# Chronological Studies Related to

# Daniel

## 8:14 and 9:24-27

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**Engenheiro Coelho, SP – Brazil**
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**“Chronological Studies Related to Daniel 8:14 and 9:24-27”**

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This book is dedicated to my late father, Roldão Marques de Oliveira, uncle of the late Professor Modesto Marques de Oliveira (both *in memoriam*) serious students of the Bible and the Writings of Ellen G. White. To the kind person who baptized and married me, Pastor Tesinho Pereira Bahia, father of Professor Euler Pereira Bahia. To my family, and to all serious students of Daniel, truth-seekers who are heeding the words of Jesus Christ, the Annointed Savior, in Matthew 24:15.

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## Definite Time

The preaching of a definite time for the judgment, in the giving of the first message, was ordered of God. The computation of the prophetic periods on which that message was based, placing the close of the 2300 days in the autumn of 1844, stands without impeachment. The repeated efforts to find new dates for the beginning and close of the prophetic periods, and the unsound reasoning necessary to sustain these positions, not only lead minds away from the present truth, but throw contempt upon all efforts to explain the prophecies.WHITE, Ellen G. *The Great Controversy*, p. 457

## A Firm Platform

I saw a company who stood well guarded and firm, giving no countenance to those who would unsettle the established faith of the body. God looked upon them with approbation. I was shown three steps-- the first, second, and third angels' messages. Said my accompanying angel, "Woe to him who shall move a block or stir a pin of these messages. The true understanding of these messages is of vital importance. The destiny of souls hangs upon the manner in which they are received." I was again brought down through these messages, and saw how dearly the people of God had purchased their experience. It had been obtained through much suffering and severe conflict. God had led them along step by step, until He had placed them upon a solid, immovable platform. I saw individuals approach the platform and examine the foundation. Some with rejoicing immediately stepped upon it. Others commenced to find fault with the foundation. They wished improvements made, and then the platform would be more perfect, and the people much happier. Some stepped off the platform to examine it and declared it to be laid wrong. But I saw that nearly all stood firm upon the platform and exhorted those who had stepped off to cease their complaints; for God was the Master Builder, and they were fighting against Him. They recounted the wonderful work of God, which had led them to the firm platform, and in union raised their eyes to heaven and with a loud voice glorified God. This affected some of those who had complained and left the platform, and they with humble look again stepped upon it. WHITE, Ellen G.. *Early Writings,* p. 258-259.

**The proclamation of the first, second, and third angels' messages has been located by the Word of Inspiration. Not a peg or pin is to be removed. No human authority has any more right to change the location of these messages than to substitute the New Testament for the Old. The Old Testament is the gospel in figures and symbols. The New Testament is the substance. One is as essential as the other. The Old Testament presents lessons from the lips of Christ, and these lessons have not lost their force in any particular. {2SM 104.2}**

The Great Controversy -PG- 572:
It is true that great light, intellectual, moral, and religious, is shining upon this generation. In the open pages of God's Holy Word, light from heaven has been shed upon the world. **But it should be remembered that the greater the light bestowed, the greater the darkness of those who pervert and reject it**. (See Early Writings, page 242)

-TI- Sons and Daughters of God
-PG- 259
-TEXT-
The end is near! We have not a moment to lose! Light is to shine forth from God's people in clear, distinct rays, bringing Jesus before the churches and before the world. . . . **The instrumentalities to be used are those souls who gladly receive the light of truth which God communicates to them. These are God's agencies for communicating the knowledge of truth to the world**. If through the grace of Christ His people will become new bottles, He will fill them with the new wine. **God will give additional light, and old truths will be recovered, and replaced in the frame-work of truth; and wherever the laborers go, they will triumph.** As Christ's ambassadors, they are to search the Scriptures, to seek for the **truths that have been hidden beneath the rubbish of error**. And every ray of light received is to be communicated to others. One interest will prevail, one subject will swallow up every other,--Christ our righteousness. . . .
-END-

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NEW YORK, THURSDAY, JUNE 5, 1845.

