

Two drafts of a letter on calendar reform, with extraneous material concerning chronology and the Temple of Zerubbabel

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<1r>

Sir Isaac Newton represents that he did formerly discourse with your Lordship about the ancient year of 360 days & represented to your Lordship that it was the Calendar of the ancient Lunisolar year [of the Egyptians Syrians Chaldeans Asiatics Greeks &c; that it was] composed of the nearest round number of days in a Lunar month & Lunar months in a Solar year; that the ancients corrected this Kalendar monthly by the new moons & yearly by the returns of the four seasons, dropping a day or two when they found the calendar month too long for the course of the Moon & adding a month to the end of the year when they found the calendar year too short for the return of the seasons; [that for avoyding the trouble of so frequent corrections, several cycles of months & years were invented, as a cycle of 12 months consisting of 30 & 29 days alternately, the Dieteris consisting of two years of 12 & 13 months alternately, the Octaeteris consisting of four Dieterises wanting a month, the cyclus Decemnovalis, the Dodecaeteris of the Chaldees, &c; that the Egyptians by adding five days to the end of their calendar year formed a solar year of 365 days which the Romans corrected by adding a day to the end of every four years; that the Arabians by omitting the intercalary months have formed their year of 12 Lunar months; that the Luni-solar, the Solar & the Lunar years & their Calendars are all the sorts of years which he meets with in antiquity;] that Moses in describing the flood uses the Kalendar months without correcting them by the course of the Moon, the cloudy rainy weather not suffering her to appear; that when [the Athenians erected 360 statues to Demetrius Phalareus according to the number of days in the year,] Herodotus reckons 30 days to the month 12 months to the year he understood the Kalendar year without correcting it by the courses of the Sun & Moon; that when Herodotus reckons by years of 12 & 13 months alternately for 70 years together without correcting it by the Luminaries that when we meet with a week of years or a month of years or a year of years, a Kalendar month of natural years or a Kalendar year of natural years, that is, 7 or 30 or 360 natural years, taking any number of natural years for so many revolutions of winter & summer; [that the Jews in returning from captivity called their own months by the names of the Chaldean, which argues that they were the same;] & that he meets with nothing in your Lordships paper which in his opinion makes against what he then represented to your Lordship.

<1v>

He saith also that within the compass of the 4 monarchies he meets with no other year to this day then the Lunisolar propagated by Noah to his posterity, the solar of 365 days [corrected by the Romans by the addition of a day in 4 years,] & the Lunar used by the Mahometans, & the Calendars of these years; that for lessening the trouble of correcting the primitive Lunisolar Kalendar every month by the Moon & every year by the sun, various cycles were invented, as the annual cycle of 30 & 29 days in the month alternately, the Dieteris

consisting of 12 & 13 months in the year alternately, the Octaeteris consisting of 4 Dieterises wanting a month, the Dodecaeteris of the Chaldees mentioned by Censorinus c & conteining, as he thinks, 4 intercalary months, & the Saros of the Chaldees mentioned by Suidas (in Σάρως) & consisting of 18 years of 12 lunar months each, besides six months which he takes to be intercalary, a month being added every third year for 18 years together.

Sir Isaac saith further that in his opinion the original year of all nations was Lunisolar, the same with its calendar being propagated down from Noah to all his posterity. That for keeping to the courses of the Sun & Moon or one of them without the trouble of correcting the year monthly by the Moon & yearly by the sun & return of the seasons & fruits of the earth various cycles & emendations of the primitive calendar have been invented as the cycle of Months consisting of 30 & 29 days alternately during the whole year, the intercalation of a month every other year which made the Trieteris of the Ancients more properly called the Dieteris The Octaeteris composed of 4 Dieterises wanting a month. The or Dodecaeteris of the Chaldees The Saros of the Chaldees composed of 18 years & 6 intercalary months. The Egyptian Cycle of 365 days The Julian & Gregorian corrections of that year. The Arabian cycle of 12 Lunar months perpetually without any intercalary months.

