Remark.

46. It ſhould be obſerved, that, to ſhorten the computations, I have contented myſelf with taking the times of the revolutions pretty near the truth; but if the utmoſt exactneſs be required, the accurate times of the revolutions muſt be employed.

47. This might be a proper place to add the method of determining the perturbation of the orbit of any planet, as derived from another planet; but ſince this depends upon no other than the very ſame principles that have been made uſe of in this memoir, and as their application will be ſhewn, in its full extent, in the memoir which I am going to print, and intend myſelf the honour of ſending to the *Royal Society*, I ſhall deſiſt, that I may not run this paper to a greater length.

LIX. *A Letter to the Right Honourable* George *Earl of* Macclesfield, *P. R. S. concerning the ages of* Homer *and* Heſiod. *By* George Coſtard, *M. A.*

My Lord,

Read Dec. 13, 1753. IT ſeems to be an opinion pretty generally received, that Homer and Heſiod lived much about the ſame time. If this be true, and they did ſo, whatever arguments prove the age of one, will equally ſerve for fixing that of the other. What that age was, is indeed not at all agreed on among writers; the only thing in which they conſpire

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ſpire, being, I apprehend, to place both of them much earlier than they ought to have done.

Among the ancients, Velleius Paterculus (1), as now printed at leaſt, ſays, that Homer lived 950 years before his time. This author dedicates his hiſtory to the conſul Vinicius, who is placed in the *faſti conſulares* A. V. C. 782. which is A D. 30. So that, according to this computation, Homer muſt have flouriſhed about the year before Chriſt 920. And with this account agrees pretty nearly the Parian marble (2).

Herodotus, according to our preſent copies of him, placeth Heſiod and Homer *not more* than 400 years before his time (3). Herodotus, according to A. Gellius (4), was 53 years old at the beginning of the Peloponneſian war, or the year before Chriſt 431. And

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(1) Hic longius a temporibus belli, quod compoſuit, Troici, quam quidam rentur, abfuit. Nam ferme ante annos DCCCCL floruit, intra mille natus eſt. *Hiſt. Rom. l.* i. *c.* 5. In the *Faſt. conſular.* as publiſhed by Cardinal Noris, the conſuls Vinicius and Longinus are placed the year following, or A. V. C. 783.

(2) ΑΦΟΥ ΟΜΗΡΟΣ Ο ΠΟΙΗΤΗΣ ΕΦΑΝΗ ΕΤΗ[Η] ΗΔΔΔΔΙΙΙ ΒΑΣΙΛΕΥΟΝΤΟΣ ΑΘΗΝΩ .... ΙΟΓΝΗΤΟΥ. N° 45. where ſee the commentators.

(3) Ησιοδον γαρ καὶ Ομηρον ἡλικίην τετρακοσίοισι ἔτεσι δοκέω μεῦ πρεσβυτέρους γενέσθαι, καὶ ἐ πλέοσι. Pag. 109. *Edit. Gronov.*

(4) *Noct. Attic. l.* xv. *c.* 23. And if Xerxes came into Greece in the year before Chriſt 480. as is commonly ſuppoſed, then Homer muſt have lived, according to Herodotus, at moſt, but about 400 years before that expedition, But in this Herodotus differs widely from himſelf, if he is the author of the *Life of Homer* commonly attributed to him. For there he ſays, ἀφ' ἧς Ὁμηρος ἐγένετο, ἔτεά ἐστιν ἑξακόσια εἰκοσιδύο μέχρι τῆς Ξέρξεω διαβάσεως, *ſub fin.* See Bayer in the *Act. Petropol.* vol. 3. p. 338. where he rejects this piece as ſpurious.

if

if to this we add 400 years, we ſhall have the year before Chriſt 831. about which time conſequently, according to him, both Homer and Heſiod muſt have flouriſhed.

Among the moderns, Petavius (5) places Heſiod A. P. J. 3714. or about the year before Chriſt 1000. and in his *Rationarium Temporum* (6) he ſays, that Heſiod was contemporary with him, and that this *ex* ARCTURI ORTU, *quem poeta iſte deſcribit, eruditi artis illius colligunt*; and in the margin refers to Longomontanus in his *Aſtronomia Danica* (7).

With Petavius agrees very nearly Palmerius, as cited by Dr. Hyde in his notes on Ulug Beigh (8), tho' Sir Iſaac Newton (9), whoſe authority with ſome perſons is deciſive, tells us, that from the achronical riſing of the ſame ſtar it follows, that Heſiod flouriſhed about 100 years after the death of Solomon. This again he places, in his ſhort chronicle, in the year before Chriſt 979. from which, if we ſubtract

(5) Uranolog. l. vii. c. 5.

(6) Part I. l. i. c. 12.

(7) And in this he hath the authority of Aulus Gellius, l. xvii. c. 21. who ſays, 'De Homero & Heſiodo inter omnes fere ſcriptores conſtitit, ætatem eos egiſſe vel iiſdem ferè temporibus, vel Homerum aliquanto antiquiorem; utrumque tamen ante Romam conditam vixiſſe, Silviis Albæ regnantibus, annis poſt bellum Trojanum, ut Caſſius in primo annalium de Homero atque Heſiodo ſcriptum reliquit, plus centum atque ſexaginta, ante Romam autem conditam, ut Cornelius Nepos in primo chronicorum de Homero dixit, annis circiter centum & ſexaginta.' The building of Rome is commonly placed the year before Chriſt 752. To this add 160 years, and Homer and Heſiod will both, according to Cornelius Nepos, have lived about the year before Chriſt 912.

(8) Page 3.

(9) *Chronology*, p. 95.

100 years, we ſhall have the year before Chriſt 879. when, according to him, both Heſiod and Homer, if contemporaries, muſt have flouriſhed. In what manner Sir Iſaac Newton computed this, or whether indeed he ever computed it at all himſelf, is not, at leaſt publickly, known. It is probable he only followed ſome one elſe; and therefore, without derogating in the leaſt from his authority, or thinking it a failure in reſpect to the memory of the greateſt man that ever lived, I ſhall conſider a little how far the age of theſe poets may be determined, with any certainty, from this achronical riſing of Arcturus.

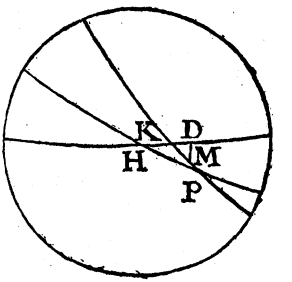
Longomontanus, in his *Aſtron. Danic.* (10) ſuppoſeth Heſiod to have flouriſhed about the year before Chriſt 776. when he makes the place of Arcturus ♍ 12° 16′, the place of the Sun's apogee ♉ 20° 10′, and his place, 60 days after the winter ſolſtice, ♐ 1° 10′. In the year after Chriſt 1610. he ſays, the place of Arcturus was ♎ 18° 47′; ſo that from the year before Chriſt 776. to the year 1610. Arcturus had moved through 36° 31′, = 131460″; which divided by 2386, the number of years elapſed, gives the annual motion of the fixed ſtars 55″. But as he makes the annual motion of the fixed ſtars 49″ 45‴, or 1° in 72½ years; 55″ will, according to him, require about 2658 years. So that Heſiod, according to his computation, muſt have lived about the year before Chriſt 1048; unleſs, as he ſeems to ſuſpect, that poet deſcribes the riſing of Arcturus, not

(10) Lib. II. *Sphæric.* cap. iv. prob. 2.

as it was in his own time, but 272 years before. So that from hence, we ſee, nothing certain can be concluded with regard to his age.

Kepler, in his *Epitom. Aſtronom.* (11) ſuppoſeth, that from the time of Heſiod to the year after Chriſt 1618. are 2400 years, and that the annual motion of the fixed ſtars is 51″, which, in 2400 years, gives 34°. From whence, and ſeveral other aſſumptions, he concludes, that, in Heſiod's time, Arcturus roſe achronically March 3. in the Julian year reckoned backward, when the Sun was in ♓ 5° 11′.

Riccioli, in his *Almageſt.* (12) ſuppoſeth, that Heſiod flouriſhed about the year before Chriſt 775. when the place of the Sun's apogee was ♉ 20°; and therefore the Sun's true motion for 60 days was 61° 10′, which added to the place of the winter ſolſtice, or the beginning of ♑, gives the Sun's place ♓ 1° 10′, the point oppoſite to that point of the ecliptic which roſe along with Arcturus, or ♍ 1° 10′. Therefore, in the figure here annexed, according to him, the point K is ♍ 1° 10′, and K P the diſtance from the next equinoctial point, = 28° 50′. The height of the equator at Athens, or the angle P H K, from Ptolemy's *Geography*, = 52° 15′. He farther ſuppoſes, as Longomontanus before him, the ob-



(11) Lib. III. p. 396.
(12) Tom. I. p. 463.

liquity

liquity of the ecliptic, or the angle, H P K, = 23° 32′; from whence he finds the angle P K H = 107° 43′, and the complement of it M K D = 72° 17′. He assumes likewise the latitude of Arcturus, or M D, = 31° 3′ north; from whence he finds the arc K M = 11° 5′; which added to the point K, or ♍ 1° 10′, gives the place of Arcturus, or M, = ♍ 12° 15′.