## PROPHETIC CHRONOLOGY.—CONTINUED.

The point that remains to be noticed in the chronology of the 70 weeks, is the commencement of Paul's ministry. His conversion, it is evident, took place soon after the martyrdom of Stephen, which, according to Townsend, was in A. D. 33 or 34. If it was in 34, it must have been the early part of the year. In Gal. i. 15-18 we learn that *three years* elapsed between the conversion of Paul and his first visit to Jerusalem. Turn to Acts ix. 26, where Luke gives the account of this, and we shall find the date to be A. D. 37. From A.D. 34 to A. D. 37, are three years. Again, in Gal. ii. 1, Paul tells us that *fourteen years* after that he went up to Jerusalem again. By referring to Acts xv. 2, we shall find the date of this second visit to be A. D. 51. And from A.D. 37 to A. D. 51 are fourteen years. The conclusion to which we arrive, therefore, is this, that Paul was converted and began his ministry in the autumn of A. D. 34, At that point this wonderful man, who had been a most bitter and unrelenting persecutor of the saints, became a chosen vessel of the Lord—the apostle to the Gentiles, of that faith which he once destroyed. Here the *last* and *special* witness of the resurrection of our blessed Lord, (see 1 Cor. xv. 8,) came upon the stand and gave his testimony, which, together with that of Christ and the other apostles, laid the *foundation* of our faith and hope. And *thus* was the *covenant confirmed.*

Thus, by clear and convincing proofs, entirely independent of each other, we have established the correctness of those several dates, viz., B. C. 457, for 'the going forth of the commandment,' A. D. 27, for the beginning of our Lord's public preaching, A.D. 31 for the crucifixion, and A. D. 34 for the commencement of the ministry of Paul. These proofs stand forth like so many independent witnesses in court, and, perfectly agreeing in their testimony, confirm us, so that a doubt is criminal, that we have the right chronology. The 70 weeks, therefore, began on the 10th day of the 7th month B. C. 457. From that point, 69 weeks, or 483 years, ended in the 7th month A. D. 27, when Jesus began the proclamation of the gospel of the kingdom of God, saying, 'THE TIME IS FULFILLED.' Then 3½ years after that, on the 10th day of the first month A. D. 31, he rode into Jerusalem as King, and caused the temple worship, or 'sacrifice and oblation,' to cease. From that point 3½ years, the last half of the week, extended to the 10th day of the 7th month A. D. 34, when of course the 70 weeks ended. Thus 490 years of the 2300 were fulfilled, and 1810 remained to be fulfilled. Where would they end? On the *tenth day* of the *seventh month*, A. D. 1844.

Yes, glory be to God in the highest! the '*appointed time is*

Jubilee Standard, June 5, 1845, page 100, Samuel S. Snow

# ACKNOWLEDGMENTS

***Our faith in reference to the messages of the first, second, and third angels was correct. The great waymarks we have passed are immovable. Although the hosts of hell may try to tear them from their foundation, and triumph in the thought that they have succeeded, yet they do not succeed. These pillars of truth stand firm as the eternal hills, unmoved by all the efforts of men combined with those of Satan and his host. We can learn much, and should be constantly searching the Scriptures to see if these things are so. God's people are now to have their eyes fixed on the heavenly sanctuary, where the final ministration of our great High Priest in the work of the judgment is going forward, – where He is interceding for His people.*** *Review and Herald,* Nov. 27, 1883. {Ev 223.1}

Speaking about the prophecies of Daniel 8:14 and Revelation 14:6-12, Ellen White describes them as "great immovable waymarks" of the Advent Movement (Read Evangelism, pages 222-223). In fact, all acquainted with the history and theology of the Seventh-day Adventist Church know that if any alleged weakness in our interpretation of this theme could be proved, the reason for our existence as the Remnant Church would be discredited.

