First printing: January 2009

Printed in the United States of America

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*The
Chronology
of
Ancient Kingdoms
Amended.
Prefixed by
A Short Chronicle from the Earliest
History of Europe, to the Conquest
of Persia by Alexander the Great.*
By Sir Isaac Newton.
London:

Printed for J. Tonson in the Strand, and J. Osborn
and T. Longman in Pater-noster Row.
MDCCXXVIII.

Revised Edition by Larry and Marion Pierce, 2008.

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CHAPTER I Early Greek History

Part 1 — Establishing the Times of the Key Events in Greek History

192. This chapter has two main parts. In the first part we lay the foundation for building the chronology of the ancient times. In the second part of this chapter, we show how the rest of the Greek history fits within this framework.

1. The Uncertainty in Early Histories

1.1 The Exaggeration of Early Histories

193. All nations, before they began to keep exact records of time, have been prone to exaggerate their antiquity, and this fiction has been promoted by the contentions between nations about their origins. Herodotus says that the priests of Egypt reckoned that from the reign of Menes around 900 BC to that of Sethon around 700 BC that there were three hundred and forty-one generations of men, with as many priests of Vulcan, and as many kings of Egypt. {*E44*} They equate three hundred generations to ten thousand years. Herodotus states that three generations of men equates to a hundred years. The remaining forty-one generations make thirteen hundred and forty years: and so the whole time from the reign of Menes to that of Sethon was eleven thousand three hundred and forty years! {**Herodotus, l. 2. c. 142. 1:449*} By this way of reckoning, and allotting longer reigns to the gods of Egypt than to the kings who followed them, Herodotus relates from the priests of Egypt that from Pan around 15570 BC to Amasis in 570 BC were fifteen thousand years and from Hercules (Egyptian) around 17570 BC to Amasis were seventeen thousand years. {**Herodotus, l. 2. c. 145. 1:453*} {**Herodotus, l. 2. c. 43. 1:329*}

194. Likewise the Chaldeans boasted of their antiquity, for Callisthenes, the student of Aristotle, sent astronomical observations from Babylon to Greece. Babylon is said to have been founded nineteen hundred and three years before the time of Alexander the Great. (2234 BC) {*Simplicius, De Caelo, l. 2.*} The Chaldeans boasted further, that they had observed the stars for seven hundred and thirty thousand years, around 730300 BC, and there were others who made the kingdoms of Assyria, Media and Damascus, much older than the truth. {**Pliny, l. 7. c. 56. (193) 2:637*}

195. Some of the Greeks called the times before the reign of Ogyges unknown, because they had no history of them. The times between his flood and the beginning of the Olympiads was composed of fables because their history was much mixed with poetic fiction. The time after the beginning of the Olympiads was called historical because their history was free from such fables. {*E45*} The fabulous ages lacked a good chronology and so did the historical for the first sixty to seventy Olympiads, from 776 BC to about 500 BC.

1.2 The Inaccuracies of the History before the Persian Empire

196. The Europeans had no chronology before the times of the Persian Empire and whatever chronology they now have of older times has been composed since by deduction and conjecture. When the Persian Empire began, Acusilaus made Phoroneus as old as Ogyges and his flood, and that flood one thousand and twenty years older than the first Olympiad in 1796 BC, which is more than seven hundred and twenty years older than the truth! To justify his history his followers have increased the reigns of kings in length and number. Plutarch says that the philosophers of old delivered their teachings in verse, as Orpheus, Hesiod, Parmenides, Xenophanes, Empedocles and Thales. However, later ones used prose. Aristarchus, Timocharis, Aristillus and Hipparchus did not make astronomy less notable by describing it in prose after the time of Eudoxus, Hesiod and Thales, who had written in verse. {**Plutarch, Moralia-The Oracles at Delphi, l. 1. c. 18. (402F) 5:305*} Solon wrote in verse and all the seven wise men of Greece preferred to write in verse; however, Anaximenes of Lampsacus wrote in prose. {**Diogenes Laertius, Anaximenes, l. 1. c. 2. (2) 1:133*} {**Plutarch, Lives-Pubicola, l. 1. c. 9. s. 7. 1:527*} Anaximenes affirms that in his time men usually wrote in verse. {**Diogenes Laertius, Solon, l. 1. (61) 1:63*} Until those days, the Greeks wrote only in verse, and while they did so there could be no chronology, nor any other history than such as was mixed with poetic fantasies. {*E46*}

1.3 The Early Greek Historians

197. Pliny, in discussing various inventors, says that Pherecydes the Syrian taught men to write in prose in the reign of Cyrus (537-530 BC), and Cadmus Milesius to write history. {*Pliny, l. 7. c. 56. (205) 2:645*} In another place, he says that Cadmus Milesius was the first one who wrote in prose. {*Pliny, l. 5. c. 31. (112,113) 2:305*} Josephus states that Cadmus Milesius and Acusilaus lived shortly before the Persian invasion of Greece in 480 BC. {*Josephus, Against Apion, l. 1. c. 3. (13) 1:169*} Suidas calls Acusilaus a most ancient historian, and says that he wrote genealogies based on tables of bronze, which his father is reported to have found in a corner of his house. It is not known who hid them there, for the Greeks had no public tables or inscriptions older than the laws of Draco. {*Josephus, Against Apion, l. 1. c. 4. (21) 1:171*} Note the various methods in recording history.

1) Pherecydes of Athens, in the reign of Darius Hystaspes or soon after around 490 BC, wrote of the antiquities and ancient genealogies of the Athenians in ten books. He was one of the first European historians and one of the best from whence he had the name of *Genealogus;* and Dionysius of Halicarnassus said that he was not inferior to any other historian. {*Dionysius, l. 1. c. 13. s. 1. 1:41*}

2) Epimenides, (not the philosopher but the historian), wrote also of ancient history in the late seventh century BC. Hellanicus, who was twelve years older than Herodotus and lived from around 480 BC to 395 BC, organised his history by the ages or successions of the priestesses of Juno Argiva. {*E47*} Others organised theirs by the archons of Athens or the kings of Sparta.

3) Hippias of Elis published a breviary of the victors of the Olympic Games but had no authoritative basis for his work. {*Plutarch, Lives-Numa, l. 1. c. 2. s. 4. 1:309*} He lived in the one hundred and fifth Olympiad around 360 BC and was derided by Plato for his ignorance. This breviary seems to have contained nothing more than a short account of the victors in each Olympiad.

4) Ephorus was the student of Isocrates and lived from around 405 BC to 330 BC. He wrote a chronological history of Greece, beginning with the return of the Heraclides into Peloponnesus in 825 BC, and ending with the siege of Perinthus, in the nineteenth year of Philip, the father of Alexander the Great, that is, ten years before the fall of the Persian Empire in 340 BC. {*Diod. Sic., l. 16. c. 76. s. 5. 8:51,53*} Ephorus organised his history by generations. The reckoning by the Olympiads or by any other era was not yet in use among the Greeks. {*Polybius, l. 9. c. 1. (1-4) 4:3*}

5) The Arundelian Marbles were composed sixty years after the death of Alexander the Great in the 4th year of the 128th Olympiad in 265 BC. They contain no mention of the Olympiads, nor any other standing era, but record the times relative to the date of their writing.