But at the end of the year 1644. the place of Arcturus, he says, was ♎ 18° 19′; therefore from the time of Hesiod, before assumed, to the end of the year 1644. that star had moved through 36° 4′. But this it would do, he says, in 2597 years. From whence, therefore, subtracting 1644, there remains the year before Christ 953. He concludes, therefore, as Longomontanus, we saw, suspected before, that Hesiod speaks of the achronical rising of this star, not as it was in his own time, but two centuries before. Besides, as the refraction of Arcturus would accelerate his rising, and the Sun's refraction would retard his setting; and as the time of the solstice was then known, at best, but in a very gross manner (13); he is of opinion, that this method is not much to be

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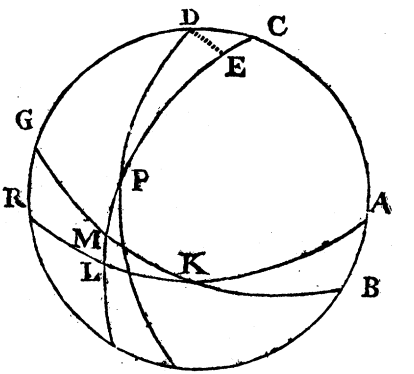
(13) Meton and Euctemon observed the time of the solstice Olymp. LXXXVI. 4. or the year before Christ 432. and Aristarchus Samius afterwards; but Ptolemy says they were very rudely made: And that Hipparchus, before him, was of the same opinion. Ενεκεν γὰρ τοῦ καθόλου τὲ τὰς τῶν τροπῶν τηρήσεις δυσδιακρίτους εἶναι, καὶ πρὸς τούτοις τὰς ὑπ᾽ ἐκείνων παραδεδομένας ὁλοσχερέστερον εἰλημμένας, ὡς καὶ τῷ Ιππάρχῳ δοκεῖ φαίνεσθαι, ταύτας μὲν παρῃτησάμεθα. *Syntax*. p. 62. But if this was the case of observations then made, what must we suppose it to have been two or three hundred years before their time?

depended

depended on; contrary to what Scaliger (14) and Voſſius (15) both thought.

As there are, however, ſeveral errors in this computation, it may not be amiſs, perhaps, to form another, upon ſuppoſition, with Sir Iſaac Newton, that Heſiod flouriſhed about the year before Chriſt 879. or, in round numbers, the year 880. and let us ſee what will be the reſult of it.

At the end of the year 1689. the place of Arcturus, in the Britiſh catalogue, was ♎ 19° 53′ 52″, or 6ˢ 19° 53′ 52″; and from the year before Chriſt 880. to the end of the year 1689. are 2569 years, the preceſſion for which time is 1ˢ 5° 40′ 50″: This, ſubtracted from the place of Arcturus 6ˢ 19° 53′ 52″, gives his place, in the year before Chriſt 880, = 5ˢ 14° 13′ 02″. The latitude of this ſtar, is, in the ſame catalogue, = 30° 57′. Therefore, in the figure here, we have G M K B the ecliptic, R L K A the equator, C P the complement of the ſtar's



(14) Heſiodus florebat eo ſæculo quo Arcturus ἀκρόνυχος oriebatur in Bœotia VIII die Martii, ſi quid hoc ad conjecturam facit, ſaltem apud excellentes aſtrologos, qui ex hoc parapegmate, infra Septuaginta plus minus annos, ſæculum Heſiodi deprehendere poſſunt. *Animadverſ. ad Euſeb. Chron. Num.* MCCLV.

(15) Operæ vero eſt attendere ad id quod Heſiodus ipſe ſcribat, ſua ætate Arcturum ἀκρόνυχον in Bœotia exortum fuiſſe VIII die Martii: Unde poetæ hujus ætas in tantum ſaltem poſſit colligi, ut error ſi quis ſit ſaltem intra LXX annos ſit conſtitutus. *Voſſ. de Poet. Græc. l.* i. *c.* 2.

latitude,

latitude, = 59° 3′, DC the diſtance of the poles of the ecliptic and equator, = 23° 29′, and the angle DCE, whoſe meaſure is GM, the ſtar's longitude from the next ſolſticial colure, = 74° 13′ 02″.

Then rad. + cof. DCP =	74° 13′ 02″	— 19.4345545
— Cotang. DC =	23 29 00	— 10.3620437
Tang. CE =	6 44 25	— 9.0725108
PC =	59 03 00	
PE =	52 18 35	
Then cof. DC =	23 29 00	— 9.9624527
Cof. PE =	52 18 35	— 9.7863203
		19.7487730
— Cof. CE =	6 44 25	— 9.9969879
Cof. DP =	55 37 20	— 9.7517851

the complement of which is = 34° 22′ 40″ = the declination of Arcturus.

Sine PC =	59° 03′ 00″	— 9.9332931
Sine DCP =	74 13 02	— 9.9833104
		19.9166035
Sine DP =	55 37 20	— 9.9166290

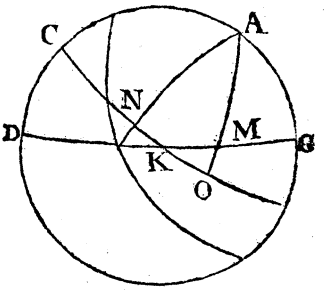
Sine PDC = 89 22 50 — 9.9999745 the complement of which is PDG = 90° 37′ 10″. The right aſcenſion, therefore, of Arcturus, at that time, was = 180° 37′ 10″.

Where

Where this obſervation on Arcturus was made, is not ſaid; we may ſuppoſe it to have been at Aſcra, where Heſiod's father lived, as he tells us himſelf (16). But as the ſituation of this place is not very well known (17), we may, without any ſenſible error, take Athens, whoſe latitude is made, by the beſt modern geographers, 38° 5′ north.

In the figure, then, here, we have M O = the declination of Arcturus, as before, = 34° 22′ 40″.

A G = the height of the pole at Athens, = 38° 5′, the complement of which, M K O, = D K C = 51° 55′. Therefore



	°	′	″	
Tangent M O =	34	22	40	—9.8352480
— R. + cot. M K O =	51	55	00	—9.8941114
Sine K O =	32	25	10	—9.7293594

the aſcenſional difference; which ſubtracted from the right aſcenſion before found, gives the oblique aſcenſion = 148° 12′.

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(16) Νάσσατο δ' ἀΐσχ' Ελικῶνος ὀϊζυρῇ ἔνι κώμῃ
ΑΣΚΡΗ χεῖμα κακῇ, θέρεϊ δρυαλέϊ, οὐδέποτ' ἐσθλῇ.
Op. & Dieſ. l. ii. *v.* 257.

(17) Κεῖται μὲν ἔν (inquit Proclus) ὁ σὺν τὴν ὀδὸν ἣν βαδίζουσιν οἱ ἐπὶ τὸ Μουσεῖον ἀναβαίνοντες, αὕτη ἡ Ασκρη τῷ ὄρει Ελικῶνος ἐκκειμένη τοῖς ἀνέμοις, καὶ θαυμασὰς μὲν ἀναπαύλας ἔχουσα ἐν θέρει, δυσνέμου δ' οὔσης ἐν χειμῶνι, τὴν Ασκρην ἐν τῷ Μεσημβρινῷ κειμένην τοῦ ὄρους, τὸ μὲν ὅλον τῶν ἀνέμων ἀπολαύειν βίας, *in loc.*

In the year before Chriſt 880. the time of the winter ſolſtice was December 29. at 15 minutes paſt ſix o'clock in the morning, according to the vulgar reckoning; or, in the aſtronomical account, $28^{d}\ 18^{h}\ 15'$; and 60 days after this, brings us to February 27. when the Sun's place was $11^{s}\ 00^{\circ}\ 6'\ 23''$; his declination ſouth $11^{\circ}\ 27'\ 18''$; his right aſcenſion $332^{\circ}\ 11'\ 56''$; from whence we ſhall have his aſcenſional difference K N = $9^{\circ}\ 8'\ 15''$. Then

	°	′	″
The ſemidiurnal arc, in a right ſphere, is	90	00	00
Aſcenſional difference	9	08	15
Semidiurnal arc	80	51	45

This, converted into time, gives the time of Sun-ſetting then at Athens $5^{h}\ 23'\ 27''$; from whence we ſhall have the nocturnal arc $13^{h}\ 13'\ 6''$.

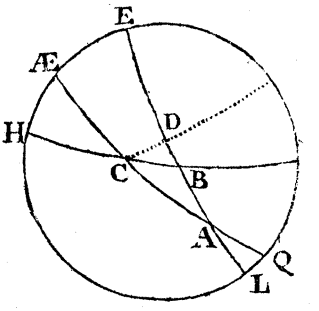
	°	′	″
Again; the Sun's oblique aſcenſion is	341	19	11
Oblique aſcenſion of Arcturus	147	52	40
Difference	193	26	31

	h	′	″
This, converted into time, gives	12	53	46
Nocturnal arc	13	13	06
Difference	00	19	20
Semidiurnal arc, add	5	23	27
Time of Arcturus's riſing	5	42	47

By this it appears, that at Athens, in the year before Chriſt 880, and 60 days after the winter tropic, the ſtar Arcturus roſe at $19'\ 20''$ after Sun-ſetting.

But

But if we would inquire the time when it roſe achronically, in the proper ſenſe of the word, we have, in the figure here, E A L the ecliptic, Æ A Q the equator, C D a portion of a ſecondary of the ecliptic perpendicular to E A L, A C the diſtance of the point of oblique aſcenſion from the autumnal interſection = 31° 48′; we have likewiſe the angle C A B the obliquity of the ecliptic, = 23° 29′, and the angle Æ C H the height of the equator at Athens, = 51° 55′ = A C B.



