Draft letter concerning ancient calendars, and notes on Jewish chronology

Author: Isaac Newton

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I have perused the Paper which his Lordship the Bishop of Worcester sent to D^{r} Prideaux & find it full of excellent observations concerning the ancient year: but do not perceive that they amount to any thing more then a proof that the Kalendar of the ancient Lunisolar year consisted of twelve lunar months & each Kalendar month of 30 days.

The first nations before they used artificial cycles kept a recconing of time by the courses of the Sun & Moon Gen 1.14. But yet for knowing what days of every month in the year they were to celebrate as festivals & to what God it was requisite to have a Kalendar & in this Kalendar it was obvious to set down 30 days to a Lunar month & 12 Lunar months to a Solar year, these being the nearest round numbers answering to the courses of the Sun & Moon. And hence it came to pass that the Ancients recconed the Luni-solar years to consist of 360 days & accordingly divided the Ecliptic into 360 equal parts, supposing that the Sun moved round the heavens in 360 equal days. But I do not find that in civil affairs they adhered to their Kalendar where they found it differ from the courses of the Sun & Moon but rather corrected it from time to time taking a day or two from the month as often as they found the month too long for the course of the Moon & adding a month to the year as often as they found twelve lunar months too short for the return of the seasons of the years & fruits of the earth. And thus to correct the Lunisolar year was the business of the Priests. And by reforming this primitive Calendar to make it agree better & better with the courses of the Sun & Moon came all the **{illeg}** of years & cycles of years which have been ever since

For after they found that twelve lunar months were too short for the return of the seasons they added a month every other year & thereby formed the Dieteris & when they found this too long they omitted an intercalary month once in eight years: which made the primitive Octaeteris of the ancients the half of which was their Tetraeteris. And **{**Then**}** the Greeks mended the form of the Octaeteris. † < insertion from the left margin > Afterwards the Greeks altered the form of the octaeteris intercaling a month in the third sixt & eighth years, or in the 3^{d} 5^{t} & eighth years or in the 2^{d} 5th & 8th years to make these years agree better with the course of the Sun. < text from f 1r resumes > And when they found the Octaeteris too short for the seasons & course of the Sun, they invented the Cyclus decemnovalis in which 7 months were added in nineteen years. But the Ægyptians for the sake of navigation measuring the length of the Solar year more exactly, added five days to the Luni-solar Kalendar year of 360 days, & this year being received by the Chaldeans & by the Greeks in recconing the Philippian year from the death of Alexander the Romans added to it a day once in four years. And Pope Gregory XIII made a new correction of the Roman year. All these corrections were made for bringing the Calendar nearer & nearer to the course of the Sun. And some of the ancients used Months alternately of 30 & 29 days for bringing the Calendar months nearer to the course of the Moon. And the Arabians & Mahometans neglecting all the intercalary months retain to this day the year of 12 Lunary months

& 360 days correcting their months perpetually by the course of the Moon. And these are all the principal forms of years hitherto known.

1B Now when Moses reccons the duration of the flood by months of 30 days, I understand him of the Calendar months of the Luni-solar year not corrected by the course of the Moon the rainy cloudy weather not suffering her to appear.

2 When Herodotus reccons by years of 360 days he understands Lunisolar calendar years without correcting them by the courses of the Sun & Moon

3 When he reccons by years of 12 & 13 months alternately he understands the ancient Dieteris without correcting the Calendar lunar months by the course of the Moon. For he saith that the leap months were added to make the year agree with the seasons.

When Manetho tells us that the ancient Egyptian year consisted <1v> of 360 days, he means the ancient Calendar Luni-solar year not corrected by the courses of the Sun & Moon & to the end of which the Egyptians at length added five days. For the year which the Israelites brought out of Egypt was Luni-solar. And Diodorus tells us that Vranus king of Egypt & Libya measured the year by the course of the Sun & the months by the course of the Moon.

6 When Cleobulus Lindices one of the seven wise men enigmatically describes the year to consist of twelve months & every month of 30 days he describes the calendar year of the Greeks who in those ages & long after used the lunisolar year. And Hippocrates understands the same calendar years when he saith that seven years are exactly 360 weeks. And so did Aristotle when he equals the fift part of a year to 72 days the sixt part to 60 days & a month to 30 days. And so did the Athenians when they erected 360 statues to Demetrius according to the number of days in their year; & when they had at Athens 4 φυλὰς imitating the 4 seasons of the year & 12 φατρίας καὶ τριττυς according to the months & every φατρια had 30 γένη as the days are 360. They recconed 4 seasons in their year & therefore corrected their Kalendar year of 360 days to make it keep constantly to the same four seasons. Solon recconed 30 days to the Athenian month but called the 30th day ενην και νεαν making it every other month the first day of the next month as well as the last day of the month past And in the same sense Plutarch is to be understood where he saith that the old Roman year was of 360 days. And so when Cyrus cut the River Gendus into 360 channels he might have relation to the number of days in the old Kalendar year of the Medes or Assyrians.