6) Chronology was now simplified to a reckoning by years. In the next Olympiad, Timaeus Siculus, who lived from around 350 to 260 BC, improved it. He wrote a history in several books, down to his own times, according to the Olympiads. {*E48*} He compared the ephori, the kings of Sparta, the archons of Athens, and the priestesses of Juno Argiva with the Olympic victors, so as to make the Olympiads, and the genealogies and successions of kings and priestesses, and the poetic histories agree with one another according to the best of his judgment. Where he left off Polybius, who lived around 200 to 118 BC, began and carried on the history. Eratosthenes wrote around 220 BC, about a hundred years after the death of Alexander the Great. He was followed by Apollodorus, and these two have been followed ever since by chronologers.

1.4 The Uncertainty of Early Greek History

198. How uncertain their chronology is, and how doubtful it was reputed by the Greeks of those times, may be understood by this passage from Plutarch.

Some say that he (Lycurgus) flourished at the same time with Iphitus, and in concert with him established the Olympic truce. Among these is Aristotle, the philosopher, and he alleges as proof the discus at Olympia on which an inscription preserves the name of Lycurgus. But those who compute the time by the succession of kings at Sparta, like Eratosthenes and Apollodorus, prove that Lycurgus was many years earlier than the first Olympiad. {*Plutarch, Lives-Lycurgus, l. 1. c. 1. s. 1. 1:205*}

199. Lycurgus was in his prime in the 17th or 18th Olympiad around 708 BC, and at length Aristotle made him as old as the first Olympiad in 776 BC and so did Epaminondas, as he is cited by Aelian and Plutarch. Then Eratosthenes, Apollodorus and their followers made him more than a hundred years older, living about 876 BC. {*E49*}

200. In another place Plutarch says:

As for his (Solon's) interview with Croesus, some think to prove by chronology that it is fictitious. But when a story is so famous and so well attested, and, what is more to the point, when it comports so well with the character of Solon, and is so worthy of his magnanimity and wisdom, I do not propose to reject it out of deference to any chronological canons, so called, which thousands are to this day revising, without being able to bring their contradictions into a general agreement. {*Plutarch, Lives-Solon, l. 1. c. 27. s. 1. 1:479}

1.5 The Uncertainty of Early Roman History

201. The chronology of the Romans is even more uncertain. Plutarch documents great uncertainties in the origin of Rome, and so does Servius. {*Plutarch, Lives-Romulus, l. 1. c. 1-2. 1:91-97} {*Plutarch, Lives-Numa, l. 1. c. 1. s. 1. 1:307} {*Virgil, Aeneid, l. 7. v. 678. 2:49,51} The old records of the Romans were burned by the Gauls in 390 BC, one hundred and eighteen years after their last king in 508 BC and sixty-seven years before the death of Alexander the Great in 323 BC. {*Diod. Sic., l. 14. c. 116. (8) 6:315} Quintus Fabius Pictor, the oldest historian of the Romans, lived around 225 BC, about a hundred years later than Alexander, and copied most of his work from Diocles of Peparethius, a Greek. {*Plutarch, Lives-Romulus, l. 1. c. 3. s. 1. 1:97}

1.6 The Uncertainty in the Early History of Other Countries

202. The chronologers of Gaul, Spain, Germany, Scythia, Sweden, Britain and Ireland wrote much later. Scythia beyond the Danube River had no written language until Ulphilas, their bishop, created it around 280 AD. This was about six hundred years after the death of Alexander the Great. {E50} Germany had none until they received it from the western empire of the Romans around 380 AD, more than seven hundred years after the death of Alexander. The Huns had none in the days of Procopius around 530 AD, who lived about eight hundred and fifty years after the death of Alexander. Sweden and Norway received a written language still later. Things said to have happened more than one or two hundred years before the use of writing, are of little credit.

2. The Time of the Return of the Heraclides into Peloponnesus

2.1 The Time of the Return According to Ancient Historians

203. Diodorus in the beginning of his history states that he did not write any history preceding the Trojan War,

because he had no accurate records to rely on. {*Diod. Sic., l. 1. c. 5. s. 1. 1:21} From the Trojan War in 1184 BC (according to the reckoning of Apollodorus whom Diodorus followed), there were eighty years to the return of the Heraclides into Peloponnesus in 1104 BC. From that period to the first Olympiad in 776 BC, there were three hundred and twenty-eight years computing the times based on the reigns of the kings of Sparta. Apollodorus followed Eratosthenes, and both of them followed Thucydides, in reckoning eighty years from the Trojan War to the return of the Heraclides. {*Thucydides, l. 1. c. 12. s. 3. 1:23} In reckoning three hundred and twenty-eight years from that return to the first Olympiad, Diodorus says that the times were computed from reigns of the kings of Sparta. Plutarch relates that Apollodorus, Eratosthenes and others followed that method of reckoning. {*Plutarch, Lives-Lycurgus, l. 1. c. 1. s. 2. 1:205} {E51} Since this method is still accepted by chronologers and was deduced by computing the times from the kings at Sparta, that is, from their number, let us re-examine that computation.

2.2 Method 1 — Dating the Return by the Average Length of a King's Reign

2.2.1 The Length of a King's Reign According to Ancient Historians

204. The Egyptians, Greeks and Romans have calculated the reigns of kings equal to generations of men with three generations to a hundred years. Accordingly, they have made their kings reign an average of thirty-three or more years each. This results in the following:

1) The seven kings of Rome who preceded the consuls have reigned two hundred and forty-four years, which averages to thirty-five years each.

2) The first twelve kings of Sicyon: Aegialeus, Europs, etc., are said to have reigned five hundred and twenty-nine years, which averages to forty-four years each.

3) The first eight kings of Argos: Inachus, Phoroneus, etc., are said to have reigned three hundred and seventy-one years, which averages to more than forty-six years each.

4) Between the return of the Heraclides into Peloponnesus, and the end of the first Messenian War, the ten kings of Sparta in one family: Eurysthenes, Agis, Echestratus, Labotas, Doryagus, Agesilaus, Archelaus, Teleclus, Alcamenes, and Polydorus; the nine in the other family: Procles, Sous, Eurypon, Prytanis, Eunomus, Polydectes,

Charillus, Nicander, Theopompus; the ten kings of Messene: Cresphontes, Epytus, Glaucus, Isthmius, Dotadas, Sibotas, Phintas, Antiochus, Euphaes, Aristodemus; {E52} and the nine of Arcadia: Cypselus, Olaeas, Buchalion, Phialus, Simus, Pompus, Aegineta, Polymnestor, Aechmis, according to chronologers, took up three hundred and seventy-nine years. This averages to thirty-eight years for each of the ten kings, and to forty-two each for the nine kings.

