplices & duplices, Vernalium more, sed copiosiores fuerunt, nequaquam tamen malignae aut pertinaces.

Inclinatio acus maxima fuit 70° 40′. Minima 68° 45′. Declinatio maxima 16 Graduum, minima 14° 25′.

Maius in principio ingratus frigidusque, verum die 5 post meridiem maxima subito contigit mutatio, ex coelo cadente calida pluvia, clementiorem reddente aërem, hinc posteris diebus catervatim ex arboribus erumpebant folia floresve, & jam plurima laeta virere nitebantur, nisi iterum à die decimo usque ad 15 noctes frigidissimae omnia iterum gelu constrinxissent; hinc nulla crescebant legumina, densa glacie obducta Terra singulis noctibus; postquam 18 die tonuerat, mitescere coelum coepit. Interim 5 die propter celerrimam atmosphaerae mutationem ex frigida in calidam, ilico

aderant

aderant Anginae, leviores tamen, ſuâ ſponte evaneſcentes. Sequenti die Colicos dolores abſque febribus notavi, hi noctu corripuerant homines antea ſaniſſimos; cauſam invenire non potui niſi in ſubitanea caloris frigoriſque viciſſitudine; neglexiſſem hunc morbum, niſi eo die mane inviſens aegrotos, primos 4, in variis aedibus tamen habitantes, de iis doloribus conqueſtos audiviſſem, tum vero ab aëre pendere ſuſpicatus, levioremque in Inteſtinis inflammationem dari; Venam ſecandam judicavi, optimo cum ſucceſſu; in quibus id neglexeram, propinaveramque ſpirituoſa calida, opiata, morbus per triduum duravit, nec niſi Venae ſectioni & diluentibus profligatus fuit. Eodem tempore frequentes oriebantur Raucedines & Tuſſes, abſque febre, quae tamen poſt mediam noctem exacerbabantur; pertinaciſſimae hae fuerunt, non auſcultantes Venae ſectioni, purgantibus, ſudoriferis, blandefacientibus; ſed tempus diuturnum poſtulabant, tum Mellita, atque Opiata.

Die 14 Lumen fulſit Boreale, quod nihil, antea non notatum ſaepius, ſpectandum dedit. Inclinatio acus maxima fuit 72° 50′. Minima 68 Graduum. Declinatio maxima 16° 30′. Minima 15 Graduum.

Junio Synochos ſimplices obſervavi, quos nulla malignitas comitabatur, ideo facile curati largâ Venae ſectione & nitroſis, diluentibus, refrigerantibuſque potulentis. Erant quoque Variolae, ſed ejus naturae, ut nunquam mitiores fuerint, aut eſſe poſſint; exoptaſſet unuſquiſque nunc ſibi, hunc morbum, ſi poſtea ſe liberum immunemque ab eodem fore, ſibi perſuadere potuiſſet; erant Variolae diſcretae, paucae, exiguae, quibus infantes aliqui non aut vix aegrotabant, nequaquam decumbere coacti; ſuppuratae jam ſexto die erant omnes puſtulae, & penitus exſiccatae nono die. Verum peſſimae Coryzae fuerunt, diutiſſime durantes, propter ingentem tempeſtatum varietatem, quippe ſi nunc regnabat magnus calor, eum poſtero die magnum frigus, ab Aquilonaribus advectum excepit. Suſpicor omnes Inclinationes, quas acus oſtendit ab hoc menſe uſque ad Decembrem, eſſe minores quam par erat, propter vires magneticas longinquitate temporis minutas.

Declinatio maxima fuit 16° 30′. Minima 15° 50′.

Julii 24 die adeo terribilia corruſcarunt fulmina, concomitantibus tonitruis admodum crepitantibus mugientibuſque, ut nunquam ſimilia viderim vel audiverim, inceperunt poſt meridiem hora 4 ½ deſiverunt hora ſexta: multa tamen damna urbi non intulerunt; hinc inde lapides ex caminis dejecti, tegulae ex tectis duae arbores prope urbem Fiſſae, & pro parte deglubitae, ubi fulmen decurrerat: tactus, qui ſub una arbore hoſpitium quaeſiverat ab hoc fulmine, civis ſuburbanus.

Jam toto hoc menſe coelum mite, clemens, ſerenum, fertile, hinc opima Meſſis, praeteriti anni penuriam compenſans; adeo ſalubris fuit haec tempeſtas, ut vix aliqui aegrotaverint. Declinatio acus maxima 16° 10′. Minima 15° 40′.

Auguſtus

Auguſtus admodum calidus fuit, ſed coelum adeo clemens, benignum, ſalubre, ut melius exoptari à mortalibus non poſſet : hinc pauciſſimae aegritudines. Pomona vero adeo faecunda, ut nimiam protulerint optimorum fructuum & maturorum arbores copiam, & vix pretium fructibus ſteterit.

Declinatio maxima acus fuit hoc menſe 16° 5′. Minima 15° 35′.