Then Tan. B A C	23	29	00	—	9.6379563
— Rad. + cof. A C	31	48	00	—	9.9293641
Cot. A C D	69	44	00	—	9.5673204
— A C B	51	55	00		
Sine D C B	17	49	00	—	9.4856820
Cof. B A C	23	29	00	—	9.9624527
			Sum		19.4481347
— Sine A C D	69	44	00	—	9.9722448
Cof. A B C	107	24	25	—	9.4758899
Then Cof. B A C	23	29	00	—	9.9624527
— Rad. + Tan. A C	31	48	00	—	9.7924101
Tan. A D	29	37	35	—	9.7548628

Sine AD	29	37	35	—	9.6940277
Tan. BAC	23	29	00	—	9.6379563
				Sum	19.3319840
— Tan. ABC	107	24	25	—	10.5037429
Sine DB	3	51	38	—	8.8282411
AD	29	37	35		

AB 25 45 57 which taken from 6°, gives the point of the ecliptic riſing with Arcturus; *i. e.* ♒ 4° 14′ 3″; the point oppoſite to which is ♌ 4° 14′ 3″. Then

	′	°	′	″
Longit. of the Sun from the equinox	11	04	14	03
Preceſſion of the equinox, ſubtract	11	24	32	00
Longit. of the Sun from 1ſt * of ♈	11	09	42	03
Mean anomaly correſponding	8	29	22	59
Subtract 880	6	28	27	12
	2	00	55	47
March	1	28	09	04
		2	46	43
2d		1	58	16
			48	27
19h			46	49

So that the Sun entered ♌ 4° 14′ 3″, that year, March 2. at 19h, in the aſtronomical account; or, in the vulgar

ulgar way of reckoning, at 7 o'clock in the morning, March 3. Either this day, therefore, or the preceding one, might, at that time eſpecially, have been taken, indifferently, for the day when Arcturus roſe achronically.

But tho' this is what is properly meant by achronical riſing (19); yet as a ſtar, at that time, is inviſible, and, conſequently, can be no rule for huſbandmen, for whoſe uſe theſe obſervations were intended; there is another achronical riſing, called the apparent one: This is when a ſtar firſt appears above the eaſtern horizon after ſun-ſet (20); which, therefore, requires ſome certain depreſſion of the Sun in the oppoſite part of the heavens, more, or leſs, according to the magnitude of the ſtar required to become viſible.

It was ſaid before, that in the year before Chriſt 880. Feb. 27. Arcturus roſe, at Athens, 19′ 20″ after Sun-ſet; but whether this, tho' a bright ſtar of the firſt magnitude, could be ſeen there ſo ſoon in the eaſtern horizon as even at 30 min. paſt Sun-ſet, may well be queſtioned: And therefore Feb. 27. or the 60th day after the winter ſolſtice, could not be there eſteemed the day of the apparent achronical riſing of Arcturus.

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(18) Ευτ' ἂν δ' ἐξήκοντα μετὰ τροπὰς ἠελίοιο
Χειμέρι' ἐκτελέσῃ Ζεὺς ὄμβρια, δὴ ῥὰ τότ' Ἀστὴρ
Ἀρκτοῦρος, προλιπὼν ἱερὸν ῥόον Ὠκεανοῖο
Πρῶτον παμφαίνων, ἐπιτέλλεται ἀκροκνέφαιος.
Op. & Dieſ. l. ii. *v.* 185.

(19) Εσπερία δ' ἐστὶν Ἐπιτολὴ, ὅταν τὸ ἡλίῳ δυνόντι, ἐπιτέλλῃ τὶς Ἀστὴρ ἅμα καὶ ἅ ὁρίζοντα γενόμενος. *Gemin. apud Petav. Uranolog. cap.* xi.

(20) Οταν δὲ μετὰ τὸ ἡλίου δῦσιν πρῶτον ἐπιφυγὼς τὰς αὐγὰς τοῦ ἡλίου θεωρηθῇ, τότε λέγεται φαινομένην ἑσπερίαν ἐπιτολὴν ποιεῖν. ἐν δὲ ταῖς ἐχομέναις νυξὶ μεθεωρότερος ἀεὶ μᾶλλον, καὶ μᾶλλον φαίνεται. *Gemin. ibid.*

 I have

I have hitherto called it the ſtar Arcturus; but it is not improbable that Heſiod meant the whole conſtellation Bootes (21). He calls it, indeed, ΑΣΤΗΡ; and that word, according to Macrobius (22), ſignifies only a *ſingle ſtar*. But whatever it might do in his time, it ſeems evident, that, among the antients, and eſpecially the poets, that diſtinction was not always nicely obſerved (23). If this, therefore, ſhould be the caſe with reſpect to Heſiod, the time of this riſing of Arcturus will be ſomething more indeterminate, as a conſtellation cannot riſe all at once, nor is it now known how many ſtars this conſtellation, in particular, was, in thoſe early times, ſuppoſed to conſiſt of.

But farther; it hath been hitherto taken for granted, that Heſiod is to be underſtood as ſpeaking of Aſcra, or ſome place in the neighbourhood of it; but this, likewiſe, is not altogether certain: For it was no unuſual thing with the antients to ſet down in calendars, of this ſort, obſervations on the riſings and

(21) Ἀρκτοῦρος δὲ λέγεται καὶ αὐτὸς ὅλος ὁ Βοώτης, ἰδίως δὲ καὶ ὁ ὑπὸ τὴν ζώνην αὐτοῦ ἀστήρ. *Suid. in voc.* Ἀρκτοῦρος. And ſo Theon; Ἕνα δ᾽ ἔχει (Arctophylax) ἐν μέσῃ ζώνῃ ὅστις διὰ τὴν ὑπερβολὴν τῆς λαμπρότητος ἰδίως καὶ αὐτὸς λέγεται Ἀρκτοῦρος, ὁμοίως τῷ παντὶ Ἀρκτούρῳ. In *Arat. Phænom.* p. 15.

(22) Sic. & apud Græcos Aſter & Aſtron diverſa ſignificant, & Aſter ſtella una eſt; Aſtron ſignum ſtellis coactum, quod nos ſidus vocamus. *In Som. Scip. l.* i. *c.* 14. Ἀστὴρ δὲ Ἄστρου διαφέρει· ὅτι ὁ μὲν Ἀστὴρ ἕν τι ἐστί· τὸ δὲ Ἄστρον ἐκ πολλῶν συνέστηκεν Ἀστέρων, Ζώδιον ὄν· ὃ καὶ Ἀστροθέτημα καλεῖται. *Didym. in Illiad.* iv. *v.* 75.

(23) Aratus uſeth the words Ἀστὴρ and Ἄστρον indifferently.

——Σήματ᾽ ἐν οὐρανῷ ἐστήριξεν
Ἄστρα διακρίνας· ἐσκέψατο δ᾽ εἰς ἐνιαυτὸν
Ἀστέρας, οἵ κε μάλιστα τετυγμένα σημαίνοιεν
Ἀνδράσιν ὡράων, ὄφρ᾽ ἔμπεδα πάντα φύωνται

Νῦν δὲ ὁ Ἄρατος, ſays the Scholiaſt there, τοὺς Ἀστέρας Ἄστρα εἴρηκε. *Pag.* 3. *Ed. Oxon.*

ſettings

ſettings of the ſtars made in very diſtant times and countries (24); the latitudes of places being unattended to, and the ſlow motion of the fixed ſtars about the poles of the ecliptic unknown, and indeed unſuſpected, or diſregarded afterwards, when it became ſuſpected.

But tho' we ſhould grant the place of obſervation to have been at, or near Aſcra, yet there will ſtill remain a difficulty, with reſpect to the time. In the computation before given it hath been ſuppoſed, that Arcturus roſe there achronically on the 60th day from the ſolſtice, excluſive of the ſolſticial day itſelf; but as the particle μετὰ is ſometimes taken incluſively (25), we may reckon the day of the ſolſtice it-

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(24) See the calendars in *Petav. Uranolog.* In qua aliorum & temporum & climatum confuſione, præ aliis maxime hallucinatus eſt Manilius; qui Ægyptiaci cœli deſcriptiones Romano adaptaſſe, & Græcanicæ Barbaricæque ſphæræ obſervationes, nullo judicio, ſimul commiſcuiſſe deprehenditur. *Bainbrig. Canicular. p.* 22. See, likewiſe, *Dodwel. Append. ad Cyprian. Diſſert. p.* 19.

(25) Thus μετὰ ἡμέρας δύο duobus diebus poſt. *Demoſth. in Mid.* and μετὰ τρίτον ἔτος in *Diod. Sic.* p. 103. *Edit, Wechel.* Poſt ſeptem luces. *Ovid. Faſt.* l. vi. v. 774. and what is τῇ τρίτῃ ἡμέρᾳ ἀναστῆναι, *Luke* xxiv. 7. is μετὰ τρεῖς ἡμέρας ἐγείρομαι, *Matt.* xxvii. 63. and μετὰ πεντήκοντα καὶ ἑκατὸν ἡμέρας, in the LXX. *Gen.* viii. 3. is on the 150th day, as appears from the next verſe. The *Arabs* uſe their particle بعد likewiſe in the ſame manner. Thus حولت القبلة الي الكعبة في رجب بعد الهجرة سبعة عشر شهرا وقيل في شعبان ..... وحرمت الخمر بعد الهجرة بارجع سنين في السنة الرابع converſa eſt Keblah ad Caabam menſe Rageb, menſibus poſt fugam 17. vel juxta alios menſe Shaaban ..... interdictum vero vinum 4 poſt fugam annis, anno ſc. quarto. *Alkodaius in Pocock. Spec. Hiſt. Arab. p.* 175.

ſelf

ſelf one of the number, which, conſequently, will bring us only to Feb. 26.

Beſides; what hath been ſaid, hath been built upon the ſuppoſition that the day of the ſolſtice was, at that time, preciſely known; a thing, however, not haſtily to be granted. The inaccuracy of obſervations, and the want of proper inſtruments, in times much later than this we are here ſpeaking of, would incline one not to attribute too much to them, in a caſe of ſo much nicety. Since, then, we find the ſolſtice fell out ſo early in the morning; either December the 28th, or 29th, might have been taken for the ſolſticial day: And, accordingly, 60 days after will be either February the 26th, or 27th. But as the Sun's change of declination, at that ſeaſon of the year, is very ſlow (26); an error of a day, or two, or more, either forward, or backward (a thing by no means impoſſible), will bring us to Feb. 25. or 28. which is a difference of no leſs than 4 days.