In an attempt to better understand the Adventist and Seventh-day Adventist interpretations of the "two thousand and three hundred evenings and mornings" as defended by Ellen G. White, I started an in-depth research on the prophecies of Daniel in 1980. Right from the start, I noticed that there has been a growing debate on this subject among the scholars since 1900. The chronological question, above all, has been the main point at issue. This used to remain within the academic circles, but it came to be widely known on account of the crisis brought about by the questioning of Desmond Ford in 1980, with his document *Daniel 8:14, the Day of Atonement, and the Investigative Judgment* in which he argues against some positions held historically since 1844, positions that were supported by Ellen G. White, in relation to the sanctuary doctrine.

In an attempt to support their interpretation, a committee of scholars coordinated by the Biblical Research Institute (BRI) – an organ directly connected with the General Conference – started to publish a series of papers and technical articles especially related to the issues regarding the sanctuary and the prophecies of Daniel

and Revelation. The papers were eventually published under the title of Daniel & Revelation Committee Series and were widely circulated and quoted in the Seventh-day Adventist theological writings. This series may be seen at http://biblicalresearch.gc.adventist.org/bookshop.htm

This effort of the committee had, in fact, a great impact on the Church and helped in the explanation of some questions. However, it became clear to me that some chronological issues relating to Daniel 8:14 and 9:24-27 (see GC p. 410) were distorted and called for deeper study and argumentative soundness. This gap or lack of details was already felt before the 1940´s. This led to investigations by S. Horn and L. Wood who wrote in *The Chronology of Ezra 7*, First Edition, 1953, Introduction, that "The purpose of this study is to examine the chronological basis of the time prophecy of the 2300 days of Daniel 8:14". In the Second Edition, 1970, they narrowed down the purpose and stated that "The purpose of this study is to examine the date of Ezra´s journey from Babylon to Palestine in the 7th year of Artaxerxes". In *Chronology of Ezra 7*, Second Edition, Revised, Introduction, page 125, Horn admits uncertainties related to the Xerxes – Artaxerxes transition. This situation is also briefly mentioned by Horn in an article published in the *Ministry* of August, 1981.

Unfortunately, conclusions defended in the First Edition but abandoned in the Second Edition continued to be published in later Seventh-day Adventist papers such as the Doctoral Dissertation of Brempong Owusu-Antwi "*An Investigation of the Chronology of Daniel 9:24-27*", approved on November 24, 1993, at Andrews University.

Scholars usually look for chronological support in Horn´s book and overlook the fact that Ellen G. White places more chronological and theological emphases in the middle of the seventieth week, as may be verified by reading pages 328, 348 and 399-400 of the *Great Controversy*.

While delving into the biblical details, I also carried out research in astronomy and ancient chronology, and also read books by Thiele, Horn, Froom, Shea and others who directly or indirectly dealt with the chronological problems. The availability of Babylonian tablets and scholarly publications derived from them, such as *Babylonian Chronology* by Parker and Dubberstein, and *Historical Eclipses and Earth's Rotation*, by F. Richard Stephenson, Cambridge University Press; (June 5, 1997), helped to establish the foundation for a documental and scientific approach. These tablets with dates and astronomical information, together with the astronomy programs presently available and listad in the Appendix, enable an accurate and mathematical analysis, based on actual chronological facts, which was not possible in the past.

In my search for understanding and first-hand documentation, I visited some institutions, universities, libraries, and talked with experts in Minas Gerais, Rio de Janeiro, São Paulo in Brazil, and Princeton, Harvard, Andrews, Library of Congress in the USA, British Museum, Durham, Oxford, Cambridge, Newbold in England. I went to these places on account of the seriousness of the subject, which is the chronology

of the redemption plan (I Peter 1:10-12) and because the data found always supported and expanded my previous understandings and discoveries.

So, I hope that this summary of my studies of the chronological aspects of the redemption plan may be a contribution and help to truth-seekers in deepening their understanding of such an important subject to understand the redemption plan and the role of the Seventh-day Adventist Church in explaining the sanctuary and the three angel´s messages. A more detailed study is available on CD´s and Web Sites, such as http://www.novoconcerto.com.br

In my long research, I met people who helped me and people who tried to discourage me. I want to thank those who helped me and leave the others to be judged by God (Hebrews 4:12-13), the One who knows their hearts and motives. But the readers will be able to judge them by their works and fruits (Luke 12:2-5; 16:14-15).