September coelo quoque gaviſus fuit temperato & miti, paucis infeſtus Aquilonaribus : protulit anginas aliquas inflammatorias acutiores, & mitiores ; protulit quoque Tertianas & Quartanas, intermittentes, minus tamen in civitate quam ruri : Erant hae ex genere Autumnalium, non auſcultabant Lixivioſis ſalibus, aut amaris antifebrilibus : verum feliciſſime centenos curavi, propinando vomitorium, idque interdum bis, tum decoctum amarum per paucos dies, deinde Corticem Peruvianum, quâ methodo radicitus extirpatae ſunt, neque recruduerunt.

Declinatio acus maxima fuit 15° 55′. Minima 14° 20′.

October foecundus fuit in progignendis luminibus Boreis, quinque enim apparuerunt ; die 3, veſperâ ab hora 8 ultra 12 nocturnam, coelo admodum placido & quieto ingens lumen Boreum dabatur, emittens lente ſuas columnas ab horizonte verſus Zenith, quae diutiſſime perſtabant nullis interruptae ventis.

Die 7 ingens Aurora Borealis ſpectabatur, totum coelum clarius illuſtrans, quam Luna Dichotoma feciſſet, hora 7 incepit in plaga Euro-borea, ſed pedetentim proſerpſit quoque ad plagam occidentalem, ita ut ſimul micuerit per totum coeli tractum ab Euro-borea ad Occaſum, adeo exporrecta fuit hora 11 : prope horizontem coelum erat obductum nube alba, denſiori quam ut Stellarum lucem tranſmitteret : ex hac nube interdum aſſurgebat pars columnae inſtar, aliquando abrumpebatur pars nubis, inaequalis figurae, quae ita divulſa lucebat, lente promota verſus Zenith, nam nullus ventus prope terrae ſuperficiem regnabat : praeterea nihil ſingulare habuit.

Die 8 veſperi iterum fulſit Aurora Borealis in plaga coeli Borrolybica : Erant crebrae, interruptae nubes exiguae, atrae ; ſupra quas haerebant nubes pellucidae & lucentes, quietae, non emittentes radios aut columnas : duo ſpirabant ſimul venti, ſupremus erat Hypaquilo, inferior Notus. Supremi venti inferior pars incurrens in ſuperiorem nubium partem, aliquid abripiens ſecum deferebat, quod admodum rarefactum, motuque inteſtino ferveſcens lucere incipiebat : ex his abraſis partibus emittebantur interdum virgae ; ex reliquis tamen nubibus raro exibat columna, quae parum ſplendebat. Reliquae Aurorae nihil ſingulare habuerunt.

Fuit aër toto hoc menſe ſaluberrimus : hinc pauciſſimae aegritudines, niſi ſub finem menſis quo ruri potiſſimum Febres Tertianae Simplices, Duplices, Quartanaeque intermittentes : in civitate multo

pauciores fuerunt. Quoniam pomorum & pyrorum tanta ubertas hoc Autumno, ut nullo pretio haberi potuerint, vulgus iis nimium indulſit: hinc Dyſenteriae, ruri praecipue, in urbe pauciores; non tamen proſerpſerunt, nec contagioſae fuerunt.

Declinatio maxima fuit 14° 30′. Minima autem 14 Graduum.

November. Quam temperatum, quam clemens huc uſque fuit coelum! Non Autumnus, ſed Æſtas temperata adeſſe fuit viſa: 10 die extra hanc urbem ſpatians vidi omnes adhuc arbores virentes pauciſſimaque Tiliarum folia flava decidua. Triticum Autumno hoc ſatum, increvit nimis, adeo ut bobus devorandum, graminis loco in paſcuis propinaretur, ne magis excreſcens, futurae hyemis frigus ferre melius poſſet. Omnes edules herbae in hortis vegebant, ut menſe Auguſto ſolent, adeo ut etiamſi ſera advenerit Æſtas, diutiſſime tamen blando ſuo calore terram refecerit, manſeritque: fuit 26 dies ultra modum calidus, etiamſi humidus & flante Borea.

Die ſexto Auroram Borealem ſpectavi, diverſam ab omnibus, quas hucuſque contemplatus ſum: Erat enim coelum ab Auſtro per Occaſum uſque ad Septentrionem plurimis interruptis nubibus ornatum, quae omnes quieſcebant, tranquillae ſuis in locis haerentes, quamvis ventus aliquis regnaret, lucebant omnes alba luce, totum coelum illuſtrante: Ordinaria fuit Aurora, quae 30 die comparuit. Plurimae dabantur Tertianae; duplices praecipue, & Quartanae febres intermittentes, quae pertinaces non fuerunt, feliciter enim profligatae ſunt methodo ſupra notata. Variolae quoque dabantur, paucae ſed Confluentes & Diſcretae, benignae indolis, paucos intermittentes, etiamſi copia puſtularum notabili faciem occupaverint.