7 So where the Babylonians, as Diodorus tells us, say that there are XII chief Gods & to every one of these assigne a Month & a signe in the Zodiac & say that through these 12 signes the Sun makes his course every year & the Moon every month: they speak not of the year of Nabonassar but of a year divided into 12 equal months & make this year to be solar & the months Lunar supposing (with the ancients) that the sun in so many days passes through the 360 degrees of the Ecliptick, & that the Moon doth the same in a month. This year the Iews during their stay at Babylon made use of in their contracts & civil affairs & in their journey from Babylon to Ierusalem, retained the names of the Babylonian months & ever after called their own Lunar months by their names which they would not have done if their own Lunar months had not been the same with the Babylonian. And Athenæus (lib. 12) tells us out of Berosus that upon the 16th day of the month Lous the Babylonians annually celebrated the feast Sacæa. Which is all one as to tell us that the feast Sacæa was kept by the Babylonians upon the 16th day of the Moon & by consequence that the Babylonian months were lunar. For the Month Lous was a lunar month of the Macedonian year.

While They had at Athens 4 φυλὰς imitating the four seasons of the year & 12 φατρίας καὶ τριττυς according to the months & every φατρία had 30 γένη according to the days, it signifies that every Athenian year consisted of 4 seasons & was from time to time corrected by the luminaries so as to make it keep to the seasons. And in like manner when the Babylonians, as Diodorus tells us, said that there were 12 chief Gods

5 When David appointed 12 courses of Guards, one for every month of the year (1 Chron 27) he had respect to the Iewish ordinary year of 12 Lunar months without considering the intercalary months. For when a month was added to the end of the year, the cours which was to wait in the first month of the next year might wait in the intercalary month & the next course might wait in the first month of the next year, & so on: & therefore there was no need of appointing a proper course for the intercalary month.

1A When we read of the Annus magnus of Minos or Cadmus composed of eight yeares or of the Trietrica of Bacchus or any other cycle of years used in the ancient religions or solemnities or of any years with intercalary months, or of any years corrected by the courses of the Sun & Moon we are always to understand it of the Luni-solar year.

In allusion to the number of days in the Calendar year of the eastern nations Cyrus seems to have cut the River Gindus into 360 channels.

When therefore Cleobulus one of the seven wise men, or Hippocrates, or Herodotus or Aristotel or Plutarch or Manetho describe the Ancient year of the Greeks Romans or Egyptians as consisting of 12 Equal months or 360 days, or Cyrus in allusion to the days in the year cut the river Gindus into 360 channels or the Athenians in allusion to the days in this year erected 360 statues to Demetrius, or had 4 φ they are to be understood of the Calendar year of the ancients not yet corrected by the courses of the sun & Moon. And when they **{**had in**}** Athens 4 φυλας imitating the 4 seasons of the year . . . . . the days: it signifies that the Athenian year of 360 days was corrected by the heavens so as to make it keep to the four seasons And when Herodotus intercales a month of 30 days every other year he is to be understood of the Dieteris of the Ancients continued for 70 years together without correcting it by the Moon. And when Moses reccons the duration of the flood by months of 30 days he is to be understood of Calendar months not corrected by the course of the Moon by reason of the cloudy rainy weather which did not suffer her to appear. And when David appointed 12 courses of Guards one for every month of the year (1 Chron 27) he had respect only to the Calendar months of the Iewish year leaving the intercalary months unprovided because they were uncertain, & might be suppli**{**ed**}** by the 12 courses, the course which should serve upon the first month of the next year serving upon the intercalary month & the next course serving upon the first month of the next year. And when the Babylonians, as Diodorus tells us, say that there are XII chief Gods & to every one of these assigne a Month & a signe in the Zodiac & say that through these 12 signes the sun makes his course every year & the Moon every month: they describe the Chaldaic year to be solar & to consist of 12 equal lunar months whose days are represented by the degrees in the zodiac & mean the months & days in the Calendar year not yet corrected by the courses of the Sun & Moon; & by the relation & correspondence which these months have to the 12 signes, they fix them to the seasons of the year by such corrections as are to be made for that purpose. This year the Iews during their stay at Babylon made use of in their contracts & civil affairs & in their journey from Babylon to Ierusalem brought it home with them calling their own months ever after by the names of the Babylonian, which they would not have done if their own Lunar months had not been the same with those of Babylon.