Therefore, I would like to thank the following lay people and scholars for their remarks and incentives leading to the publication of this summary.

From among the many, I would like to mention the names of Rosângela Lira, a lady graduated in theology who helped me in preparing the material for publication in a book format; Drs. Alberto Timm, José Carlos Ramos, Rodrigo P. Silva, Reynaldo Siqueira and Rúben Aguilar for reading, making suggestions, providing moral support and giving incentives for the publication of this research summary.

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My appreciation for the sincerity and intellectual responsibility and humbleness of Pastor Robert Olson, former secretary of the White Estate and of Pastor C. Mervyn Maxwell *in memoriam*, scholar in Andrews University, in accepting my corrective suggestions and acknowledging mistakes made in some of their publications.

Dr. Ruy Camargo Vieira, present director of Sociedade Brasileira de Criacionismo, and Professor Edmir de Oliveira gave me some support while they were Presidents of OSEC, with the approval of Milton S. Afonso, President of Golden Cross.

Pr. Alexandre Fontana Barros has helped me in conveying the information to his colleagues, through the Internet, in CD´s and in study groups, thus helping in the spreading and clarification of many points.

To those who will give financial support for publication, packaging and mailing the material to Seventh-day Adventist Universities, Faculties, Colleges and Professors, I express my gratitude.

I must not overlook the inconveniences and financial hardships faced by my wife and daughters while the research was going on, so I thank them too for their forbearance.

Above all, the crowning thanks (Ephesians 3:14-21) go to God who has sustained me, in spite of many difficulties and disappointments in regard to some key leaders who could have helped promoting truth but who declined their responsibilities, as described in the *Great Controversy*, pages 459-460.

Juarez R. Oliveira

# CHAPTER I

# INTRODUCTION

The prophecy of the "2,300 evenings and mornings" of Daniel 8:14, in connection with the prophecy of the "70 weeks" of Daniel 9:24-27, had an important role in the Adventist Movement of the 1840´s, and in the rise of the Seventh-day Adventist Church after October 22/23, 1844. They form the "base, foundation, central pillar, platform, watchword" of the distinctive SDA belief about the cleansing of the heavenly sanctuary, which was the "key" which unlocked the mystery of the disappointment, confirming the principles of interpretation in the study of the prophecies. (See *The Great Controversy*, pages 345, 351, 401, 405-406, 409-411, 423-424, 457 and 652; ). The importance of the prophecies of Daniel is made clear in the prophetic sermon of Christ in Matthew 24:15, and in the identification of the high points of the seventieth week in Acts 10:34-48.

The cleansing of the sanctuary doctrine in its entirety, or in some of its aspects, has from its beginning until the present time suffered attacks by theologians and members of other denominations, as well as by some theologians and members of our own faith. Unfortunately, internal problems have weakened the defense. I do hope the leaders of the Seventh-day Adventist Church understand these problems and realize that it is of the utmost importance to correct the errors and mistakes pointed out, for truth results in glory to God.

## Definition of the Problem

The purpose of this study is to demonstrate that the dates traditionally held by the SDA Church as the fulfillment of the prophetic periods of Daniel 8:14 and 9:24-27 (457 B.C. – A.D. 31 – A.D. 1844) have biblical, typological, historical, chronological, astronomical and mathematical support, provided we consider that these periods start precisely in the autumn of 457 B.C., on the date of the cleansing of the sanctuary, the tenth day of the seventh Jewish month in 457 B.C. (Tishri 10 = October 28/29, Julian), the middle of the seventieth week coincides with the fifteenth of the first Jewish month in A.D. 31 (Nisan 15 = April 26/27, Julian), and the whole period ends on the tenth day of the seventh Jewish month in 1844 (Tishri 10 = October 22/23, Gregorian), sunset to sunset, Jerusalem time. The problem is that these consistencies and precisions of the prophetic structure have been gradually distorted and overlooked.