5) The five kings of the family of Eurysthenes, between the end of the first Messenian War, and the beginning of the reign of Darius Hystaspes: Eurycrates I, Anaxander, Eurycrates II, Leon, Anaxandrides, reigned two hundred and two years, which averages to forty years each.

2.2.2 The Average Length of a King's Reign According to Observed History

205. Thus the Greek chronologers, who follow Timaeus and Eratosthenes, have made the kings of their various cities, who lived before the times of the Persian Empire, to reign about thirty-five to forty years each, which is a time so much beyond the normal course of nature it is incredible! For by the ordinary course of nature some kings reign five or six years longer while others reign much shorter times. Eighteen or twenty years is an average length of a reign. Consider the following twelve examples taken from history that we know to be accurate:

1) The eighteen kings of Judah who succeeded Solomon reigned three hundred and eighty-eight years, 975-588 BC, which averages twenty-one and a half years each.

2) The fifteen kings of Israel after Solomon reigned two hundred and fifty-five years, 975-721 BC, which averages seventeen years each.

3) The eighteen kings of Babylon: Nabonassar, etc., reigned two hundred and nine years, which averages eleven years and eight months each. {E53}

4) The ten kings of Persia: Cyrus, Cambyses, etc., reigned two hundred and eight years, which is almost twenty-one years each.

5) The sixteen successors of Alexander the Great in Syria: Seleucus, Antiochus Soter, etc., reigned two hundred and forty-four years, which averages fifteen years and three months each.

6) The eleven kings of Egypt: Ptolemy Lagus, etc., reigned two hundred and seventy-seven years, which averages twenty-five years each.

7) The eight kings in Macedon: Cassander, etc., reigned one hundred and thirty-eight years, which averages seventeen years and three months each.

8) The thirty kings of England: William the Conqueror, William Rufus, etc., reigned six hundred and forty-eight years, which averages twenty-one and a half years each.

9) The first twenty-four kings of France: Pharamundus, etc., reigned four hundred and fifty-eight years, which averages nineteen years each.

10) The next twenty-four kings of France: Ludovicus Balbus, etc., reigned four hundred and fifty-one years, which averages eighteen years and nine months each.

11) The next fifteen kings of France: Philip Valesius, etc., reigned three hundred and fifteen years, which averages twenty-one years each.

12) All the sixty-three kings of France reigned one thousand two hundred and twenty-four years, which averages nineteen and a half years each.

2.2.3 The Average Length of a Generation Compared to a King

206. Generations from father to son may be reckoned one with another at about thirty-three or thirty-four years each, or about three generations to a hundred years. However, if you calculate by the oldest sons, they are shorter, so that three of them may be reckoned at about seventy-five or eighty years. {E54} The reigns of kings are still shorter because kings are succeeded not only by their oldest sons, but sometimes by their brothers, and sometimes they are killed or deposed and succeeded by others of an equal or greater age, especially in turbulent kingdoms.

2.2.4 Dating the Heraclides' Return by the Average Length of a King's Reign

207. In more recent times, when chronology has been more exact, there is no example to be found anywhere of ten kings reigning in continual succession for more than two hundred and sixty years. However, Timaeus and his followers, (and I think some of his predecessors), follow the example of the Egyptians. They have taken the reigns of kings for generations and have calculated three generations to a hundred years and sometimes to one hundred and twenty years and founded the chronology of the Greeks upon this way of reckoning. Let the reckoning be reduced to the normal course of nature, by setting the reigns of a king to about eighteen or twenty years each. Then the time between the return of the Heraclides into

Peloponnesus and the end of the first Messenian War around 633 BC, during which:

1) ten kings of Messene reigned,

2) ten kings of Sparta by one family reigned,

3) nine by another family of Spartan kings reigned,

4) nine kings of Arcadia reigned (previously mentioned),

will scarcely take more time than one hundred and eighty or ninety years. This places the return of the Heraclides around 830 to 840 BC. However, according to chronologers, the return was in 1104 BC which amounts to more than four hundred and seventy years. This would have these kings reigning for an average of forty-five to fifty years each! {*E55*}

2.3 Method 2 — Dating the Return by the Average Generation Length

2.3.1 The Average Generation Length

208. For confirming this reckoning, I may add another argument. Euryleon, the son of Aegeus, commanded the main body of the Messenians in the fifth year of the first Messenian War around 648 BC. {*Pausanias, Messenia, l. 4. c. 13. 2:241-247*} {*Pausanias, Messenia, l. 4. c. 7. 2:205-211*} {*Pausanias, Laconia, l. 3. c. 15. 2:89-97*} He was in the fifth generation from Oiolicus, who was the son of Theras. Theras was the brother-in-law of Aristodemus and the tutor to his twin sons Eurysthenes and Procles. {*Pausanias, Messenia, l. 4. c. 7. 2:205-211*} Hence, from the return of the Heraclides, which was in the days of Theras, to the battle, which was in the fifth year of this war, there were six generations, which I think were reckoned by the oldest son. Therefore, there would scarcely exceed thirty years to a generation, and so the elapsed time would be one hundred and seventy or eighty years. That war lasted nineteen or twenty years; add the last fifteen years, and there will be about one hundred and ninety years to the end of that war. However, the followers of Timaeus reckon the time to be more than four hundred and seventy years, which is almost eighty years to a generation!

2.3.2 Calculations by the Average Reign of Kings

209. By this reasoning, chronologers have increased the period between the return of the Heraclides into Peloponnesus and the first Messenian War by about one hundred and ninety years and thereby they have also increased the period between that war and the rise of the Persian Empire. For in the family of the Spartan kings who descended from Eurysthenes, after Polydorus, these kings reigned: Eurycrates I, Anaxander, Eurycratidas or Eurycrates II, Leon, Anaxandrides, Cleomenes, Leonidas, etc. {*Herodotus, l. 7. c. 204. 3:521*} {*E56*} In another family descended from Procles after Theopompus, these kings reigned: Anaxandrides, Archidamus I, Anaxilas, Leutychides I, Hippocratides, Agasicles, Ariston, Demaratus, Leutychides II. {*Herodotus, l. 8. c. 131. 4:135*} These kings reigned until the sixth year of Xerxes I in 480 BC, in which Leonidas was killed by the Persians at Thermopylae. Leutychides II soon after this fled from Sparta to Tegea and died there. The seven reigns of the kings of Sparta, which succeeded Polydorus, when added to the ten reigns previously mentioned, which began with Eurysthenes, make up seventeen reigns of kings between the return of the Heraclides into Peloponnesus and the sixth year of Xerxes I in 480 BC. The eight reigns succeeding Theopompus, when added to the nine reigns previously mentioned, which began with that of Procles, also make up seventeen reigns. Taking these seventeen reigns at an average of twenty years each, amounts to three hundred and forty years. Count these three hundred and forty years back from the sixth year of Xerxes I to 819 BC. Add one or two years more for the war of the Heraclides and the reign of Aristodemus, the father of Eurysthenes and Procles. Then this places the return of the Heraclides into Peloponnesus in 821 BC, about one hundred fifty-four years after the death of Solomon and forty-five years before the first Olympiad, in which Coraebus was victor. {*E57*} However, the followers of Timaeus have placed this return two hundred and eighty-three years earlier in 1104 BC.