Maxima declinatio acus fuit 14° 15′, & minima 14 Graduum.

December. Cum jam acum Inclinatoriam virium ſuarum maximam feciſſe jacturam animadverteram, eam denuo ſupra Magnetem duxi, viribuſque tantis ac potuit, impregnavi, ilico veram Inclinationem oſtendit 69° 15′. Aliquoties ex ſuo loco turbata, poſt nonnullas oſcillationes ad eundem gradum Inclinationis rediit. Declinatio maxima fuit 14° 21′. Minima 13° 23′.

Variolae hujus menſis fuerunt ejuſdem generis ac *Novembri* obſervaveram. Praeterea dabantur Tertianae & Quartane febres intermittentes, nihil inſoliti habentes, nec diverſae ab iis, quas ſuperioribus Autumni menſibus tractaveram.

Tota pluviae quantitas, quae hoc anno delapſa fuit, altitudinem perpendicularem modo habuit 17 ⅓ pollicum Rhenolandicorum, quae exigua eſt, fuit autem annus inter ſicciores numerandus. Sub vaporis forma in auras abiverunt 27 pollices 10 ½ lin. quae copia fere eſt illi aequalis, quam elapſo anno obſervaveram.

CHAP.

CHAP. IV.

Papers omitted.

[Part II. *p.* 27. *Add the following Papers.*]

Farther Experiments concerning Electricity; *by Mr* Stephen Gray, *F. R. S.* N° 426. *p.* 397.

1. ABOUT the latter end of *August*, 1732, being at Mr *Wheler*'s, after having repeated the Experiment of making Sulphur attract Leaf-Brass *in vacuo*, Mr *Wheler* having a very good Air-Pump of the larger Sort, made by Mr *Hauksbee*, we suspended from the top of a Receiver, which was first exhausted of Air, a white Thread that hung down to about the middle of the same: Then the Receiver being well rubbed, the Thread was attracted by it vigorously. When it was at rest, and hung perpendicular, the Tube was rubbed, and being held near the Receiver, the Thread was attracted toward that Side of it; if the Tube was removed slowly, the Thread returned to the Center of the Receiver; but when moved swiftly, the Thread was attracted by the opposite Side of the Receiver: If the Hand was held near the Receiver, and moved hastily from it, the Thread was attracted by the opposite Side, as before. This seemed at first difficult to account for; but upon farther Consideration, we concluded it proceeded from the Motion of the Air made by the Tube, and in the other Case by that of the Hand, which took off the Attraction from that Side, and not on the other Side; so that, as Mr *Wheler* very well expressed it, by this Means the Balance of the Attraction was taken off.

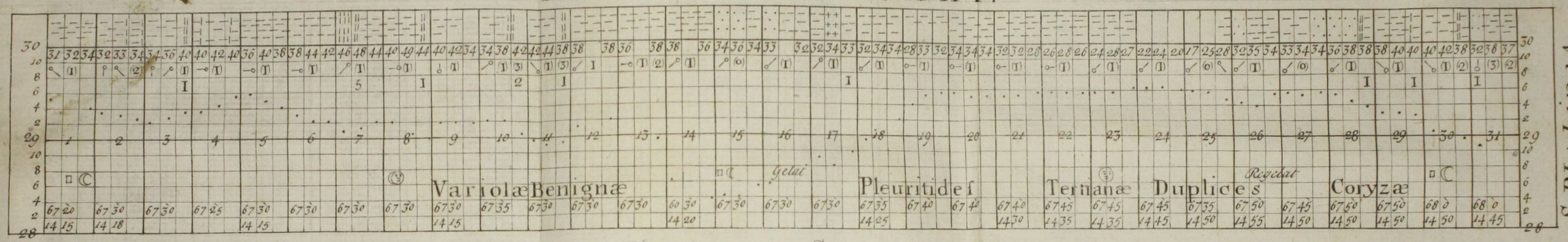
We made another Experiment by suspending a Thread on the top of a small Receiver, and whelming a large one over it; then by first rubbing this, and holding the rubbed Tube near it, the Thread in the middle Receiver was attracted to that Side of it where the Tube was held.

An Experiment, shewing that Attraction is communicated through opacous as well as transparent Bodies, not in vacuo.

There was taken a large Hand-Bell, the Clapper being first taken out, and a Cork suspended by a Thread from the top of the Bell, the Cork being smeared over with Honey: Then the Bell was set on a Piece of Coach-Glass which had been well rubbed, on which the Leaf-Brass was laid; then the Tube being rubbed, and held near the Handle of the Bell, and afterwards near the Top and Side of the same, the Bell being taken off, there were several Pieces of the Leaf-Brass sticking to the honeyed Cork that had been attracted by it: It appeared also that some others of them had been attracted by the Bell, being removed from the Places they were left in when covered by it.

EPHEMERIDES METEOROLOGICÆ ULTRAJECTINAE ANNI MDCCXXXI.