If any one thinks ſuch a miſtake as this incredible, let it be obſerved, that in the calendar prefixed, in ſome editions, to Ovid's *Faſti*, the Sun is ſaid to enter Aquarius XV kalend. Feb. or Jan. 18. Ovid himſelf ſeems to place it XVI kalend. Feb. or Jan. 17. and with him agrees Pliny; tho' Columella, under the reign of Claudius, and Ptolemy, under Antoninus Pius, place it one day earlier, or the XVII kalend. Feb. Here is plainly a difference of 3 days, and yet all of them wrong: For Ovid, as is generally agreed, inſcribed his *Faſti* to Germanicus ſoon after

(26) Keill. *Lect. Aſtron. p.* 250,

his

his baniſhment, or about *A. D.* 10. but, by the tables, the Sun entered Aquarius, that year, Jan. 21. and in the ſecond year of Antoninus Pius, or *A. D.* 139. when Ptolemy obſerved the fixed ſtars, he entered the ſame ſign Jan. 20^{d} 16^{h}, or at 4 o'clock in the morning Jan. 21. according to the vulgar reckoning.

But if ſuch miſtakes could be committed at this time, how little muſt we ſuppoſe the true time of the ſolſtice known, ſo early as the year before Chriſt 880.

But not to aſſume too much, let us ſuppoſe a miſtake of two days only, in the riſing of Arcturus. By calculating as before, we ſhall find, that *A. C.* 1689. the point of the ecliptic riſing along with Arcturus, in the latitude of Athens, was ♎ 10° 35′ 55″, the point oppoſite to which is ♈ 10° 35′ 55″. But this point the Sun entered, that year, March 20. when, conſequently, Arcturus roſe there achronically: But in the year before Chriſt 880. as before obſerved, Arcturus might be ſaid to riſe achronically there March 2. this gives a difference of 18 days in 2569 years; from whence a difference of 2 days will give 285 years, which ſubtracted from the year before Chriſt 880. will give the year before Chriſt 595. for the time of Heſiod, and, conſequently, of Homer too, if contemporary with him, for any thing that can be gathered to the contrary from the achronical riſing of Arcturus.

Having now ſhewn, in this manner, what little preciſion there is in this argument, I might, as I at firſt intended, take my leave of the ſubject, and refer the ſettling the age of theſe two poets to authorities of

another nature. But as the favourers of their high antiquity will, I queſtion not, be ſtartled to hear that their age may be brought down ſo low as the year before Chriſt 595. your lordſhip will not be diſpleaſed, I hope, if I add ſomething farther in confirmation of this date, and ſhew, that it is not ſo unreaſonable, or abſurd, to fix them at this very time, as at firſt ſight it may appear.

I ſhall not trouble your lordſhip with a variety of philological arguments, that, I think, I could produce in ſupport of this aſſertion. That would ſwell this letter beyond the bounds of your lordſhip's patience: I ſhall therefore confine myſelf to a few internal evidences alone, taken from the poets themſelves; which, being of an aſtronomical nature, will, I flatter myſelf, on that account, at leaſt, recommend themſelves to your lordſhip's attention.

The firſt that ſhall be offered, ſhall be from the following lines of the *Iliad* itſelf.

Οἷον δ' ἀστέρα ἧκε κρόνου παῖς ἀγκυλομήτεω
Ἢ ναύλῃσι τέρας, ἠὲ στρατῷ εὐρέϊ λαῶν,
Λαμπρὸν, τοῦδέ τε πολλοὶ ἀπὸ σπινθῆρες ἵενται.
Τῷ εἰκυῖ' ἧιξεν ἐπὶ χθόνα Παλλὰς Ἀθήνη (27).

Qualem autem ſtellam mittit Saturni filius verſuti,
Aut nautis portentum, aut exercitui lato populorum,
Splendidam, unde multæ ſcintillæ emittuntur.
Huic ſimilis, impetu ferebatur in terram Pallas Minerva.

(27) *Iliad.* iv. *v.* 75.

Some,

Some, as Euſtathius (28) himſelf, take this to be a deſcription of a comet; and the juſtneſs of it will be acknowleged by all that remember the late one in 1743. By the beauty and livelineſs of the deſcription, likewiſe, one would be induced to believe farther, that it muſt have been the deſcription of one ſeen by Homer himſelf. But if the comet that appeared in 1681. hath a period of about 575 years (29), as it ſeems to have, we ſhall find, by counting backwards, that it muſt have viſited the earth about the year before Chriſt 619. at which time Homer might have been alive, and old enough to remember the terror and conſternation that it cauſed.

Another remarkable paſſage there is, in the *Odyſſy* (30), where, juſt before Ulyſſes recovered his wife and kingdom, the poet tells us, that

——Ἠέλιος δ' ἐ
Οὐρανῷ ἐξαπόλωλε, κακὴ δ' ἐπιδέδρομεν ἀχλύς

——*Sol quoque*
Ex cælo periit; ominoſaque ingruit caligo.

Ταῦτα δὲ ὡς ἀπὸ ἡλίου Ἐκλείψεως, ſays Euſtathius there: And again, Ἡ δὲ τοῦ Ἡλίου Ἔκλειψις οὐκ ἀπίθανος οἵα γενομένη ἐν Νουμηνίᾳ.

What authority Euſtathius had for ſuppoſing that this tranſaction was at the new moon, I know not. I

(28) Ἀστέρα δὲ νῦν ὁ ἢ κυρίως λέγει, ἀλλὰ τὶ ἀστεοειδὲς οἷον Κομήτην ἢ σκηπτοῦ εἶδος.

(29) See Dr. Halley's *Aſtron. Tables*, or *Miſcel. Curioſ.* Vol. II.

(30) Lib. XX. v. 356.

think it no-where appears from the poet himſelf. That it is a deſcription of ſome total eclipſe, is, however, not improbable: And tho' an eclipſe, at the time Homer is ſpeaking of, ſeems purely poetical; yet the great eclipſe of the Sun, in the year before Chriſt 603. that parted the Lydian (31) and Median armies, muſt have made ſtrong impreſſions on every Ionian's mind, that ſaw it, and may be here very beautifully introduced.

I deſire no greater ſtreſs may be laid on theſe paſſages than they will bear: But I obſerve, that, in placing the age of Homer thus, we ſhall be enabled farther to ſolve a difficulty mentioned by Strabo (32). For this curious and accurate geographer and hiſtorian remarks, that Homer no-where mentions the empire of the Medes, nor the cities of Babylon and Tyre. But this laſt city was taken by Nebuchadnezzar, after a long ſiege (33), about the year before Chriſt 593. and was to continue, according to Iſaiah (34), in a low deſpicable condition 70 years; and therefore, probably, did ſo the greateſt part of Homer's life-time. The city of Babylon was, I think, taken by the

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(31) *Herodot. p.* 29. Edit. *Gronov.* See Maier's *Chronolog. Scythic.* in the *Act. Petropolit.* Tom. III. and what I have ſaid in the *Philoſ. Tranſ.*

(32) Ομηρος γοῦν ὅτε μὲν τὴν Σύρων ὅτε δὲ τὴν Μήδων ἀρχὴν οἶδεν· οὐδὲ γὰρ ἂν Θήβας Αἰγυπτίας ὀνομάζων, καὶ τὴν ἐκεῖ, καὶ τὴν ἐν Φοινίκῃ πλεῖστον, τὴν ἐν Βαβυλῶνι καὶ Νίνῳ καὶ Ἐκβατάνοις παρεσιώπησε. Pag. 1068. Οἱ μὲν οὖν ποιηταὶ, τὴν Σιδόνα τετρυλλήκασι μᾶλλον· Ομηρος δὲ οὐδὲ μέμνηται τῆς Τύρου. Pag. 1097.

(33) Ezek. xxix. 18. Ἐπὶ Ἐδωβάλω τὸν βασιλέως ἐστρατιόρκησε Ναβυχοδονόσορος τὴν Τύρον ἐπ' ἔτη δεκατρία. *Joſeph. cont. Apion. p.* 1344. *Ed. Hudſ.*

(34) Chap. xxiii. ver. 15.

Medes

Medes about the year before Chriſt 558. and about four years afterwards the Median empire itſelf was put an end to by Cyrus and his Perſians (35). Within this period of time, therefore, it is now farther probable, from this obſervation of Strabo, that both the *Iliad* and *Odyſſy* were compoſed.

And this, again, will receive an additional confirmation, by conſidering the following lines of the *Odyſſy* (36) itſelf; where Eumæus tells Ulyſſes, that

Νῆσός τις Συρίη κικλήσκεται εἴπου ἀκούεις
Ὀρτυγίης καθύπερθεν, ὅθι ΤΡΟΠΑΙ ΗΕΛΙΟΙΟ

Inſula quædam Syria vocatur, ſicubi audis
Trans ortygiam; ubi MUTATIONES SOLIS.

But what is to be underſtood by the words τροπαὶ ἠελίοιο, or *mutationes Solis*, as the tranſlator renders them? The word *tropics*, we know, is ſometimes uſed for thoſe points of the ecliptic through which the ſolſticial colure is drawn; but this cannot be the meaning of it here, as it is impoſſible that the tropics, in this ſenſe, ſhould be at the iſland Syra, or Syria. This iſland is one of the Cyclades, and lies, according to the beſt modern geographers, in latitude 37° 25′ north; where, conſequently, the height of the equator is 52° 35′, and the Sun's zenith diſtance, on the day of the ſummer ſolſtice, 13° 56′. Homer, therefore, could not mean, likewiſe, that this iſland

(35) The proof of this being too long for a note, is conſidered, at large, in a treatiſe by itſelf.

(36) Lib. xv. ver. 402.

lay

lay under one of the tropics, much leſs that it lay under both.

Another ſignification of the word *tropic* is, when it is uſed for that moment of time when the Sun, by his apparent motion, enters either of the ſolſticial points: But neither could Homer uſe the word here in this ſenſe. For the ſolſtice, according to this meaning of the word, is not only at the iſland Syria, but every-where elſe; and is only ſooner or later, in time, as places lie to the eaſtward or weſtward of each other. For if the time of the ſummer ſolſtice, this year, is at 12 o'clock at noon, as reckoned at Greenwich, it will only be 11 o'clock to places that lie in 15° of weſtern longitude; or 1 o'clock in the afternoon to ſuch as lie in 15° eaſtern longitude from it.