2.3.3 The Results of an Inaccurate Chronology

210. This is the foundation, according to Plutarch and Diodorus, upon which Greek history is based. For the times before Cyrus died, the history must be shorted in the proportion of almost two to one. The history after the death of Cyrus is accurate.

2.4 Method 3 — The Dating of the Return by the Time of Lycurgus

2.4.1 The Time of Lycurgus According to More Recent Ancient Historians

211. This unrealistic chronology has resulted in chronologers making Lycurgus, the legislator, as old as Iphitus, who restored the Olympiads, and Iphitus a hundred and twelve years older than the first Olympiad! To justify this chronology they have created twenty-eight Olympiads older than the first Olympiad in 776 BC, when Coraebus was the victor.

2.4.2 The Time of Lycurgus According to Thycydides and Plato

212. These things were feigned after the days of Thucydides and Plato, for Socrates died in 399 BC, five years after the end of the Peloponnesian War. Plato introduces him, saying that the institutions of Lycurgus were not much more than three hundred years old. {*Plato, Minos, l. 1. (318C) 12:411} {E58} Thucydides, in the reading followed by Stephanus, says that the Lacedemonians had good laws at an earlier time than any other land and had been free from tyranny. That time period, during which they had been enjoying the same constitution, covers about three hundred years (or a little more) down to the end of the Peloponnesian War. {*Thucydides, l. 1. c. 18. s. 1. 1:31,33} (The Loeb version says *four hundred years*, Editor.) Count back three hundred years from the end of the Peloponnesian War, and that places the legislature of Lycurgus in the 19th Olympiad in 704 BC, and according to Socrates, it might be in the 22nd or 23rd, which is 692 or 688 BC.

2.4.3 The Time of Lycurgus According to Athenaeus

213. Athenaeus relates from the ancient authors (Hellanicus, Sosibius and Hieronymus) that Lycurgus the legislator was contemporary with Terpander the musician, and that Terpander was the first man who won the music awards instituted in those festivals at Carnea in the 26th Olympiad in 676 BC. {*Athenaeus, l. 14. (635ef) 6:431} He won four times in those Pythic Games, and therefore lived at least until the 29th Olympiad in 664 BC, and he began to be popular in the days of Lycurgus. It is not likely that Lycurgus lived much before the 18th Olympiad in 708 BC.

2.4.4 How the Incorrect Time Dating Happened

214. Since the name of Lycurgus is on the Olympic discus, Aristotle assumed that Lycurgus was the companion of Iphitus in restoring the Olympic Games. This argument might be the basis of the opinion of chronologers that Lycurgus and Iphitus were contemporary.

2.4.5 The Correct Time for Lycurgus

215. However, Iphitus did not restore all the Olympic Games. He restored indeed the racing in the first Olympiad in 776 BC, when Coraebus was the victor. {E59} In the 14th Olympiad in 724 BC, the double foot race was added and Hypenus was the victor. This race was two stadia or about a quarter mile long. In the 18th Olympiad in 708 BC, the pentathlon and wrestling events were added, and Lampis and Eurybatus, both from Sparta, were the victors of these. {*Pausanias, Elis I, l. 5. c. 8. s. 5. 2:421,423} The discus was for one of the games of the pentathlon. Pausanias says that there were three discs kept in the Olympic treasury at Altis. {*Pausanias, Elis II, l. 6. c. 19. s. 1,4. 3:111} Since these have the name of Lycurgus upon them, it shows that they were given by him at the institution of the pentathlon in the 18th Olympiad in 708 BC.

216. Polydectes, the king of Sparta, was killed before the birth of his son Charillus or Charilaus and left the kingdom to Lycurgus, his brother. Lycurgus initially became the guardian to the child when he was born. After about eight months, he travelled into Crete and Asia until the child was fully grown. Lycurgus brought back with him the poems of Homer and soon after published his laws, likely in the 22nd or 23rd Olympiad in 692 or 688 BC, for by then he was growing old.

217. Terpander was a lyrical poet and began to become famous about this time, for he imitated Orpheus and Homer. He sang Homer's verses and his own and wrote the laws of Lycurgus in verse, and was the victor in the Pythic Games in the 26th Olympiad in 676 BC, as noted before. {*Plutarch, Moralia-On Music, l. 1. c. 5. (1132F) 14:363} {*Clement, Stromata, l. 1. c. 21. ANF2:330} He was the first who distinguished the modes of lyrical music by several names. {E60} Ardalus and Clomas soon after did the same for wind music. From henceforth, by the encouragement of the institution of the Pythic Games, several eminent musicians and poets became popular in Greece: as Archilochus, Eumelus Corinthius, Polymnestus, Thaletas, Xenodemus, Xenocritus, Sacadas, Tyrtaeus, Tlesilla, Rhianus, Alcman, Arion, Stesichorus, Mimnermnus, Alcaeus, Sappho, Theognis, Anacreon, Abycus, Simonides, Pindar, by whom the music and poetry of the Greeks was perfected.

2.4.6 Dating the Heraclides' Return by Lycurgus and Agesilaus

218. Lycurgus published his laws in the reign of Agesilaus, who was the son and successor of Doryagus, in the family of the kings of Sparta who descended from Eurysthenes. There were six kings from the return of the Heraclides into Peloponnesus to the end of the reign of Agesilaus. Also from the return of the Heraclides to the reign of Polydectes, there were six kings in the family of the Spartan kings who descended from Procles. At about twenty years each these reigns total one hundred and twenty years. This excludes the short reign of a year or two of Aristodemus, the father of Eurysthenes and Procles, for Aristodemus came to the throne as Herodotus and the Lacedemonians themselves affirmed. {*Herodotus, l. 6. c. 52. 3:197,199} {E61} It is not known when Agesilaus and Polydectes died, but it may be presumed that Lycurgus did not modify the Olympic Games before he became king.

Therefore, Polydectes died in the beginning of the 18th Olympiad in 708 BC or shortly before. It is likely that in the 20th Olympiad in 700 BC or very near to the middle of the Olympiad between the deaths of the two kings, Polydectes and Agesilaus, that Lycurgus made these changes. Then one hundred and twenty-one years before that time (allowing one year for the reign of Aristodemus) places the return of the Heraclides in 820 BC, about forty-five years before the first Olympiad in 776 BC.

219. Based on the information from these five methods of dating the return of the Heraclides, we selected a date of 825 BC as a good approximation and used that date in the *Short Chronology*.