Fig. 8



EXPLICATIO SIGNORUM

Altitudo Barometri

Altitudo Thermometri indicatur numeris suprema in serie cujus-libet mensis scriptis

M74 (&c) Mortuorum numerus

Pluvia — Nix — Grando — Nebula — Fulmen — Fulgur

W E S

Cœlum raris — Nubibus pluribus — obductum densis — Aurora Borealis scribitur AB — Lunæ phases — Ventorum Vires et Plaga (1) (2) (3) (4)

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

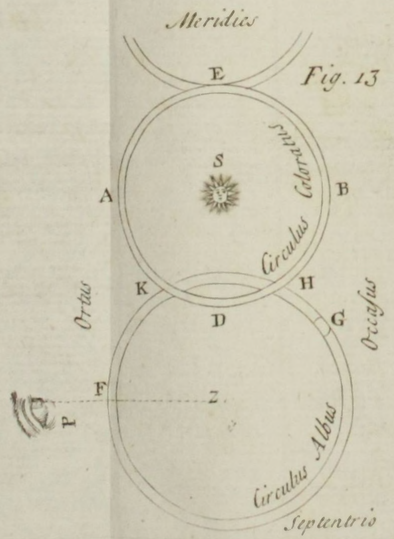
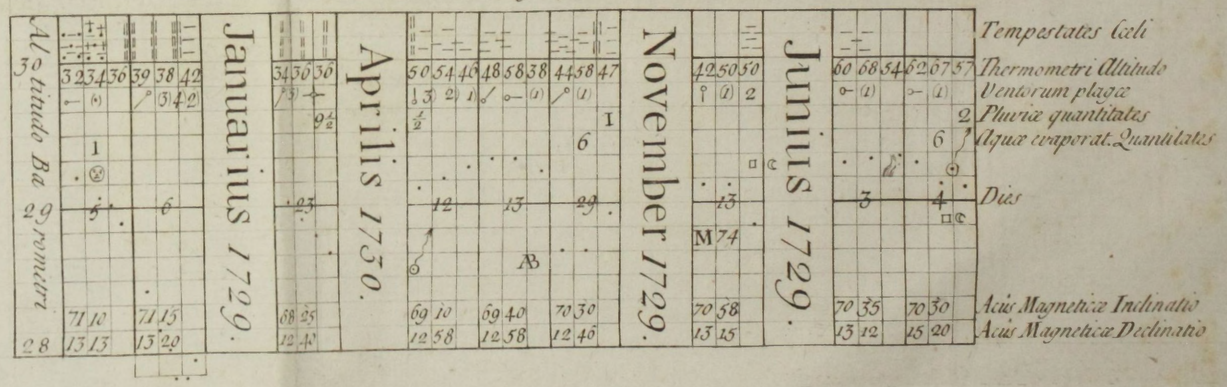


Fig. 14



UNED

Some time after Mr *Wheler* told me of an Experiment he had made *in vacuo*, when I was gone from him. He took a ſmall Receiver, and in it ſuſpended a Thread, and over this four other Receivers, all exhauſted, and the Thread was attracted thro' all the five Receivers, and he thought the Attraction was rather ſtronger than before, when a ſingle Receiver only was made uſe of; but inſtead of wet Leather, he made uſe of a Cement I had recommended to him, *viz.* Bees-Wax and Turpentine, which was what Mr *Boyle* made uſe of in his Experiments with the Air-Pump, and that, as I had told him, it was my Opinion the Attractions would be much ſtronger, the Steams of the wet Leather taking off ſome of the attracting Force.

I ſhall now proceed to give ſome Account of the Experiments made at Mr *Godfrey*'s; the firſt of which was giving an Attraction by the Tube to a Boy ſuſpended on Hair Lines, and that by the Intervention of a Line of Communication, the attractive Virtue paſſes to another Boy that ſtands at ſeveral Feet diſtant from him. But before I go any farther, it may not be improper to give an Account of that Experiment of the attractive Power that is communicated to the Boy ſtanding on Roſin; which tho' the Society have ſeen the Experiment, I have not given any Account of it in Writing.

June the 16th, 1731, in the Morning, I made the following Experiment on the Boy mentioned, cauſing him to become attractive by ſuſpending him on Hair-Lines. There was taken two Pieces of white Roſin made into round flat Cakes of ſomewhat more than 8 Inches Diameter, and 2 Inches thick. Theſe were laid down on the Floor of my Chamber, ſo near together, that the Boy might ſtand with one Foot upon one, and the other upon the other Cake of Roſin: Then the Leaf-Braſs being laid under his Hands, the Tube rubbed and held near his Legs, cauſed both his Hands to attract and repel the Leaf Braſs to the height of ſeveral Inches: Or if there was laid Leaf-Braſs under one Hand, and the Tube held near the other Hand, there was an Attraction communicated to the farther one; and when the Tube was applied either to his Hands or Feet, there was an Attraction given to his Cloaths; ſo that a Piece of white Thread being held by one End, the other End would be attracted at near the Diſtance of a Foot; ſo that the Attraction is altogether as ſtrong, if not ſtronger, than when the Boy was ſuſpended on Hair-Lines.