The only remaining ſenſe, then, of which the words τροπαὶ ἠελίοιο ſeem capable, is, as far as I can apprehend, by ſuppoſing that they mean ſome inſtrument or other, as a gnomon, or the like, erected there; which, by the increaſing or decreaſing lengths of its meridional ſhadows, pointed out the days of the ſolſtices: I ſay the days; becauſe, if thoſe could be obtained, it was a degree of accuracy as great, I ſuppoſe, as obſervations of this ſort could, in thoſe times, pretend to.

And that we are not much miſtaken in apprehending this to have been an inſtrument of this ſort, may be gathered, perhaps, from Diogenes Laertius. For, in his life of Pherecydes, who was a native, at leaſt an inhabitant, of this very iſland, he ſays, Σώζεσθαι δὲ καὶ ἡλιότροπιον ἐν Σύρῳ τῇ νήσῳ, *ſervatur & heliotropium in Syra inſula.*

Theſe

Theſe words Aldobrandinus (37) ſuſpects to be an interpolation. *Quid enim*, ſays he, *ad Pherecydem heliotropium?* But if we read the paſſage thus, as, probably, it ſhould be read, σώζεται ὁ κὴ ἡλιοτρόπιον ΑΥΤΟΥ ἐν Σύρᾳ τῇ νήσῳ; the whole will be conſiſtent and pertinent to Pherecydes, and likewiſe be a direct proof of ſuch an inſtrument being there, as we have ſuppoſed.

Peter Huet (38), it is true, ſuſpects, from the paſſage in the *Odyſſy* above-quoted, that this inſtrument was repaired only by Pherecydes there, and not firſt erected by him. But as this reaſoning depends only on the ſuppoſed much greater antiquity of Homer, the very point in queſtion, we are equally at liberty to ſuppoſe the contrary; and that Pherecydes was the original erecter of it in the iſland. And that this conjecture may not paſs unſupported, it may be obſerved, that, according to Laertius (39), Anaximander, who lived about the ſame time, was the firſt inventer of the gnomon; or, rather, the introducer of it at Lacedæmon.

Pherecydes, according to Laertius, flouriſhed about Olymp. LXIX. or the year before Chriſt 500. and Anaximander, he ſays, was 64 years old Olymp. LVIII. 2. or the year before Chriſt 543. and was, therefore, ſomething older than the former, if the numbers in Laertius here may be depended on, a thing not always to be done.

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(37) In Loc.

(38) And ſo Bochart. *Geog. Sacr.* Part II. l. i. c. 14. Vid. *Menag. Obſervat. in Loc.*

(39) In Vit. ejuſ.

The

The pole, the gnomon, and the divifion of the day into 12 parts, are exprefly faid by Herodotus (40) to have come from the Babylonians to the Greeks; and it is more natural to fuppofe, from the ufual progrefs of fcience, that the iflands neareft to the Afiatic coaft were acquainted with thefe improvements before Peloponnefus, and the places more remote from thence. Pherecydes, therefore, it is probable, erected his gnomon at Syra fomewhat earlier than Anaximander did his at Lacedæmon. But as we read of nothing of this kind among the Greeks before their time, we may conclude them to have been totally ignorant of thefe inventions as early as the year before Chrift 610. when, if Laertius fays true, Anaximander was born. But in the year before Chrift 558. as before obferved, Babylon was taken by the Medes; and it may be no abfurd conjecture to imagine that fuch Chaldeans, as were forced from their native country by their enemies, and fheltered themfelves among the Ionians, firft taught them, and by their means the reft of the Greeks, their aftronomical difcoveries. It is certain, that the taking of Conftantinople by the Turks hath had a like effect in later times (41).

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(40) Πόλον μὲν γὰρ καὶ γνώμονα, καὶ τὰ δυώδεκα μέρεα τῆς ἡμέρης παρὰ Βαβυλωνίων ἔμαθον Ελληνες. Pag. 127. *Edit. Gronov.* Πόλος dicebatur, quod postea ὡρολόγιον, fays Scaliger on *Manil.* p. 254. And fo Athenæus Deipnofoph. l. v. fpeaks of Πόλον ἐκ τοῦ κατὰ τὴν Αχραδινὴν απομεμιμημένον ἡλιοτροπίου. And Ariftophanes in γηρυτάδη fays, Πόλος τὸ δ᾽ ἐστιν· Εκαστα ποσὴν ἥλιος τέτραπται. And Jul. Pollux fays, *Cottabium*———ἐώκει δε πόλω τῷ τὰς ὥρας δεικνύντι. L. vi. cap. 19.

(41) The Turks fate down before that place April 4. 1453. and, when they took it, deftroy'd 120000 volumes. See *Hod.* de *Græcis Illuft.* &c. p. 192.

How

How long before this the Babylonians themſelves were acquainted with the uſe of the gnomon, is unknown, the Greeks being poorly informed, as to the hiſtory of them, in theſe early times; and the Jews, the only people beſides whoſe hiſtory of them is extant, applied themſelves but little to ſcience at home, and, by their conſtitution, had but a ſmall connection with their neighbours abroad. With regard to the ſcience of aſtronomy, in particular, it muſt have been, as then taught and practiſed, in a manner, forbidden them, as it was nothing more than genethliacal aſtrology; a thing vain and futile in itſelf, if not impious.

Among the Jews, however, we find, under the reign of Hezekiah, that the Sun is ſaid to have gone back 10 degrees on the dial of Ahaz (42). What the

(42) *Iſa.* xxxviii. 8. and 2 *Kings* xx. 11. In the Hebrew, the words are only מעלות אחז, the laſt of which words the LXX render ἀναβαθμὸς; the Arab. درجات; the Vulgate by *Linea*, *Horologium*, and *Gradus*. The Chaldee Paraphraſt labours under equal perplexity. Rabbi Kimchi, on 2 *Kings* xx. renders מעלות by אבן מכוונת לדעת שעות היום, *a ſtone erected to tell the hours of the day by*. And to the ſame purpoſe R. Solom. Jarch. on *Iſaiah*. It may not be improper to add in this place, perhaps, that as the 11 *ſtars* correſpond to Joſeph's 11 *brethren*, *Gen.* xxxvii. 9. and the 3 *branches*, and 3 *baſkets*, reſpectively denote 3 *days*, in ch. xl. 12. 18. and 7 *kine*, and 7 *ears of corn*, repreſent 7 *years*; ſo, in the paſſage before us, the number of מעלות ought, for the ſame reaſon, to correſpond with the years added to Hezekiah's life. If 15 years were added to his life, then muſt the ſhadow have gone back 15 *maaloth*; but if the ſhadow went back only 10 *maaloth*, then muſt 10 years only have been added to his life. The numbers in this place, therefore, are, ſome how, or other, undoubtedly corrupted. I am inclined, then, to think, that, inſtead of *I will add to thy life* 15

the form of this dial was, is unknown; but it may not be improbable, that it was copied from the Babylonians, as that prince ſeems to have been curious and fond of exotic cuſtoms. This was about the year before Chriſt 724. and, conſequently, 166 years before Babylon was taken, and 114 before Anaximander was born.

I call this a dial, in compliance with cuſtom, and for want of a better term to expreſs it by; tho' it was, probably, nothing more than a gnomon erected perpendicular to the plane of the horizon; and ſerved not only for diſtinguiſhing the different parts of the day, but in a rude manner, likewiſe, the times of the ſolſtices and equinoxes. For the ingreſs of the Sun into the four cardinal points might be thought, by the aſtrologers, to have been of as much conſequence, in reſolving genethliacal queſtions, as knowing the time of the day: I ſay the time of the day; becauſe the hours marked out, by inſtruments of this kind, were not equable, or equinoctial hours, but popular; being longer or ſhorter, in any aſſigned place, according to the different ſeaſon of the year.

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15 *years*, it ſhould be, *I will add to thy life* 10 *years*; the ſhadow going back, to denote this, only 10 *maaloth*. For as the Babylonian and Jewiſh day conſiſted only of 12 hours, it is highly probable, that, on theſe kind of inſtruments, there were no more than 12 *maaloth*. The ſhadow, therefore, could not go back 15 *maaloth*; nor, conſequently, agreeable to the rule before laid down, pertinently repreſent the addition of 15 years. It was to this diviſion of the day into 12 parts that Craſſus alluded, when he ſaid to king Deiotarus, 'Quid hoc rei eſt, duodecima jam tibi tantum non in-'ſtat hora, & novam nihilominus urbem ædificare pergis?' *Cæl. Rhodigin.* p. 318.

How

How early the Greeks had the uſe of the word ὥρα, is not agreed on. The Babylonians, as we learn from the book of *Daniel* (43), uſed the equivalent word שָׁעָה at leaſt as early as the reign of Nebuchadnezzar, or the year before Chriſt 616. when Jeruſalem was firſt taken by that prince, and 6 years before the birth of Anaximander. But that the diviſions on his, or Pherecydes's dial, were called ΩΡΑΙ, is not ſo clear.

Salmaſius (44) ſays, the word was unknown to the Greeks for more than two hundred years after the death of Anaximander: And farther, that it is never uſed by Plato, Ariſtotle, Theophraſtus, nor any author of that age; nor even by Menander, or any other writer of the *new Comedy* after the time of Alexander the Great.

But, with deference to this opinion of his, it may be obſerved, that there is a paſſage in Xenophon (45) where the word Ωρα ſeems uſed in the ſenſe contended for. Οὐκοῦν ἐγὼ ἐπειδὴ ὁ μὲν ἥλιος (ſays Socrates) φωλεινὸς ὢν τὰς τε ΩΡΑΣ τῆς ἡμέρας ἡμῖν καὶ τἄλλα πάνλα σαφηνίζει· ἡ δὲ νύξ, διὰ τὸ σκολεινὴ εἶναι ἀσαφεστέρα ἐστὶν, ἄστρα ἐν τῇ νυκλὶ ἀνέφηναν, ἃ ἡμῖν τὰς ΩΡΑΣ τῆς νυκλὸς ἐμφανίζει, καὶ διὰ τοῦλο πολλὰ ὧν δεόμεθα πρᾶτλο-

(43) *Dan.* iii. 15. iv. 16.