2.5 Method 4 — Dating the Return by the Time of Iphitus

220. Iphitus restored the Olympic Games. {**Pausanias, Elis I, l. 5. c. 4. s. 5. 2:399*} He was a descendant of Oxylus, who was the son of Haemon the grandson of Thoas and the great-grandson of Andraemon. Hercules (Idean) and Andraemon married two sisters. Thoas fought at Troy. Oxylus returned into Peloponnesus with the Heraclides and commanded the body of the Aetolians, and recovered Elis. {**Pausanias, Elis I, l. 5. c. 1. s. 8. 2:385*} {**Pausanias, Elis I, l. 5. c. 2. s. 3,4. 2:403*} {**Pausanias, Elis I, l. 5. c. 8. s. 5. 2:421*} {**Strabo, l. 8. c. 3. s. 33. (357) 4:103*} Oxylus' ancestor Aetolus (the son of Endymion and the grandson of Aethlius) had been driven from Elis by Salmoneus, the grandson of Hellen. By the friendship of the Heraclides, Oxylus had the care of the Olympic temple entrusted to him. For his services to them, the Heraclides promised him that the country of the Eleans would be free from war and be defended by them. {*E62*} When the Eleans were thus protected, Oxylus restored the Olympic Games. After his reign, they were discontinued and later restored by Iphitus their king. {**Pausanias, Elis I, l. 5. c. 4. s. 5. 2:399*} {**Pausanias, Elis I, l. 5. c. 8. s. 5. 2:421*} He made the games quadrennial. Iphitus is considered by some to be the son of Haemon and by others the son of Praxonidas, who was the son of Haemon. Since Haemon was the father of Oxylus, I think Iphitus was the son of Praxonidas, the grandson of Oxylus, the great-grandson of Haemon. Hence, the return of the Heraclides into Peloponnesus is two generations calculated by the oldest sons, or about fifty years before the Olympiads around 825 BC.

2.6 Method 5 — Dating the Return by the Time of Melas

221. Pausanias states that Melas is the son of Antissus of the descendants of Gonussa, who was the daughter of Sicyon, and was not more than six generations older than Cypselus, the king of Corinth. {**Pausanias, Elis I, l. 5. c. 18. s. 7. 2:489*} Melas was a contemporary of Aletes, who returned with the Heraclides into Peloponnesus. According to chronologers, the reign of Cypselus began in year two of Olymiad 31 in 654 BC. If you allow thirty years for each of the six generations, then this amounts to one hundred and eighty years. This places the return of the Heraclides in 833 BC, which is fifty-eight years before the first Olympiad in 776 BC. {*E63*} However, it might not be so early if the reign of Cypselus began three or four Olympiads later, since he reigned before the Persian Empire began.

3. Dating the Argonaut Expedition

3.1 Method 1 — Dating the Argonaut Expedition by Aristodemus the Heraclide

222. Hercules (Idean) was the father of Hyllus, the grandfather of Cleodius, the great-grandfather of Aristomachus, the great-great-grandfather of Temenus, Cresphontes and Aristodemus. Aristodemus led the Heraclides into Peloponnesus. Eurystheus, who lived in the time of Hercules (Idean), was killed in the first attempt of the Heraclides to return. Hyllus was killed in the second attempt, Cleodius in the third attempt, and Aristomachus in the fourth attempt. Aristodemus died as soon as they had returned and left the kingdom of Sparta to his sons Eurysthenes and Procles. Hence, their return was four generations later than the Argonaut Expedition. These generations were short ones being reckoned by the fathers of the family and agree with the reckoning of Thucydides and the ancients that the taking of Troy was about seventy-five or eighty years before the return of the Heraclides into Peloponnesus. The Argonaut Expedition was one generation earlier than the taking of Troy. Therefore, if you count eighty years back from the return of the Heraclides into Peloponnesus to the Trojan War, the taking of Troy will be about seventy-one years after the death of Solomon in 904 BC. Since the Argonaut Expedition was one generation earlier, it would be about forty-two years after the death of Solomon in 933 BC. {*E64*} From the taking of Troy to the return of the Heraclides could scarcely be more than eighty years, because Orestes, the son of Agamemnon, was a youth at the taking of Troy, and his sons Penthilus and Tisamenus lived until the return of the Heraclides.

3.2 Method 2 — Dating the Argonaut Expedition by Aesculapius and Hippocrates

223. Aesculapius and Hercules (Idean) were Argonauts, and Hippocrates was the eighteenth generation inclusively on his father's side from Aesculapius, and the

nineteenth generation from Hercules (Idean) on his mother's side. Most writers likely note these generations by the head of the family, and so for the most part by the oldest sons. Therefore, we may reckon about twenty-eight or at most about thirty years to a generation. And thus the seventeen generations on his father's side, and eighteen on his mother's sum to about five hundred and two years. Counting back from the beginning of the Peloponnesian War, at which time Hippocrates began to be popular, brings you to forty-two years after the death of Solomon, placing the time of the Argonaut Expedition in 933 BC.

3.3 Method 3 — Dating the Argonaut Expedition by the Time of the Trojan War

3.3.1 Method 3.1 — Dating the Trojan War by the Carthaginian Archives

224. When the Romans conquered Carthage, the archives of Carthage came into their hands. Hence, Appian says that from the time of the founding of Carthage until the end of the first Punic War in 241 BC was approximately seven hundred years. {**Appian, Punic Wars, l. 1. c. 2. 1:405*} Solinus adds about thirty-seven years to the number.

> *Adrymento atque Carthagini auctor est a Tyro populus. Urbem istam, ut Cato in Oratione Senatoria autumat, cum rex Hiarbas rerum in Libya potiretur, Elissa mulier extruxit, domo Phoenix, & Carthadam dixit, quod Phoenicum ore exprimit civitatem novam; mox sermone verso Carthago dicta est, quae post annos septingentos triginta septem exciditur quam fuerat extructa.* {*Solinus, Polyhistor, c. 30.*}

Adrymentum and Carthage were founded by the city state of Tyre. When King Hiarbas became master of affairs in Libya, as Cato affirms in a senatorial speech, Elissa (Dido) his wife founded the city of Carthage itself from the home city of the Phoenicans and called it Carthadas, which she called the new city state in the Phoenican language. Soon it was changed by speech to Carthage, which after seven hundred and thirty years was destroyed after its founding.

225. Elissa was Dido. Carthage was destroyed in the consulship of Lentulus and Mummius in 146 BC. Count back seven hundred and thirty-seven years to the *Encaenia* or dedication of the city in 882 BC, which is the sixteenth year of Pygmalion, the brother of Dido and the king of Tyre. She fled in the seventh year of Pygmalion, but the era of the city began with its dedication. Virgil, and his commentator Servius, who might have had access to the archives of Tyre and Cyprus, as well as from those of Carthage, relate the following. Teucer came from the war of Troy to Cyprus in the days of Dido, a little before the reign of her brother Pygmalion. Together with her father, she seized Cyprus and ejected Cinyras. The Arundelian Marbles say that Teucer came to Cyprus seven years after the destruction of Troy and built Salamis. Apollodorus states that Cinyras married Metharme, the daughter of Pygmalion, and built Paphos. {*E66*} Hence, the arrival of Teucer at Cyprus is in the reign of the predecessor of Pygmalion, and by consequence the destruction of Troy is about seventy-one years after the death of Solomon in 904 BC.