I come now to the above-mentioned Experiment: One of the Boys being ſuſpended on the Hair-Lines, and the other ſtanding upon the two Cakes of Roſin, the Boys holding Hands with each other, under the Boy's Hand that ſtood on the Roſin was laid the Leaf-Braſs; then the Tube being rubbed, and held near the Boy's Feet that hung on the Hair-Lines, the Hand of the Boy that ſtood on the Roſin attracted ſtrongly. Then there was taken a four Foot Rule,

and given to the Boys to hold by each End, and there was the ſame Virtue of Attraction given to the other Boy as before. After this, a Line of Packthread was given them to take hold of by the Ends, and there was an Attraction communicated from one End to the other, with as much Vigour as by any of the other Methods before mentioned. This Experiment was made *Sept.* 13, 1732.

Sept. 14 I firſt made the following Experiment. There was taken a Rod which was compoſed partly of Wood and partly Cane: It was 24 Feet in Length, and in Form not unlike two Fiſhing-Rods ſuppoſed joined together at their bigger Ends. This Rod was ſuſpended horizontal by two Threads of Silk: Over this, about two Feet from the Ends was ſuſpended a ſmall hazel Wand, about five Feet long, at right Angles to it, but not touching the Rod: Then going to the other End of the Rod, the Tube being excited and held near it, repeating the ſame three or four times as uſual, and going to the hazel Wand with a ſmall white Thread, I found that it attracted to it when held near to any Part thereof. The next Day Mr *Wheler* came to Mr *Godfrey*'s, and now, by their Aſſiſtance, I repeated the Experiment, and we found that by ſuſpending the Wand at ſeveral Heights, we could perceive there was an Attraction, when it was at the Height of more than twelve Inches. I ſhall now give ſome Account of my repeating, and of what farther Improvements I have made to ſome of theſe Experiments ſince my Return to *London*.

Sept. 29, I repeated the Experiment on two Boys, firſt ſetting one of them on Cakes of Roſin, and the other being ſuſpended on the Hair-Lines, and the Effect was the ſame as hath been above related. I then cauſed both the Boys to ſtand on Cakes of Roſin, giving them to hold a part of a *Spaniſh* Cane Fiſhing-Rod that was 8 Foot long, one Boy holding one, and the other Boy the other End of the Rod; then the Leaf Braſs being laid on the Stand, and one of the Boys holding his Hand over it; I went to the other Boy, and the excited Tube being held near the Palm of his Hand, the firſt Boy's Hand attracted and repelled the Leaf-Braſs ſtrongly. Then there was a piece of Packthread given them to hold by each End, about the ſame Length with the Rod, *viz.* 8 Feet long. Under each of their Hands was laid Leaf-Braſs; then going to the middle of the Line, holding the Tube near it, the farther Hand of both the Boys attracted the Leaf-Braſs with ſo much Vigour, that it is not to be doubted that had the Line been much longer, they would have attracted at a far greater Diſtance. I then cauſed the Boys to ſtand on the Cakes of Roſin, ſo as to let the Flaps of their Coats touch, and then by holding the Tube to one of their Hands, the other Hand attracted, but not with more Force than when they were diſtant the Length of the Line. Then they ſtood ſo much farther as not to let their Coats touch by about an Inch, and then exciting one of them to attract, the other received not the leaſt Degree

of Attraction. I then bid one Boy put his Finger upon the other Boy's Wrist, and then he immediately became electrical.

Oct. the 4th I made the following Experiment: A Fishing-Rod of about 10 Feet 8 Inches long, being horizontal, and over it, towards the lesser End, a small Rod, being the top End of another Fishing-Rod, at the lesser End, which was Whale-bone, there was put on a Ball of Cork 2 Inches Diameter, the small Rod touching the great one; then the Tube being excited, and held near the great End of the great Rod, applying it as usual; then going to the Cork with a pendulous Thread, I found it attracted it at the Distance of at least 2 Inches. Then the Rod was moved higher, so as not to touch the End of the long Rod, by Estimation about an Inch, and after several Trials there was a visible Attraction, when the little Rod, that carried the Ball was above the great one 34 Inches.

Oct. the 5th, I took a Line of Packthread 17 Feet 4 Inches long, with Silk Lines tied to the Ends of the Packthread, one of them about 4 the other 2 Feet long, near 2 of the opposite Corners of my Chamber, where in each of them was driven a Hook at about 3 ½ Feet high, to which the Ends of the Silk were fastened, drawn so tight as to bear the Packthread nearly horizontal: Then the small Part of the Fishing Rod was suspended over the Packthread at about 4 Feet from the End; then the Tube being applied to the other End of the Packthread, the Cork Ball at the End of the little Rod was attractive, and at several Removes, to the Height of 47 Inches, there was a visible Attraction of the pendulous Thread.