(44) Certe novæ comediæ ſcriptores, quorum princeps Menander, qui poſt Alexandrum magnum vixerat, nuſquam τὴν ὥραν meminere pro diei particula, ut grammatici nobis veteres teſtantur. Sed nec ea vox hoc ſenſu apud Platonem, Ariſtotelem, Theophraſtum, aut alios æquævos ſcriptores uſpiam legitur. *Plinian. Exercit.* p. 633.

(45) *Memorabil.* l. iv. cap. 3. ſect. 4. And ſo Herodotus, before him, uſeth the word, p. 529.

μεν. *Quia vero Sol lucidus eſt, ac nobis* HORAS *diei, aliaque omnia clare demonſtrat, nox autem propter tenebras eſt obſcurior, aſtrorum lucem noctu protulerunt* (Dii) *quæ nobis* HORAS *noctis indicarent; quo fit, ut multa tum quorum opus eſt perficiamus.* But Xenophon flouriſhed, according to Laertius (46), about Olymp. XCIV. 4. or the year before Chriſt 397. and about 148 years after the death of Anaximander; at which time, it ſeems now, the Greeks were acquainted with the word ὥρα.

But tho' the word ὥρα itſelf could not be proved to have been in uſe among them at this time, yet it ſeems as if they had what was equivalent to it before: For according to Menander, as cited by Julius Pollux (47), what was then called ὥρα, *an hour*, and ἡμιώριον, *half an hour*, was called παρὰ τοῖς παλαιοῖς *by the antients*; Σημεῖον, *a mark*: And the reaſon, I ſuppoſe, was, becauſe the ends of the ſhadows were marked with the letters of the alphabet, called Στοιχεια, *elements*, as their lengths were meaſured by feet. And as the day was divided into XII parts, ſo the greateſt length of their ſhadows were XII feet; the Sun being after this, in the evening, and before this, in the morning, too low to make any farther meaſures uſeful.

Inſtances of what hath here been ſaid, are eaſily to be met with in the comic writers. Thus in Ariſtophanes's *Concionatrices* (48).

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(46) *In Vit. ejuſ.*
(47) Pag. 47. *Edit. Kuſter.*
(48) Pag. 457. *ibid.*

—σοὶ δὲ μελήσει
Ὅταν ᾖ ΔΕΚΑΠΟΥΝ τὸ ΣΤΟΙΧΕΙΟΝ λιπαρῶς χωρεῖν ἐπὶ δεῖπνον.

—*tibi autem curæ erit*
Quando fuerit decem pedum elementum pinguè (unctum) ire ad cœnam.

Upon which word ΔΕΚΑΠΟΥΝ, the scholiast observes, ἡ τοῦ Ἡλίου σκιὰ ὅταν ᾖ δέκα ποδῶν· Θέλει οὖν εἰπεῖν ὅτε γίνεται ὀψέ. Ἄλλως τὸ παλαιὸν καλοῦντες ἐπὶ δεῖπνον καὶ καλούμενοι παρεσημαίνοντο τὴν σκιὰν, καὶ οὕτως οἱ μὲν ἔμενον τοὺς κληθέντας, οἱ δὲ ἀπήεσαν ἐπὶ τὰς ἑστιάσεις, οὐδέπω τηρήσεως (Vid. *Casaub.* in *Athenæum*, p. 425. 49.) οὔσης ἑτέρας, ἀφ' ἧς οἷόν τε ἦν τεκμήρασθαι εἰς πόσας ὥρας προήκει. *Quando Solis umbra fit decem pedes longa,* q. d. *quando sero fit. Aliter; antiquitus ad cœnam invitantes & invitati umbram notabant, unde hi invitatos manebant, illi ad convivia se conferebant, quum nulla alia esset observandi ratio, qua indicium sumerent quot horas jam dies declinasset.* And Hesychius likewise informs us, that τοῖς ποσὶ καταμέτρουν τὰς σκιὰς ἐξ ὧν τὰς ὥρας ἐγίνωσκον.

And that twelve was the whole graduation, and twelve feet the longest shadow in dials of this form, may be collected, I think, from this epigram, cited by Salmasius, on Solinus (49):

Ὡράων σκοπίαζε σοφὸν σημάντορα χαλκὸν
Αὐτῆς ἐκ ΜΟΝΑΔΟΣ μέχρι ΔΥΩΔΕΚΑΔΟΣ.

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(49) *Plin. Exercit.* p. 634.

And before this, in a fragment of Menander (50), it is ſaid,

——διαφέρει Χαιρεφῶντος οὐδὲ γρύ
Ἀνθρωπος ὅστις ἐστὶν ὃς κληθεὶς ποτὲ
Εἰς ἑστίασιν ΔΩΔΕΚΑΠΩΔΟΣ ὄρθρου
Πρὸς τὴν Σελήνην ἦλθεν ἅμα τῇ σκιᾷ ἰδὼν
Ὡς ὑστερίζων καὶ παρὼν ἅμ' ἡμέρᾳ

——*a Chærephonte nullo modo*
Homo differt, quiſquis eſt, qui vocatus aliquando
Ad convivium, cum umbra decem pedum foret, ſummo mane
Ad Lunam cucurrit conſpicatus umbram
Quaſi æquo diutius moratus, & adfuit una cum die.

And Heſychius, on the word ΔΩΔΕΚΑΠΟΔΟΣ, ſays, ὅλως ἔλεγον ἐλλειπτικῶς στοιχείου ἢ σκιᾶς· ὅτω γὰρ συνελιθενῖο ἐπὶ δεῖπνον ἤξειν τῷ στοιχείου ὄντος ΔΩΔΕΚΑΠΟΔΟΣ, ὡς νῦν πρὸς ΩΡΑΣ φασί. *Ita dixerunt, ſubintellecto elemento vel umbra. Sic enim ad cænam conventuros pacti ſunt olim exiſtente elemento duodecim pedes longo, ut nunc ad horas fit.*

I have dwelt the longer on this head, as it helps us to form ſome judgment on the nature of all theſe dials, as well that of Ahaz, as thoſe of Pherecydes and Anaximander; the מעלות of the firſt being naturally very capable of being mark'd ΣΤΟΙΧΕΙΟΙΣ on the other (51).

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(50) *Menand. Reliq.* p. 139. *Edit. Cleric.*

(51) The Hebrew word comes from עלה, *ſcandit, aſcendit*; and the Greek word from ΣΤΕΙΧΩ, *eo, vado*, &c.

But

But to return: If the Greeks were not acquainted with this invention of the Babylonians earlier than the year before Chriſt 610—If Pherecydes about that time firſt ſet up his dial in the iſland Syra, and Homer alludes to it in his *Odyſſy*, as ſeems highly probable; then muſt he, and conſequently Heſiod, if contemporary with him, not be older than what we above have made him.

However ſtrange this argument, drawn from the dial of Pherecydes, may appear to ſome, yet that I am not ſingular in it, is evident, from this note of Barnes upon the place: 'Qui hæc de heliotropio 'ſumunt, *ſays he*, parum vident, aut plus ſatis; quod '& illud a Pherecyde inventum, atque proinde Ho-'mero parem, aut priorem allucinantur, Cl. Dod-'velli rationes nihil faciunt: cum Lycurgus, qui ip-'ſas Olympiades præceſſit, Homeri opera, a Creo-'phyli Samii poſteris excepta, in Græciam primus 'intulerit, ut Heraclides & Plutarchus in Lycurgo.'

That Lycurgus is commonly placed before the Olympiads, is true; but the hiſtory and chronology of that lawgiver is not ſo certain as to leave no room to ſuſpect the contrary. Mr. Dodwell, whoſe ſkill in chronology was vaſtly ſuperior to that of Barnes, ſays, there are very good reaſons for ſuppoſing him to be later (52): And with him agrees Sir Iſaac Newton (53).

As to the aſſertion of Plutarch, it may be obſerved, from Strabo (54), that, according to ſome,

(52) *De Cyc. Vet.* p. 131.
(53) *Chronol.* p. 126.
(54) *Geograph.* p. 739.

Lycurgus

Lycurgus himſelf had an interview with Homer in the iſle of Chios; and Plutarch, likewiſe, was no ſtranger to the ſame report (55).

As a farther confirmation, however, that we are not very wrong in placing the age of theſe two poets as we have done, it may be remarked, that, in the deſcription given by Heſiod of lucky and unlucky days, he tells us, τετρακάδα μηνὸς ἀρίστην (56). But the firſt perſon, among the Greeks, that called the laſt day of the month by that name, or that uſed the word ΤΡΟΠΑΙ, if we believe Laertius, was Thales. Neither Homer nor Heſiod, therefore, if this obſervation be true, can be older than Olymp. XXXV. 1. or the year before Chriſt 637. when that philoſopher was born. But as it muſt have been ſome time before he could apply himſelf to aſtronomical ſtudies, and probably not till the middle part of his life, or about the year before Chriſt 600, the *Odyſſy* could not well have been compoſed before.

But Piſiſtratus, as we are informed by Tully (58), firſt collected Homer's verſes, and digeſted them in the manner we now have them. And Solon, according to Laertius (59), proved the right of the Athenians to the iſland Salamis, from theſe lines of the *Iliad:*

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(55) *Vit. Lycurg.*
(56) *Dierum.* v. 2.
(57) *In Vit. ejuſ.*
(58) Qui primus Homeri libros, confuſos antea, ſic diſpoſuiſſe dicitur, ut nunc habemus. *De Oratore*, l. iii. Πεισίστρατος συναγαγὼν ἀπέφηνε τὴν Ιλιάδα καὶ Οδύσσειαν. *Ælian. Var. Hiſt.* l. xiii. c. 14.
(59) *In Vit. ejuſ.*

Αἴας

Αιας δ' ἐκ Σαλαμῖνος ἄγεν δυωκαίδεκα νῆας
Στῆσε δ' ἄγων ἵν' Ἀθηναίων ἵσταντο φάλαγγες.