So then the Lunisolar Calendar was very ancient & universal, being used by Noah & propagated down from him to his posterity , & continuing to be used in Egypt till their institution of the year of 365 days, in Chaldea & the nations adjacent till the expedition of Cyrus over Gindus & till the Babylonian captivity & in Greece till the days of the seven wise men & long after & giving occasion to the division of the Zodiac into 12 signes & of a great circle into 360 degrees & to the Dieteris & other ancient cycles for avoyding the trouble of correcting it every month by the Moon & every year by the Sun. And where any number of years are mentioned in any ancient author sacred or prophane if the years be civil & practical we are to understand so many revolutions of summer & winter, but if they be theorical & of a certain length, such as have not been nor are to be corrected by the heavens we are to understand Calendar years of 360 days

And where we meet with a week of years or a month of years or a year of years we are to understand seven years or 30 years or 360 years. And these years are to be taken for so many summers & winters unles it appear that the author used either the solar year of 365 days or the Lunar Year of the Mahometans. <2v> For I meet with no other years among the ancients then such as were either Luni-solar or solar or Lunar or the

Calendars of these years. A practical year of 360 days would have run round the seasons in 70 years & such a notable revolution would have been mentioned in History.

[Editorial Note 1]

Reverendissimo Viro D. P. Allix S.T.D
Is. Newton S.P.

Vir dignissime

Quamvis linguæ Latinæ multo minus assuetus sim quam vernacu**{**læ**}** tamen ut Responsum tibi magis gratum sit, rescribam in hæc Lingua licet stylo rudiore.

Nebuchadnezzar regnavit annos 43 a morte patris juxta Canonem annos vero 45 a quarto Iehojakim & victa Palestina juxta sacras literas: annos scilicet octo ad captivitatem Iehojakin & inde annos 37 ad initium regni filij sui Evilmerodach 2 Reg. 24.12 & 25.27. Anni autem a morte Nebuchadnezzaris ad quartum annum Darij Hystaspis inclusive sunt 44 juxta Canonem . Ab annorum summa 89 aufer annos 18 & menses quatuor usque ad interitum urbis excurrentes, & ab hoc interitu ad mensem nonum quarti anni Darij Histaspis manebunt anni septuaginta et menses quatuor. Et in fine hujus temporis Propheta dicere potuit Quum jejunaris & planxistis quinto [ob interitum Vrbis ac Templi] et septimo mense [sc. ob interitum Vrbis & cædem Gedaliæ,] ut illis septuaginta annis, an ullo pacto mihi, mihi inquam jejunastis? Zech. 7.5

Invasa fuit Iudæa a Chaldæis anno nono Zedeciæ & obsessa urbs Hierosolymorum mense decimo, ejusdem anni 2 Reg 25.1. Et inde ad mensem undecimum anni secundi Darij sunt anni septuaginta. Et propterea in fine illius temporis Propheta dicere potuit: O Iehova exercituum quousque tu miseraturus es Hierosolymorum & civitatum Iudææ in quas indignatus es jam septuaginta annis. Zech. 1.12.

The conquest of Iudæa by Nebuchadnezzar in the first year of his reign over the Iews & fourth of Iehojakims reign, was sixteen years & some months before the siege of Ierusalem & so long was the first year of Cyrus over Persia before the eleventh month of the second year of Darius Hystaspis: & therefore from the conquest of Iudea by Nebuchadnezzar in the 4th year of Iehojakim to the return of the Iews from captivity in the first year of Cyrus were 70 years, as in the prophesies of Ieremiah.

Sub reditu captivitatis Babylonicæ anno primo Cyri, potuit Iddo esse senex annorum septuaginta aut amplius & ejus filius Barchiah esse vir annorum plus minus quadraginta quinque vel quinquaginta & Ejus Nepos Zechariah Propheta esse juvenis annorum plus minus viginti vel viginti et quinque. Et post annos sexdecim, anno scilicet secundo Darij Hystaspis, Zechariah potuit esse vir annorum 36 vel 40 ubi cœpit esse Propheta.

Sed Zerubbabelem rexisse Iudæos ad usque annum secundum Darij Nothi id est annis 114 et Ieshuam toto illo tempore sacerdotium summum gessisse non est admodum verisimile. Et multo minus verisimile est senes tunc in vivis fuisse qui templum primum viderant, ante annos 165 igne consumptum. Haggai 2.3.

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Considerations about the Iulian Calendar

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Considerations
about
the Iulian Calendar

[Editorial Note 1] The remaining text on this page is written upside down.