Oct. the 6th, instead of the small Rod, I took a Packthread about 4 Feet long, and having tied silk Threads to each End, by which the Thread was suspended over the longer Line horizontal, and at right Angles nearly to the said Line, which was by tying the Ends to perpendicular Lines of Packthread that were fastened to Hooks at each End, and had sliding Knots on them, so that the cross Line might be moved higher or lower as there was occasion for it; upon one End of this Line I put a Ball of Cork, and found, that when the first Line had been excited the Virtue was carried up to the second Line, and caused the Cork Ball to attract. I then took off the Cork Ball, and put one of Ivory in it's Place, and this attracted after the same manner; and afterwards I hung two Ivory Balls, one at one end, and the other at the other end of the Line, and found there was a sensible Attraction when the Line that supported them was raised 38 Inches above the Line of Communication.

Oct. the 30th I repeated this Experiment, and now when the Line that supports the Ivory Balls was elevated about an Inch above the communicating Line, either Ball attracted the Thread at the distance of more than a Semi-diameter of the Ball, and at the height of 10 Inches, at least half the same distance.

By theſe Experiments we find, that the electric Virtue may not only be carried from the Tube by a Rod or Line to diſtant Bodies, but that the ſame Rod or Line will communicate that Virtue to another Rod or Line that is at a diſtance from it, and by that other Rod or Line the attractive Force may be carried to other diſtant Bodies.

Continued by the ſame. No. 426. *p.* 401.

6. A ſmall Hoop of about 20 Inches Diameter, and 1 ½ Inch in breadth, being ſuſpended by two Threads of Silk, ſo that it hung perpendicular, and in a Plane at right Angles to the horizontal Line of Communication, which paſſed thro', or at leaſt very near to the Center of the Hoop, I went to the End of the ſaid Line, and applying the excited Tube near it, there was an attractive Influence communicated to the Hoop in all Parts of it. Then by a Skrew-Hole made in the Side of the Hoop for that purpoſe, I ſkrewed it upon the top of a Pedeſtal that was about 2 ½ Feet in height, ſetting it upon a Cake of Roſin, ſo as that the before-mentioned Line might paſs thro' the Center of the Hoop, and found that whether the Hoop was placed ſo as it's Plane was at right Angles, or in any other Angle with the Line of Communication, the Hoop attracted after the ſame manner as it had done when ſuſpended on the ſilk Lines.

Some time after I made the following Experiment: Into the Noſe of a Glaſs Funnel I put the larger end of the top of a ſmall Fiſhing-Rod, and upon the leſſer end a Ball of Cork; then the Funnel was ſet on the Floor of the Room, ſo that the Rod was at ſome Inches diſtance from the Line of Communication; then the Tube being excited, and applied near the end of the Line, the electric Virtue was conveyed by it to the Cork Ball, and it attracted ſtrongly when the Ball was, by Eſtimation, not leſs than 2 Feet diſtance from the aforeſaid Line.

Dec. 11, there being a hard Froſt, and a fair Day, I repeated the Experiment, making uſe of a large Hoop that was about 40 Inches Diameter, and ſetting it perpendicular upon a hollow Cylinder of Glaſs, which was 6 Inches long, and 5 ½ Inches Diameter; ſo placing the Hoop that the Line of Communication might paſs thro', or at leaſt very near to, the Center of the Hoop; then applying the Tube to the end of the Line, there was an Attraction communicated to all Parts of the Hoop, attracting a pendulous white Thread at the Diſtance, by Eſtimation, of about ½ an Inch. I then ſet the Hoop ſo as the inward Surface of the Hoop might touch the Line, and then communicating an Attraction by the excited Tube to the Packthread, the attractive Virtue of it was carried by it to the Hoop, and cauſed it to attract with ſuch Force, as with the remoteſt part of the Hoop to attract the Thread at a diſtance, by eſtimation, of about 4 Inches.

Some time after the aforegoing, I made the following Experiment: The large Hoop being ſet upon the Glaſs Cylinder, and the

Packthread paſſing thro' or near it's Center, the Tube being applied near the Hoop, gave it a ſtrong Attraction, ſo it would attract a Thread at the diſtance of 7 or 8 Inches, and at the ſame time there was an Attraction communicated to the Packthread. Then I ſuſpended an Ivory Ball, of 2 Inches Diameter, at the other end of the Packthread, and applying the Tube to the Hoop, there was an attractive Virtue carried to the Ball, and it would attract the pendulous Thread at the Diſtance of near an Inch. I then placed the Ball in or near the Center of the Hoop, and now it was ſo far from being attracted, that it was repelled by the Ball, but was attracted by the Packthread paſſing to it in the Arc of a Circle, whoſe Center ſeemed to be that of the Ball.

[Part II. *p.* 80. *Add the following Article to the Accounts of* Parhelia.]