Solon, according to Laertius, flouriſhed about Olymp. XLVI. and in the 3d year of it was archon, and publiſhed his laws. This was the year before Chriſt 590. What his age was at that time, he doth not tell us, but that he was 80 at his death; which by Plutarch, in his life of that lawgiver, is placed Olymp. LIII. 3. or the year before Chriſt 562. If ſo, he muſt have been about 52 the year that he was archon. And that he could not have been very young then, is plain, from the poſt and credit he was in.

Upon the expiration of his archonſhip, as we are informed by Plutarch, he travelled for 10 years, and returned an old man, as indeed he was, being now about 62 years of age: This was the year before Chriſt 580. During this interval, it is highly probable, he had his interview with Crœſus (60) and brought back with him, to Athens, Homer s poems, which he might meet with at Smyrna, or ſome other of the Ionian cities. Upon his return, he found his country torn with factions, and that Piſiſtratus had formed the deſign of making himſelf maſter of the ſtate, which he ſoon afterwards effected. What year

(60) *Herodot.* p. 11. *Edit. Gronov.* Τὴν δὲ πρὸς Κροῖσον ἔντευξιν αὐτοῦ δοκοῦσιν ἔνιοι τοῖς χρόνοις ὡς πεπλασμένην ἐλέγχειν. Εγὼ δὲ λόγον ἔνδοξον οὕτω, καὶ τοσούτους μάρτυρας ἔχοντα, καὶ (ὃ μεῖζον ἐστι) πρέποντα τοῦ Σόλωνος ἤθει καὶ τῆς ἐκείνου μεγαλοφροσύνης καὶ σοφίας ἄξιον, οὔ μοι δοκῶ προήσεσθαι χρονικοῖς τισι λεγομένοις κανόσιν, οὓς μυρίοι διορθοῦντες ἄχρι σήμερον εἰς οὐδὲν αὑτοῖς ὁμολογούμενον δύνανται καταστῆσαι τὰς ἀντιλογίας. *Plutarch. Vit.* Solon.

this was in, is uncertain. The Oxford marble (61) placeth it, as doth Plutarch in the archonſhip of Comeas, which is ſuppoſed to concur with Olymp. LIV. 4. or the year before Chriſt 557. But Tatian (62), Clemens Alexandrinus (63), and Scaliger (64), among the moderns, fix the government of Piſiſtratus to Olymp. L. or 577 years before Chriſt. And this, indeed, agrees beſt with Plutarch; who ſays, that Piſiſtratus, after ſeizing the adminiſtration, 'honoured 'and eſteemed Solon, and often ſent for him, and ad-'viſed with him.'

In what year Piſiſtratus digeſted Homer's poems, is not ſaid; but it was, moſt probably, ſome time, or other, while he was in credit; and therefore, it is likely, about this very year 557. before Chriſt.

In the years of Solon's life, and Piſiſtratus's government, I have hitherto followed the chronology of the Greeks; which, however, I am apt to think, placeth them both ſomewhat higher than they ought to be; a fault not to be corrected in this inſtance alone.

It is natural to aſk, what could induce Solon and Piſiſtratus, whoſe ſchemes of politicks were ſo widely different, to concur in recommending and encouraging the ſinging Homer's works. If the beauty and elegance of the compoſition alone be thought a ſufficient anſwer, it muſt be obſerved, that ſuch diſtinguiſhing care of them, ſhewn by two ſuch able

(61) ΑΦΟΥ ΠΕΣΙΣΤΡΑΤΟΣ ΑΘΗΝΩΝ ΕΤΥΡΑΝΝΕΥΣ ΕΝΕΤΗ ΗΗ[△]ΔΔΔΔΠΗ ΑΡΧΟΝΤΟΣ ..... ΙΚ .... ΟΥ. N° 56. where ſee the Commentators.

(62) Contra *Græcos*.

(63) *Stromat.* l. i.

(64) In *Euſeb.*

ſtateſmen,

statesmen, seems to intimate some deeper views than the world hath hitherto been apprised of.

Augustus, it is said, set a very high value on the *Æneid*; and the design of the poet in composing it is well known; but the drift of the *Iliad*, I think, hath not been so well agreed on.

The Trojan war, as the most judicious of the Greek historians (65) informs us, was in itself nothing near so considerable as the poets had made it. But for what end was this? Was it the sports of the imagination only? Were heaven and earth armed for nothing more than the writer's fancy, and the reader's amusement? Something more interesting, sure, was at the bottom of all this machinery; and, if I am not much mistaken, the very circumstances of the times, we are now speaking of, naturally gave birth to such a poem as the *Iliad*.

The Persian empire, by the conquests of Cyrus, was growing very extensive and formidable, and must, consequently, greatly alarm the Ionians, who might justly apprehend their sharing the same fate with the Assyrians, Medes, and Lydians. That he had formed a design of invading them, appeared, as we are informed by Herodotus (66), from the answer he gave their ambassadors. This they could not but see, and at the same time perceive themselves unable to op-

(65) Καὶ αὐτά γε δὴ ταῦτα ὀνομαστότατα τῶν πρὶν γενόμενα δηλοῦται τοῖς ἔργοις ὑποδεέστερα ὄντα τῆς φήμης, καὶ τοῦ νῦν περὶ αὐτῶν διὰ τοὺς Ποιητὰς λόγου κατεσχηκότος. *Thucyd.* l. i. sect. 11.

(66) The passage is too long to be transcribed. See *Herod.* p. 58. *Edit. Gronov.* and *Thucyd.* lib. i. sect. 16.

pose

poſe him, unleſs by a timely union among themſelves, and with the reſt of the Greek ſtates in Europe, and the iſlands adjacent to the Aſiatic coaſt. Such a confederacy had formerly ſubſiſted, and Aſia had felt the effects of it in the deſtruction of one of its ſtates. This, indeed, was the work of a ten years war; but that, on the other hand, was owing only to the quarrels and diſſentions of the princes engaged in it; a leſſon very proper to be inculcated at this juncture, when they were to fight in the cauſe of liberty, when they might expect the ſame gods would be on their ſide as formerly, and had ſtronger motives to unanimity in their councils, than when they were only revenging the injuries offered to a ſingle family.

To promote ſuch a confederacy as this, appears to me to be the plan of Homer's *Iliad*. This, as a bard, he was employed to ſing at feaſts and entertainments; and the introducing and encouraging ſuch a poem by Lycurgus at Sparta, and Solon at Athens, was every way worthy the character and wiſdom of thoſe lawgivers.

But if ſuch a confederacy could once be formed, it was plain, the Athenians, the moſt conſiderable of their ſtates at that time, would bear the greateſt ſhare in it: Whoever, therefore, was maſter of Athens, would, of courſe, be at the head of the whole alliance. Without ſuch a head, and furniſhed with proper authority to command obedience, former experience had taught them what great diſadvantages muſt unavoidably ariſe to the common cauſe. Therefore,

Ουκ ἀΐαδὸν Πολυκοιρανίη, ΕΙΣ Κόιρανος ἔστω,
Εις ΒΑΣΙΛΕΥΣ, ὧ ἔδωκε Κρόνου παῖς ἀγκυλομήτεω
Σκῆπτρον τ' ἠδὲ θέμιστας, ἵνα σφίσιν βασιλεύη (67).

Is it at all ſurpriſing, then, that Piſiſtratus, whoſe abilities and intereſt appear to have been very great, ſhould ſeize the government of Athens at this time? And doth there not appear the higheſt reaſon in the world why he, as well as Solon, ſhould take ſuch particular care of Homer's poems. Upon the whole, then, I think, it may be concluded, with a good degree of probability, from what hath been here laid down, that the *Iliad* and *Odyſſy* were both compoſed about the time of Cyrus, or the year before Chriſt 558. if, as the antients generally do, we make his reign to commence from his taking of Babylon.

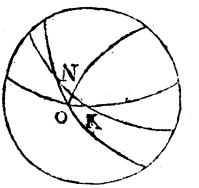
And ſince thoſe that make Heſiod the oldeſt of the two poets, place him but a few years earlier than Ho-

(67) *Iliad.* ii. *v.* 204. It was natural for the Ionians to apply themſelves to the Athenians, as being the largeſt maritime power, and becauſe, as Thucydides informs us, Ιωνας μεν Αθηναιοι και Νησιωτων τας πολλας ὡκισαν. Pag. 11. *Edit. Waſſ.* See, likewiſe, *Meurſ. de Fort. Athen.* c. 6. Herodotus ſays, that, upon this occaſion, all the Ionians, except the Mileſians, met in their common council called πανιωνιον; and that ἐδοξε κοινῳ λογῳ πεμπειν ἀγγελους ες Σπαρτην δεησομενους Ιωσι τι μωρεειν. The reaſon, perhaps, of their ſending to Sparta, was, to engage the Peloponneſians; that being not only the principal city there at that time, but, likewiſe, having an old quarrel with the Aſiatics ever ſince the Trojan war. Why he hath not mentioned their ſending to the Athenians, is not very evident: Perhaps the members of this council, out of hatred to the reſt of the Greek cities in their neighbourhood, planted by the Athenians, refuſed to ask their aſſiſtance: And this reaſon Herodotus himſelf ſeems to help us to. Οι μεν νυν ἀλλοι Ιωνες και Αθηναιοι ἐφυγον τουνομα ὁ βουλομενοι Ιωνες κεκλησθαι, αλλα και νυν φαινονται μοι οι πολλοι αὐτων ἐπαισχυνεσθαι τῳ ὀνοματι. Pag. 59.

mer,

mer, not enough, however, to cauſe any obſervable change in the riſing of the fixed ſtars; we may take the difference, at a medium, at 20 or 22 years; which will bring us to the year before Chriſt 580. for the time when Heſiod flouriſhed.