3.3.2 Method 3.2 — Dating the Trojan War by the Latin Kings

226. Dionysius of Halicarnassus says that in the time of the Trojan War, Latinus was king of the natives in Italy, and that in the sixteenth generation after that war, Romulus built Rome. {**Dionysius, l. 1. c. 9. (3) 1:31*} After Latinus he names sixteen kings of the Latins, the last of whom was Numitor, in whose days Romulus built Rome. Romulus was contemporary to Numitor, and after him Dionysius and others reckon six more kings over Rome to the beginning of the consuls. These twenty-two reigns, at about eighteen years to a reign (for many of these kings were murdered), took up three hundred and ninety-six years. Counting back from the first consuls, Junius Brutus and Valerius Publicola, in 508 BC places the end of the Trojan War about seventy-one years after the death of Solomon in 904 BC. {*E67*} The Argonaut Expedition occurred about a generation before this, and if you allow three generations per one hundred years, this would place that expedition about 937 BC.

3.4 Method 4 — Dating the Argonaut Expedition by the Expedition of Sesostris

227. The expedition of Sesostris was one generation earlier than the Argonaut Expedition, for on his return to Egypt in 962 BC, he left Aeetes in Colchis, who reigned there until the Argonaut Expedition. Sesostris left Prometheus with a body of men at Mount Caucasus to guard that pass. He was there for thirty years before he was released by Hercules (Idean). The Argonauts Phlias and Eurymedon were the sons of the great Bacchus (whom the poets called Sesostris) and of Ariadne, the daughter of Minos.

228. On the return of Sesostris into Egypt, his brother Danaus fled from him into Greece with his fifty daughters in a long ship patterned after the *Argo*.

Argus, the son of Danaus, built the ship *Argo*. Nauplius the Argonaut was the son of Amymone, one of the daughters of Danaus, and of Neptune, who was the brother and admiral of Sesostris. The two other daughters of Danaus married Archander and Archilites, the sons of Achaeus and the grandsons of Creusa, who was the daughter of Erechtheus, the king of Athens. Therefore, the daughters of Danaus were three generations younger than Erechtheus and as a result, contemporary with Theseus, the son of Aegeus who was the adopted son of Pandion who was the son of Erechtheus. Theseus, at the time of the Argonaut Expedition, was about fifty years old, and so he was born about the thirty-third year of Solomon in 983 BC, for he kidnapped Helen just before that expedition. {*Apollonius, Argonautica, l. 1. v. 101. 1:9} At that time she was only seven, or as some have said, ten. {E68}

229. Pirithous the son of Ixion helped Theseus to kidnap Helen. {*Plutarch, Lives-Theseus, l. 1. 1:41} Theseus went with Pirithous to kidnap Persephone, the daughter of Orcus or Aidoneus, the king of the Molossians. The king killed Pirithous and captured Theseus. While he was imprisoned, Castor and Pollux returned from the Argonaut Expedition. They released their sister Helen and captured Aethra, the mother of Theseus. Since the daughters of Danaus are contemporary with Theseus and some of their sons were Argonauts, then Danaus with his daughters fled from his brother Sesostris into Greece about one generation before the Argonaut Expedition. Therefore, Sesostris returned into Egypt in the reign of Rehoboam. He came from Egypt in the fifth year of Rehoboam in 971 BC, and spent nine years in that expedition against the eastern nations and Greece. {*Diod. Sic., l. 1. c. 55. 1:191-195} {1Ki 14:25,26 2Ch 12:2-4} Therefore, he returned back into Egypt in the fourteenth year of Rehoboam in 962 BC. Hence, Shishak and Sesostris were kings of all Egypt at the same time. They agree not only in the time but also in their actions and conquests. God gave Shishak ממלכות הארצות *the kingdoms of the lands*. {BHM 2Ch 12:8}

230. Where Herodotus describes the expedition of Sesostris, Josephus says that Herodotus described the expedition of Shishak and attributed his actions to Sesostris, thus erring only in the name of the king. {*Herodotus, l. 2. c. 102,103. 1:389,391} {*Josephus, Antiquities, l. 8. c. 10. s. 2. (253) 5:709} Corruptions of names are frequent in history. {E69} Sesostris was otherwise called Sesochris, Sesochis, Sesoosis, Sethosis, Sesonchis and Sesonchosis. Take away the Greek ending and the names become Sesost, Sesoch, Sesoos, Sethon, Sesonch, Sesac, which differ very little from Sesach. Sesonchis and Shishak differ no more than Memphis and Moph, two names for the same city. Also, Josephus relates

from Manetho that Sesostris was the brother of Armais, and that these brothers were otherwise called Aegyptus and Danaus. On the return of Sesostris or Aegyptus from his great conquests to Egypt, Armais or Danaus fled from him into Greece. {*Josephus, Against Apion, l. 1. c. 15. (97-102) 1:201-205}

231. Egypt was at first divided into many small kingdoms and like other countries grew into one kingdom by degrees. Ammon, the father of Solomon's queen, was the first king of Egypt and came into Phoenicia with an army. He only took Gezer and gave it to his daughter. Sesostris, the next king, came from Egypt with an army of Libyans, Troglodytes and Ethiopians, and therefore was then king over all those countries. {2Ch 12:3} We do not read in the scriptures that any former king of Egypt, who reigned over all those countries, came from Egypt with a great army to conquer other countries. The biblical history of the Israelites, from the days of Abraham to the days of Solomon, mentions no such conqueror. {E70} Sesostris reigned over all the same nations of the Libyans, Troglodytes and Ethiopians, and came from Egypt with a great army to conquer other kingdoms. The Shepherds reigned for a long time in Lower Egypt, and according to Manetho were expelled from there around the time of the building of Jerusalem. While they reigned in Lower Egypt, Upper Egypt was under other kings. While Egypt was divided into several kingdoms, there was no place for any such king over all Egypt as Sesostris. No historian makes him later than Shishak, and therefore he was one and the same king of Egypt with Shishak.

232. This is not a new opinion. Josephus discovered it when he affirmed that Herodotus erred only in ascribing the actions of Shishak to Sesostris. This is as much as to say that the true name of him who did those things described by Herodotus was Shishak and that Herodotus erred only in calling him Sesostris or that he was called Sesostris by a corruption of his name. Our great chronologer, Sir John Marsham, was also of the opinion that Sesostris was Shishak. If this is granted, it is then most certain that

1) Sesostris came from Egypt in the fifth year of Rehoboam in 971 BC to invade the nations and returned to Egypt in the fourteenth year of that king in 962 BC. {E71}

2) Danaus then fled from his brother and came into Greece within a year or two later, about 961 BC.

3) The Argonaut Expedition was one generation later than that invasion by Sesostris and the coming of Danaus into Greece. Hence, the expedition

was certainly about forty-two years after the death of Solomon, about 933 BC.