5. Martii die 11, 1725, circa horam 9 mat. Sol inter tenues nubes allucens, & colorato halone cinctus, in eo ad dexteram & laevam duo Parhelia efformabat multum reſplendentia. Duravit ſpectaculum per ſemihoram.

Two in a Halo *at* Pekin; *by* F. Ignatius Kogler. No. 405. *p.* 553.

[Part II. *p.* 220. *Add the following Paper.*]

3. A Friend from the City of *Dirſchaw* has lately placed in my Collection part of the Skull of an Ox with the Cores of the Horns, which in all probability muſt have been terrible. It was dug up near the ſaid City, which is 3 Miles diſtant from hence. I ſend you ſome Draughts thereof. *Fig.* 15, repreſents the outſide to the Orbits of the Eyes. *Fig.* 16, the Baſis of the Skull, and *Fig.* 17, the *Occiput*. The Cores of the Horns contain deep longitudinal Furrows; they are not entire at the Extremities, and yet are diſtant from one another.

A very extraordinary foſſile Skull of an Ox with the Cores *of the Horns*; *by Mr* Jac. Theod. Klein, *Secret. Dan. & F. R. S.* No. 426. *p.* 427.

Fig. 15. *a b.* 3 Feet 2 ½ Inches. *c d.* 1 Foot 1 ⅓ Inch. *e. f.* 1 Foot 4 Inches. *g. h.* 1 Foot 1 ¾ Inch. *i* K. The Root of the Horns 1 Foot 6 Inches in Circumference. *l. m.* the Cores 11 Inches in a ſtrait Line.

Fig. 15. *Fig.* 16. *Fig.* 17.

I dare not determine to what kind of Bulls this Foſſil is to be aſcribed. I only conjecture it may belong to the *Taurelephantes*, mentioned by Sir *Hans Sloane* *: For as to the *Zubrones* which *Geſner* on the *Urus*, p. 144, mentions from *Munſterus*, there is no ſufficient Proof that the Animal in queſtion was of that kind.

* *See above*, Part III. *p.* 441.

[Part

[Part II. *p.* 304. *Add the following Article to the Accounts of the Variation of the Compaſs.*]

The Variation at Vera Cruz, *in* 1726 *and* 1727; *by* Mr J. Harris. No 401, *p.* 389.

7. In 1726, and 1727, I obſerved the *Magnetic Variation* at *Vera Cruz* ſeveral times, and found it to be about 2 ¼ Degrees Eaſterly.

We alſo obſerved the Variation ſeveral times on our Voyage from *England* towards *Vera Cruz* (having on Board a good Azimuth Compaſs) but I always found that the beſt Obſervations we could make, when compared together, differed ſo much, that we could not depend upon them, to much leſs than 3 or 4 Degrees, or ſometimes half a Point of the Compaſs.

The End of the Seventh Volume.

ERRATA in Vol. VII. Part iii.

PAGE 595, *in the Margin, add* No. 371. p. 20. p. 733. line 30. *for* Carthaticum *read* Catharticum. pag. 735. line 31. *dele* to. line 32. *read* to be ſeparated.

PART IV.

Page 43. *for* Chap. II. *read* Chap. III. p. 96. line 1. *for* 1. *read* 5.