<2r>

Copper per Tun	100			
Melter	16			
Graver	2.	2.	6	
Smith	2.	2.	6	
Moneyer $4\frac{1}{2}$	42.	0.	0	
Master $\frac{1}{2}$	4.	13.	4	
A Clerks	0.	10.	0	
A Clerk for the Queen	0.	10.	0	
Paper & packthred	0.	5.	0	
	112, 20.	168.	3.	4

8. 8. 2 per cwt

1. 1 $0\frac{1}{4}$ per 14^{lwt}

0. 3. 0 $\frac{1}{28}$ per 2^{lwt}

1. 6 $\frac{1}{56}$

[\[Editorial Note 1\]](#)

<2v>

In the 37th year of Iehojakins captivity, in the 12th month on the 27th day of the {month} that is, in the end of the {month} Evilmerodach king of Babylon in the year that he began to reign, brought Iehokim out of prison & treated him honourably as his friend & companion 2 King 25.27. Evilmerodach had been imprisoned by his father, & by that means {he} grew acquainted with Iehojakin.

And from this friendship it may be presumed that upon the death of his father when the people brought him out of prison to reign he brought Iehojakin out of prison at the same time. Nebuchadnezzar therefore reined

45 years according to the reckoning of the Jews, viz^t 8 years to the captivity of Iehojakin & 37 years more to the reign of Euilmerodac, For the 18th year of Nebuchadnezzar was the 10th year of Zedekiah (Ier 32.1) that is the 10th of Iehojakins captivity. But according to the Canon Nebuchadnezzar reigned but 43 years from the death of his father & therefore the 3^d year of his reign according to the Jewish account was the first year of his reign reckoned from the death of his father by the Chaldees. The Jews dated his reign from the 4th year of Iehojakim, the year in which he beat the Egyptians at Euphrates (Ier 46.3) & succeeded Pharaoh Nechoh in his {domi}nion over Syria & Iudæa. For the 4th of Iehojakim was the first of Nebuchadnezzar (Ier. 25.1.) And while he was making war in Syria & Iudea he heard of the death of his father (suppose in the 3^d year of his reign over the Jews) & then returned to Babylon to succeed him leaving his army & {captives} with his servants to follow him. The taking of Ierusalem & burning of the Temple which was in the 19th year of Nebuchadn. according to the Jewish account was in the 17th of his reign according to the Chaldean account & Canon of Ptolomy & from the burning of the City & Temple in the 5^t month of this year to the 9th month of the 4th year of Darius Hystaspis are 70 years & 4 months, at the end of which time the people had fasted 70 years upon the 5^t month for the burning of the city & Temple & upon the 7th month for the death of Gedaliah. And so the Prophet might then very well say: When ye fasted & mourned in the 5^t & seventh month even those seventy years, did ye at all fast unto me? Zech 7.5.

Iudæa & the cities thereof were invaded by the Chaldees in the 9th year of Zedekiah & in the tenth month of that year Ierusalem was besieged 2 Reg. 25.1. And from thence to the eleventh of the second year of Darius Hystaspis were 70 years. And therefore in the end of that time the Prophet might well say: O Lord of hosts how long wilt thou not have mercy on Ierusalem & on the cities of Iudah against which thou hast had Indignation these 70 years. Zech. 1.12.

† < insertion from f 1v > † And tho the intervalls should have been a year or two under or o{ver} 70 years, yet I had rather allow that the Prophet might use the nearest round number of seventy, then run into greater difficulties.

For that Zerubbabel – – sight?

As for Iddo

< text from f 2v resumes >

And by the like reckoning, there were from the fourth year of Iehojakim to the first of Cyrus over Persia 70 years, as there ought to be by the prophesy of Ieremiah ch. 25.1, 11, 12. & 2 Chron. 36.22.