Nor will the argument from aſtronomy be at all inconſiſtent with this determination. For in the year before Chriſt 580. the time of the winter ſolſtice was December 27. in the morning; and 60 days after that will bring us to February 25. when the Sun's true place, at noon, was 10ˢ 29° 47′ 30″, his declination ſouth 11° 33′ 56″, and his right aſcenſion 331° 53′ 53″. Then, in the figure here,



Tan. NO	=	11° 33′ 56″	9.3109992
—R+cot. NKO	=	51 55 00	9.8941114
KN	=	91345	9.2051106

= the Sun's aſcenſional difference.

From the year before Chriſt 580. to the end of the year after Chriſt 1689. are 2269 years; the preceſſion for which time is 1ˢ 1° 30′ 50″; which, ſubtracted from 6ˢ 19° 53′ 52″, as before, gives the place of Arcturus, the year before Chriſt 580 = 5ˢ 18° 23′ 2″; and the angle DCE, in the 2d figure, = 78° 23′ 2″. Then

Rad. + cof. DCE	=	78° 23′ 02″	— 19.3039589
— Cot. DC	=	23 29 00	— 10.3620437
Tan. CE	=	5 00 00	— 8.9419152
PC	=	59 03 00	
Cof. PE	=	54 03 0	— 9.7686966

Cof.

Cof. PE = 54° 03′ 00″ — 9.7686966
Cof. DC = 23 29 00 — 9.9624527

19.7311493
Cof. DE = 5 00 00 — 9.9983442

Cof. DP = 57 16 55 — 9.7328051
the complement of which, = 32° 43′ 05″, = the declination of Arcturus.

Then, in 3d fig. Tan. MO = 32 43 05 — 9.8078283
— Rad. + cot. MKO = 51 55 00 — 9.8941114

Sin. KO = 30 13 35 — 9.7019397
= the aſcenſional difference.
Sin. PC = 59 03 00 — 9.9332931
Sin. DCP = 78 23 02 — 9.9910119

19.9243050
Sin. DP = 57 16 55 — 9.9249738

Sin. PDC = 86 49 20 — 9.9993312
the complement of which = 93° 10′ 40″. The right aſcenſion, therefore, of Arcturus then, was 183° 10′ 40″; from which ſubtracting the aſcenſional difference found above, gives the oblique aſcenſion of Arcturus = 152° 57′ 05″.

Then the ſemid. arc in a right ſphere = 90° 00′ 00″
Sun's aſcenſional difference 9 13 45

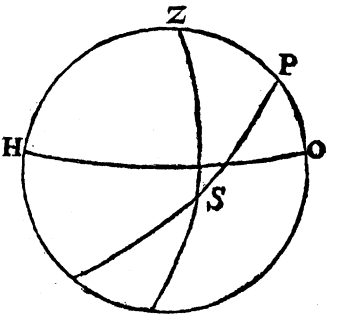
Semidiurnal arc 80 46 15
which,

which, converted into time, gives $5^h\ 23'\ 5''$; whence the nocturnal arc $= 13^h\ 13'\ 50''$.

	°	′	″
Sun's oblique aſcenſion	341	07	38
Oblique aſcenſion of Arcturus	152	57	05
Difference	188	10	33

	h	′	″
This, converted into time, gives	12	00	42
Nocturnal arc	13	13	50
Difference	1	13	08
Add ſemidiurnal arc	5	23	05
Time of the riſing of Arcturus	6	36	13
Time of Sun-ſetting at Athens	5	23	05
Arcturus therefore roſe, after Sun-ſet there,	1	13	08

Let us now ſuppoſe, farther, that twilight ends when the Sun is 18 deg. below the horizon; and therefore, in the figure, where H O repreſents the horizon, P O the height of the pole at Athens, we have Z P the complement of P O $= 51° 55'$, P S $=$ the diſtance of the Sun from the pole, $= 101° 33' 56''$, Z S $=$ the Sun's diſtance from the zenith, $= 108°$. Then,



Z S

	°	′	″		
ZS =	108	00	00		
PZ =	51	55	00	arith. complem. =	0.1039621
PS =	101	33	56	arith. complem. =	0.0089087
Sum =	261	28	56		
Half =	130	44	28	=	9.8794779
— ZS =	108	00	00		
Diff. =	22	44	28	=	9.5872258
				Sum =	19.5795745

Half Sum = 9.7897872 = the coſine of 51° 57′ 15″; the double of which is = 103° 54′ 30″ = ZPS; which, converted into time, gives 6h 55′ 38″ for the end of twilight. Since, therefore, Arcturus roſe at 6h 36′ 13″, and, conſequently, near 20′ before the end of twilight; it might then be ſaid very properly, in the popular and leſs determinate ſenſe of the word, to riſe AKPOKNEΦAIOΣ.

From what hath been ſaid, my lord, doth it not ſeem pretty clear, that Homer and Heſiod both lived about the year before Chriſt 580. and that, as I ſaid, from ſeveral arguments of an aſtronomical nature? The only difficulty that, I think, can be made to this, is, how to reconcile it with the expreſs teſtimony of Herodotus to the contrary. In his life of Homer, as we have ſeen (68), he places him 622 years before the expedition of Xerxes into Europe; but in his hiſtory he ſays, both Homer and Heſiod were not

(68) Not. 3. & 4.

more than 400 years before his time; that is, ſince there were but 50 years between the Peloponneſian war and the battle at Salamis (69), little more than 450 years before the ſame expedition.

Scaliger, in his notes on Euſebius (70), corrects the former paſſage of Herodotus by the latter; and, inſtead of ἑξακόσια, reads τετρακόσια; which will place Homer about the year before Chriſt 902. conſiſtent enough with Paterculus and the marble (71), but different from his hiſtory by 71 years.

Whether this correction of Scaliger's be right, or not, I ſhall not here ſtand to enquire; but I am apt to think the word τετρακοσίοισι itſelf, in Herodotus, is corrupt.

The Greek chronology, like that of other nations, hath been generally carried up too high; the natural conſequence of ignorance, and a defect of memoirs. This is only now to be corrected by perſons of learning and abilities, capable of examining and comparing things with each other. In the time of Herodotus, no doubt, the popular accounts of Homer and Heſiod carried them up much beyond their proper time: But this writer, a better judge than the generality of people, ſeems to me to correct thoſe miſtakes, by ſaying, that they lived —— years before his time, *and no more.* The words *no more,* appear plainly to intimate, as if, in the paſſage in queſtion, Herodotus made the age of the two poets not near ſo great as the common chronologers of his time; whereas his number, as it now

(69) Scholiaſt. on *Thucyd.* p. 64. *Edit. Waſſ.*
(70) Pag. 102.
(71) See Not. 1. 2.

ſtands, differs inconſiderably from what they, moſt probably, made it. What his genuine number was, is difficult to determine; but, from what hath been ſaid, I am inclined to think it was H H H 300; and that it was changed by accident afterwards, by the negligence of tranſcribers, or by ſome interpolator, to make it more conformable to the received chronology, into H H H H 400, as in our preſent printed copies.

And, in favour of this correction, it may be remarked, that Ariſteas, the Proconneſian, as we are informed by Strabo (72), was, according to ſome, Homer's maſter. This Ariſteas ſeems placed, by Herodotus, 340 years before his time (73); but Mr. Dodwell (74) intimates as if he had found, in ſome copies of this author, only 240; and ſays, that this number is confirmed by Tzetzes (75).

I have now finiſhed all that I ſhall trouble your lordſhip with, at preſent, upon this head. What hath been here advanced, your lordſhip will regard,

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(72) Pag. 946.

(73) Τὰ δ' οἰδα Μεταποντίνοισι τοῖσι ἐν Ἰταλίῃ συγκυρήσαντα μετὰ τὴν ἀφάνισιν τὴν δευτέρην Ἀριστέω ἔτεσι τεσσεράκοντα καὶ τριηκοσίοισι. Pag. 227.

(74) Quo tamen in loco 240 legunt, ni fallor alia exemplaria, ſuffragante, ut arbitror, in Chiliadibus Joanne Tzetze. *De Cyc. Vet.* p. 130.

(75) After telling the ſame ſtory that Herodotus doth of Ariſteas's death and revival, he adds,

Ἔπειτα Ἀειμάσσια λεγόμενα συγγράφει,
Καὶ πάλιν ἀφανίζεται τὸ δεύτερον καὶ θνήσκει.
Καὶ μετὰ διακόσια δὶς εἴκοσι τὰ ἔτη,
Ἐφ' Ἡροδότου γέγονε, καὶ πάλιν ἀνεφάνη,
Ὡς αὐτὸς φησὶν Ἡρόδοτος.

Hiſt. Chiliad. ii. c. 50.

not as certainty, but probability and conjecture. My deſign hath been to aſcertain, as far as may be, the *true riſe and progreſs of aſtronomy among the antients*, by clearing its hiſtory from *fable* and *mythology*. This hath been the ſubject of ſome former letters to your lordſhip's worthy predeceſſor in the chair: And as the preſent enquiry makes part of the ſame (76) plan, it could be addreſſed to no one ſo properly as to your lordſhip; and, at the ſame time, it gives me an opportunity of expreſſing with what eſteem I am,

My Lord,

Your lordſhip's moſt obedient

and moſt devoted humble ſervant,

October 20, 1753.

G. Coſtard.

LX. *An additional Remark to one of Mr.* William Watſon, *F. R. S. in his Account of the Abbé* Nollet's *Letter concerning Electricity. By* Thomas Birch, *D. D. Secr. R. S.*

Read Jan. 10, 1754. MR. Watſon, in a note upon his account of the ninth letter of the abbé Nollet concerning electricity, read before this

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(76) See *Letter to* M. Folkes, *Eſq*; *P. R. S.* p. 86.

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