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Fig. 15

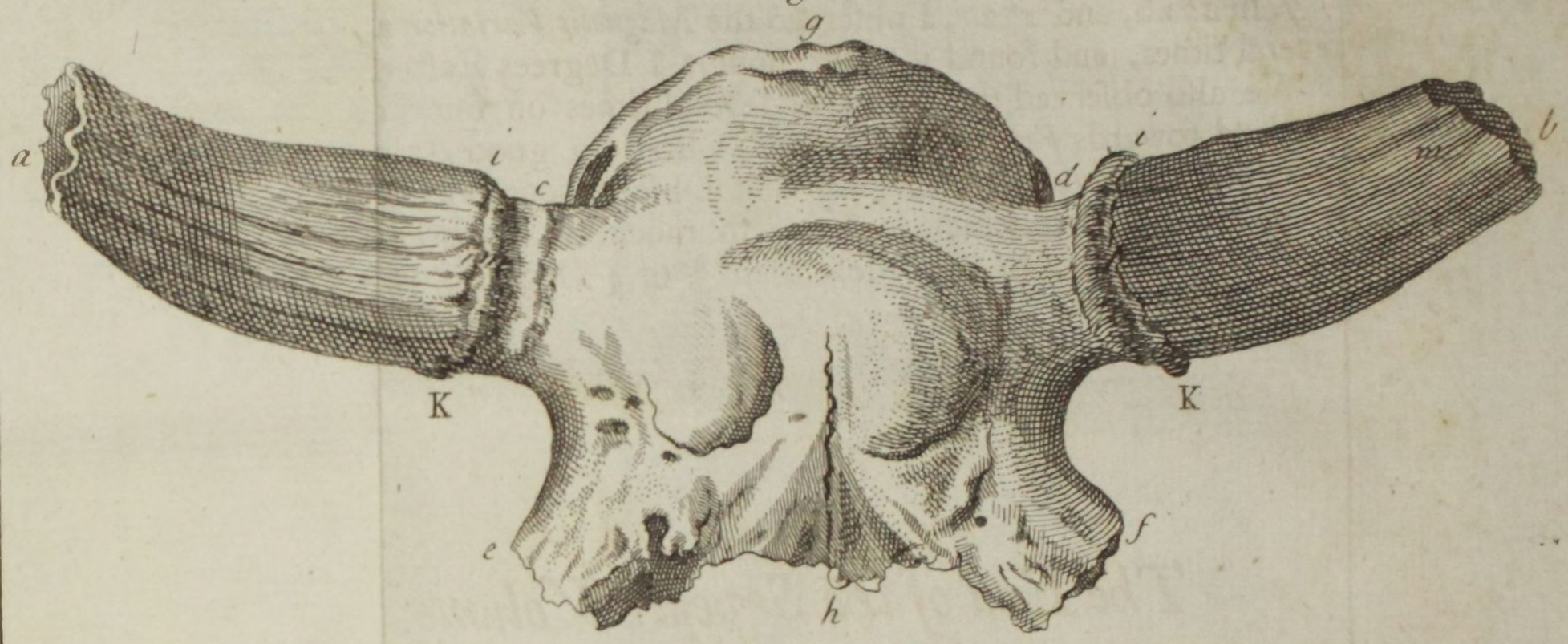

Fig. 16

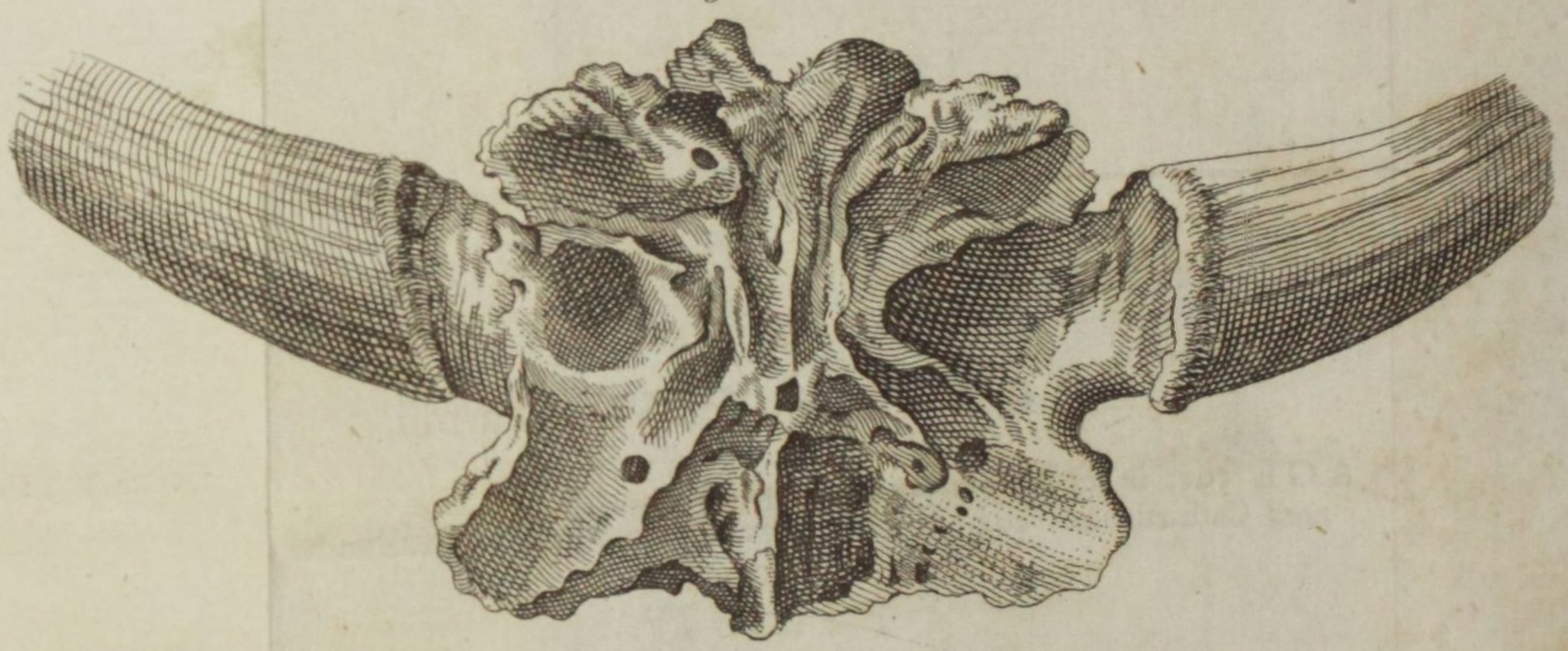

Fig. 17

Toms sculp.

UNED

A GENERAL

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