As for Iddo the father of Barachiah & grandfather of Zechariah, he might be above 70 years old in the first year of Cyrus & his son Barachiah might then be about 50 & his grandson Zechariah 25 years old more or less. And in the 2^d year of Darius Hystaspis Zechariah might be 40 years old.

But that Zerubbabel should be governour of the Jews to the sixt {year of} D{arius} Nothus that is 118 years together, & Ieshua be High Priest all that time is not probable. And it is less probable that in the second year of that King there should be old men alive who had seen the first Temple which was burnt 166 years before. Hagg. 2.3. He that thinks it probable let him ask his Congregation from the Pulpit: Who is there among you who <2r> remember the face & stature of king Henry VIII & how do ye see men now? Are they not as nothing in your sight?

And as for the age of Zechariah the Prophet the son of Barachiah & grandson of Iddo, he might be 30 or 40 years old in the 2^d year of Darius when he began to prophesy, & by consequence about 14 or 24 in the first year of Cyrus over Persia, & his Grandfather Iddo might then be 60 or 70 or above.

Sir Isaac Newton represents that he did formerly discourse with your Lordship about the ancient year of 360 days, & represented to your Lordship that it was the Kalendar of the ancient Lunisolar year composed of the nearest round number of Lunar months in a year & days in a lunar month; that the ancients corrected this Kalendar monthly by the New-moons & yearly by the returns of the 4 seasons, dropping a day or two when they found the Kalendar month of 30 days too long for the course of the Moon & adding a month to the end of the year when they found the year of 12 Lunar months too short for the return of the seasons & fruits of the earth; that Moses in describing the Flood uses the Kalendar months without correcting them by the course of the Moon, the cloudy rainy weather not suffering her then to appear; that when Herodotus or any other author reckons 30 days to the month & 360 days to the year, he understands the Kalendar month & year without correcting them by the courses of the Sun & Moon; that when Herodotus reckons years of 12 & 13 months alternately for 70 years together, he understands the Dieteris of the ancients continued for 70 years without correcting it by the Luminaries; that when we read of a week or a month or a year consisting of any other days than the natural, we are to reckon 7 days or 30 days or 360 days according to the Kalendar because where the days are not natural the Kalendar cannot be corrected by the courses of the Sun & Moon; and if the days be taken mystically for the years of any nation we are to take these years in the vulgar sense for 7 or 30 or 360 practical years of the {latines} such as they commonly {used in} civil affairs. Sir Isaac saith further that he meets with nothing in your Lordships paper which in his opinion makes against what he then represented to your Lordship.

Ecbatane. Eusebius tells us that the writers of the Babylonian affairs say that Arbaces made Belesis king of the Assyrians. It seems that Arbaces & Belesis of the Generals of the Assyrians conspired against the sloatfull king & shared his dominions, over Media & Assyria, & at the

Others say that Arbaces a Mede & one of the General Commanders of the forces of Sardanapalus, upon seeing the luxurious life of his king conspired against him together with Belesis another of his general commanders & Eusebius tells us that the writers of the Babylonian affairs say that Arbaces made Belesis king of the Assyrians. I suppose he means king over so much of the Assyrian Empire as remained in subjection to Nineveh. For the old age as well as the luxurious life of this king seem to have given occasion to the revolt of several nations & these things seem to have happened in the year of Nabonassar 81. These things seem to have been done in the year of Nabonassar 81: for at that time the reign of Asserhadon over Babylon ceased, & Saosduchinus succeeded him in that kingdom, & by the revolt of the Babylonians & western nations — — Nechao.

The last king of the Assyrians is called Saracus by Polyhistor. Others take this king for the Sardanapalus of the ancients. And thence Callisthenes relates that there were two kings of Nineveh called Sardanapalus, one stout & valiant, the other soft & effeminate. The first without question was Asserhadon, the last lost his kingdom to Cyaxeres & Nebuchadnezzar without a revolt of the Medes which is not the character of Sardanapalus. So then after Sardanapalus there were th{ree} kings reigned in Nineveh, Belisis, Nebuchadonosor & Saracus.