4) Prometheus stayed on Mount Caucasus thirty years and then was released by Hercules (Idean) about 933 BC. {*Hyginus, Fabulae, l. 1. c. 144. 1:147}

233. Therefore, the Argonaut Expedition was about thirty years after Sesostris left Prometheus on Mount Caucasus, that is, about forty-two years after the death of Solomon in about 933 BC.

3.5 Method 5 — Dating the Argonaut Expedition by Astronomical Observations

234. Before we can discuss this method we must discuss the length of the year and how it was determined by ancient nations.

3.5.1 Determining the Length of the Year

3.5.1.1 The Length of the Year of the Greeks

235. Before the correct length of the solar year was known, all countries calculated months by the moon and calculated years by the return of winter and summer, spring and autumn. {*Ge 1:14 8:22.*} {*Censorinus, De Die Natali, c. 19,20. 1:44-48*} {*Cicero, Against Verres II, l. 2. c. 52. (129) 7:431*} {*Geminus, l. 1. c. 6. s. 5. 1:162*} When making calendars for their festivals, they calculated thirty days to a lunar month, and twelve lunar months to a year, rounding up to the nearest month. Hence came the division of the ecliptic into three hundred and sixty degrees. So in the time of Noah's flood, when the moon could not be seen, Noah calculated thirty days to a month. If the moon appeared a day or two before the end of the month, they began the next month with the first day of its appearing. {*Cicero, Against Verres II, l. 2. c. 52. (129) 7:431*} This was done generally, until the Egyptians of Thebes determined the length of the solar year. {*E72*} So Diodorus says that the Egyptians of Thebes use no intercalary months, nor deduct any days from the month as is done by most of the Greeks. {*Diod. Sic., l. 1. c. 50. s. 2. 1:177*}

236. Cicero states:

It is the custom of the Sicilians, as of all the Greeks, as they like to secure the agreement of the days of the month with the motions of the sun and moon, to correct an occasional discrepancy by shortening a month by some one, or two days at the most, which they term *eliminated*; also they sometimes lengthen a month [legally thirty days long] by a day, or by two days. {*Cicero, Against Verres II, l. 2. c. 52. (129) 7:431*} {*E73*}

237. Geminus states:

6. Since neither the month nor the solar year is composed of [a] whole [number of] days, a time [interval] was therefore sought by the astronomers that will contain [a] whole [number of] days, whole months, and whole years. The goal for the ancients was to reckon the months by the Moon and the years by the Sun. 7 For the command, by the laws as well as the oracles, to sacrifice in the manner of the fathers, was taken by all the Greeks to mean reckoning years in accordance with the Sun and the days and months by the Moon. 8 Reckoning years by the Sun means for the same sacrifices to the gods to be performed in the same seasons of the year, the spring sacrifice always to be performed in the spring, and the summer in the summer, and, in the same way, for the same feasts to fall at the remaining proper times of the year; 9 for this they took to be suitable and pleasing to the gods. And this could not come about in any other way if the solstices and the equinoxes were not in the same months. 10 Reckoning the days by the Moon means for the names of the days to be in conformity with the phases of the Moon, 11 for the names of the days were names for the phases of the Moon. Thus, on the day the Moon appears new, it [the day] was named, by contraction, *noumenia* or *new moon*; on the day it makes its second appearance they called it *second;* and they called the phase of the Moon occurring at the middle of the month *dichomonia* or *dividing the month* from this circumstance. 12 And in general they named all the days for the phases of the Moon; thus they also called the thirtieth day of the month, which is last, *triakas* or *thirty*, from this very circumstance. {*Geminus, l. 1. c. 8. s. 6-12. 1:176,177*}

238. The ancient calendar year of the Greeks consisted of twelve lunar months, with each month having thirty days. From time to time, they corrected these years and months by the courses of the sun and moon. They omitted a day or two in the month as often as they found the month too long for the course of the moon, and added a month to the year as often as they found the twelve lunar months too short for the return of the four seasons. {*E75*} Cleobulus, one of the seven wise men of Greece, alluded to this year of the Greeks in his riddle:

One father there is, he has twelve sons, and each of these has twice thirty daughters different in feature; some of the daughters are white, the others are black; they are immortal, and yet they all die. {*Diogenes Laertius, Cleobulus, l. 1. c. 6. (90) 1:93*}

239. Thales called the last day of the month τριακαδα, *the thirtieth.* {*Diogenes Laertius, Thales, l. 1. c. 1. (24) 1:25} After the twentieth day of the month, Solon did not count the days by adding them to the twentieth, but by subtracting them from the thirtieth, on a descending scale, like the waning of the moon. He called the thirtieth day of the month ενην και νεαν, the *Old and New*, or the last day of the old month and the first day of the new. He introduced months of twenty-nine or thirty days alternately, making the thirtieth day of every other month to be the first day of the next month. {*Plutarch, Lives-Solon, l. 1. c. 25. s. 3. 1:475}

240. To the twelve lunar months the ancient Greeks added a thirteenth every other year, which made their *Dieteris.* {*Censorinus, De Die Natali, c. 18. s. 2. 1:40} {*Herodotus, l. 2. c. 4. 1:279} Since this year was too long by a month in eight years, they omitted an intercalary month once in eight years, which made their *Octaeteris*, one half of which was their *Tetraeteris*. These periods seem to have been almost as old as the religions of Greece, being used in their various sacred festivals. The *Octaeteris* was the *Great Year* of Cadmus and Minos, and seems to have been brought into Greece and Crete by the Phoenicians. {*Apollodorus, Library, l. 3. c. 4. s. 2. 1:317} {*Strabo, l. 10. c. 4. s. 8. (476) 5:131} {*Homer, Odyssey, l. 19. v. 177-183. 2:247,249} These came there with Cadmus and Europa and continued until after the days of Herodotus. {E76} In determining the length of seventy years, he calculates thirty days to a lunar month, and twelve such months or three hundred and sixty days to the ordinary year without the intercalary months, and twenty-five such months to the *Dieteris*: and according to the number of days in the calendar year of the Greeks. {*Herodotus, l. 1. c. 32. 1:37,39} Athenians built three hundred and sixty statues to Demetrius Phalereus. The Greeks—Cleostratus, Harpalus, and others—to make their months agree better with the course of the moon, in the times of the Persian Empire varied the manner of intercalating the three months in the *Octaeteris*. When Meton determined the lunar cycle, they intercalated seven months in nineteen years.

3.5.1.2 The Length of the Year of the Romans

241. The ancient year of the Romans was also luni-solar, for the year of Numa consisted of twelve lunar months, with intercalary months to make up what the twelve lunar months lacked of the solar year. {*Plutarch, Lives-Numa, l. 1. c. 18. s. 2. 1:376} The ancient year of the Egyptians was also luni-solar, and continued to be so until the days of Hyperion, or Osiris, a king of Egypt, the father of Helius and Selene, or Orus and Bubaste. The Israelites brought this year out of Egypt, and Diodorus states that Uranus the father of

Hyperion used this year. {*Diod. Sic., l. 3. c. 56. s. 4. 2:265} In the temple of Osiris the priests filled three hundred and sixty bowls with milk each day. {*Diod. Sic., l. 1. c. 22. s. 4. 1:71} {E77} I think he means one bowl each day and three hundred and sixty in all to count the number of days in the calendar year. By this they would determine the difference between the lunar year and the true solar year, and they added five days to it to make a solar year of three hundred and sixty-five days.