They revolted under the conduct of Abades who was a Mede & one of the General commanders of the forces of Sardanapalus. He was encouraged to revolt by the luxurious & effeminate life of his king, & conspired with one Belesis another commander of the Assyrian forces & Eusebius tells us that the writers of the Babylonian affairs say that Arbaces made Belesis king of the Assyrians. I suppose he means king of so much of the Assyrian Empire as after the revolting of some other nations remained in subjection to Nineveh. This revolution happened in the year of Nabonassar 81. For at that time Asserhadon was <3v> {succeeded} at Babylon by Saosduchinus. And by this revolution Manasses

Sardanapalus is said to have built Tarsus & Anchiale in one day & to have been the son of Anacyndaraxis or as other name him Anabaxaris. I suppose they mean Sennacherib. The kings who reigned after him in Media were Arbaces Dioces Phaortes Astyages, Cyaxeres & Darius, those at Babylon were Saosduchinus Chinildon, Nabopolaser & Nebuchadnezzar & his sons, & those at Nineveh, I think, were Belesis Nebuchadonosor & Saracus. By Nebuchadonosor I understand that king of Assyria who is mentioned in the book of Iudeth: for

Some time after this Temple was built, the Iews added a new court on the eastern side of the Priests court before the kings gate (2 Chron XX.5) & therein built a covert for the sabbath, 2 King. XVI.18. This court was not Measured by Ezekiel but the dimensions may be gathered from those of the weomens court in the second

Temple built after the example thereof. Whence I seem to gather that this court with the Priests court & separate place & {inner buildings} took up an area three hundred cubits long from east to west & two hundred cubits broad, the Altar standing in the center of the whole, & by consequence that the new court alone was only 50 cubits broad from east to west. // He seems to have omitted the buildings on the east side of the Priests court & to have walled in the area thereof together with that of the new court for the use of the people. For the outward court which in Solomons Temple was for the use of the people he left unbuilt & the Gentiles had access into it & therefore he enlarged the new court for the use of the people, & made it 100 cubits square with kitchens in the four corners for dressing the sacrifices for the people. Thus Zerubbabels temple was built on an area 300 cubits long from north to south, & 200 broad with the Altar in its center & contained three equal courts, the separate place – – –

– sanctuary, & had on the east side of it a court for the people called the weomens court, which made the whole area 300 cubits long from east to west & 200 broad. the altar standing in the center thereof. And this area contained three equal courts, the separate place the priests court & the weomens court, each 100 cubits from east to west & 135 from north to south between the buildings, For the buildings took 65 cubits, $32\frac{1}{2}$ on either side. The form of – – – – – in their four corners For the outward court was not built, but the ground thereof left open to the gentiles. And therefore the kitchens for the people were placed in the corners of the weomens court. And to make more room for the people the buildings on the east side of the Priests court were omitted & the {4} added to the weomens court. < insertion from the left margin > being 60 cubits high & 60 broad including the treasure chambers. & on Either side were double buildings – –

< text from f 3v resumes >

All this taking in the peoples court each 100 cubits square. The double buildings were on the north & south sides of the separate place & Priests court, & together with those two courts took up a square area 200 cubits long & 200 broad & was strictly called the sanctuary. The buildings on the east side were omitted, & the area on which they stood was added to the weomens court to make more room for the people. And instead of the little courts or kitchens in the four corners of the great court there were little courts in the four corners of the weomens court. And between the little courts & the buildings on either side the Priests court & separate space there was an interval of 135 cubits from north to south & in conformity to Solomons Temple the Priests court had Gates over against the altar on the southern northern & eastern sides; & the buildings on either side the separate place were without cloysters & had kitchenings at their western ends & a walk 10 cubits broad before them distinguished from the separate place by a wall. And the house or Temple itself was

[Editorial Note 1] The following passage is written upside down on f. 2, with an insertion (also written upside down) from f. 1v.