3.5.1.3 The Length of the Year of the Israelites

242. The Israelites also appear to have used the luni-solar year. Their months began with their new moons. Their first month was called Abib from the earing of grain in that month. Their passover was kept upon the fourteenth day of the first month, when the moon was full. If the grain was not then ripe enough for offering the first fruits, the festival was put off by adding an intercalary month to the end of the year, and the harvest was brought in before the Pentecost. and the other fruits gathered before the feast of the seventh month.

3.5.1.4 The Length of the Year of the Various Asian Countries

243. Simplicius, in his commentary on the first of Aristotle's *Physical Acroasis*, says that some begin the year on the summer solstice, as the people of Attica, or upon the autumnal equinox, as the people of Asia, or in winter, as the Romans, or about the vernal equinox, as the Arabians and the people of Damascus. The month began either on the new moon or the full moon. {*Theodorus of Gaza 1400-1475 AD, Concerning the Months*} {E78} The years of all these nations were therefore luni-solar, thus keeping the four seasons. The old year of the Romans began at first in the spring, as I seem to gather from the names of their months, Quintilis, Sextilis, September, October, November, December, which correspond to the months numbered five, six, seven, eight, nine and ten. Julius Caesar later moved the start of their year to the beginning of winter. The ancient civil year of the Assyrians and Babylonians was also luni-solar. This year was also used by the Samaritans, who came from various parts of the Assyrian Empire, and the Jews, who came from Babylon and called the months of their luni-solar year after the names of the months of the Babylonian year. Berosus in his *Babylonian History* states that the Babylonians celebrated the festival called *Sacaea* on the sixteenth day of the month Loos. {*Athenaeus, l. 14. (639c) 6:451} This was the lunar month of the Macedonians and occurred in the same season each year. The Arabians who live in the area of Babylon use lunar months to this day. Suidas states that the *Sarus* of the Chaldeans

contains two hundred and twenty-two lunar months. This is eighteen years, each consisting of twelve lunar months besides six intercalary months. {*Suidas, in Σαροι.} When Cyrus cut the Gindus River into three hundred and sixty channels, he seems to have alluded to the number of days in the calendar year of the Medes and Persians. {*Herodotus, l. 1. c. 190. 1:237}

3.5.1.5 The Length of the Year of the Egyptians

244. The emperor Julian writes:

> For when all other people, that I may say it in one word, adjust their months to the course of the moon, we alone with the Egyptians measure the days of the year by the course of the sun.
> {*Julian, Orations, l. 4. (156AB) 1:427,429} {E79}

245. The Egyptians, for the sake of navigation, studied the stars. By noting their heliacal risings and settings, they determined the true length of the solar year to be five days longer than the calendar year and added five days to the twelve calendar months. This made the solar year to consist of twelve months and five days. Strabo and Diodorus ascribe this innovation to the Egyptians of Thebes. {*Diod. Sic., l. 1. c. 50. s. 2. 1:177} {*Strabo, l. 17. c. 1. s. 46. (816) 8:125} Diodorus said the priests of Thebes (Egyptian) excelled more than others in astronomy and philosophy. They invented the reckoning of days not by the course of the moon, but by the course of the sun. They add yearly five days to twelve months each of thirty days. {*Diod. Sic., l. 1. c. 50. s. 1,2. 1:175,177} In memory of this amendment to the year they dedicated the five additional days to Osiris, Isis, Orus Senior, Typhon and Nephthe, the sister and the wife of Typhon. They imagined that those days were added to the year when these five gods were born, that is, in the reign of Uranus, or Ammon, the father of Sesostris. {*Plutarch, Moralia-Isis and Osiris, l. 1. c. 12. (355) 5:33,35} {*Diod. Sic., l. 1. c. 13. s. 4. 1:47}

246. From Hecataeus we learn that in the sepulchre of Amenophis or Osymandias, who reigned soon after Sesostris, the priests placed a golden circle of three hundred and sixty-five cubits in circumference and divided it into three hundred and sixty-five equal parts. On each part the days in the year are noted, and the heliacal risings and settings of the stars are noted for each day. This circle remained until the invasion of Egypt around 525 BC by Cambyses, the king of Persia. {*Diod. Sic., l. 1. c. 49. s. 5. 1:175} {E80} Until the reign of Uranus, the father of Hyperion, and the grandfather of Helius and Selene, the Egyptians used the old luni-solar year. In his reign, that is, in the reign of Ammon, the father of Osiris or Sesostris, and the grandfather of Orus and Bubaste, the Thebans began

to study navigation and astronomy. Using the heliacal risings and settings of the stars, they determined the correct length of the solar year. They added five days to the old calendar year and dedicated them to his five children previously to commemorate their birthdays. After further observations in the reign of Amenophis, they accurately determined the time of the solstices and they began to start their New Year on the vernal equinox in the beginning of spring.

3.5.1.6 The Length of the Year of the Chaldeans

247. This year was used in Chaldea and was the basis for the year of Nabonassar since the years of Nabonassar and those of Egypt began on the same day and in the same month called Thoth. They were equal and in all respects the same. The first year of Nabonassar began on February 26, 747 BC. {E81} It was thirty-three days and five hours before the vernal equinox, according to the sun's mean motion, for it is not likely that the equation of the sun's motion would be known when astronomy was just getting started. This year of three hundred and sixty-five days is short by five hours, forty-eight minutes and forty-six seconds of the tropical year. The start of this year will move backwards thirty-three days and five hours in a hundred and thirty-seven years. By consequence, when this year was instituted in Egypt, it started on the vernal equinox. Therefore, according to the sun's mean motion, this was one-hundred and thirty-seven years before the era of Nabonassar began, in 883 BC. If it began on the day after the vernal equinox, it might have begun four years earlier or 887 BC, eighty-eight years after the death of Solomon. About that time Amenophis died, for he did not come from Susa to the Trojan War but died later in Egypt. This year was received by the Persian Empire from the Babylonians, and the Greeks also used it in the era of Philip, which started with the death of Alexander the Great. Julius Caesar corrected it by adding an extra day every four years and made it the standard year of the Romans.

248. George Syncellus says that the five days were added to the old year by the last king of the Shepherds. {*Syncellus, l. 1. (143) 1:178} {E82} The time between the reign of this king and Ammon is small, for the reign of the Shepherds ended only one generation or two before Ammon began to add those days. The Shepherds were not skilled in the arts and sciences.

3.5.2 Determining the Solstices and Equinoxes

249. In the rest of section 3.5, Newton is using coordinates relative to the ecliptic, not right ascension and declination that astronomers normally use. By