## Purpose of the Study

The purpose of the present study is, on one hand, to call the attention of prophecy students to the precise biblical, typological, historical, chronological, astronomical and

mathematical aspects of the prophetic periods of Daniel 8:14 and Daniel 9:24-27 and, on the other hand, to call attention to some inconsistent and detrimental statements made regarding these periods in some articles published by writers on this subject, provide the solutions and suggest corrections.

Read this text from *The Great Controversy*, pages 353-354, carefully:

> The disappointment also, though the result of their own misapprehension of the message which they gave, was to be overruled for good. It would test the hearts of those who had professed to receive the warning. In the face of their disappointment would they rashly give up their experience and cast away their confidence in God's word? or would they, in prayer and humility, seek to discern where they had failed to comprehend the significance of the prophecy? How many had moved from fear, or from impulse and excitement? How many were halfhearted and unbelieving? Multitudes professed to love the appearing of the Lord. When called to endure the scoffs and reproach of the world, and the test of delay and disappointment, would they renounce the faith? Because they did not immediately understand the dealings of God with them, would they cast aside truths sustained by the clearest testimony of His word?
>
> This test would reveal the strength of those who with real faith had obeyed what they believed to be the teaching of the word and the Spirit of God. It would teach them, as only such an experience could, the danger of accepting the theories and interpretations of men, instead of making the Bible its own interpreter. To the children of faith the perplexity and sorrow resulting from their error would work the needed correction. They would be led to a closer study of the prophetic word. They would be taught to examine more carefully the foundation of their faith, and to reject everything, however widely accepted by the Christian world, that was not founded upon the Scriptures of truth.
>
> With these believers, as with the first disciples, that which in the hour of trial seemed dark to their understanding would afterward be made plain. When they should see the "end of the Lord" they would know that, notwithstanding the trial resulting from their errors, His purposes of love toward them had been steadily fulfilling. They would learn by a blessed experience that He is "very pitiful, and of tender mercy;" that all His paths "are mercy and truth unto such as keep His covenant and His testimonies."

This study deals with some problems concerning the beginning of the prophetic period (a Julian date has not been duly assigned or set), with problems related to the middle of the seventieth week (the Friday on which Christ was crucified must be a Nisan 15, not a Nisan 14), and with problems in the correspondence of Tishri 10 in 1844 (the correspondence made in 1844 by the Millerites, Tishri 10 = October 22/23, Gregorian, Jerusalem time, is correct, but the correspondence made by Froom, Tishri 10 = October 21/22, Boston time, in *The Prophetic Faith of Our Fathers,* Volume IV, pages 790 and 792, published by the Review and Herald, Washington, D.C. in 1954, is incorrect).

These problems, if not duly dealt with, will continue presenting inconsistencies which weaken the SDA doctrine of the cleansing of the heavenly sanctuary beginning in 1844, leaving it open to attacks, such as those which have been leveled against it in the 1950's and especially in the last two decades.

The sad consequences are spelled out in *The Great Controversy*, page 457:

> The preaching of a definite time for the judgment, in the giving of the first message, was ordered by God. The computation of the prophetic periods on which that message was based, placing

the close of the 2300 days in the autumn of 1844, stands without impeachment. The repeated efforts to find new dates for the beginning and close of the prophetic periods, and the unsound reasoning necessary to sustain these positions, not only **lead minds away from the present truth**, but **throw contempt upon all efforts to explain the prophecies**. {GC 457.1}

## Scope and Delimitations of the Study

In the present chronological study summary, no attempt will be made to demonstrate the linguistic and thematic correlation between the prophetic periods of Daniel 8 and 9, since Millerite and modern authors such as Doukhan, Shea, Hasel and Brempong have dealt with this aspect in the past, to a considerable depth. (See Brempong, pages 146-158.) This subject is, however, discussed in a specific file belonging to a full study, which is available upon request.

# CHAPTER II

# PROBLEMS RELATED TO

# THE BEGINNING OF THE PROPHETIC PERIODS

There are three main problems related to the beginning of the prophetic periods:

(1) the impossibility of proving conclusively the date 457 B.C. as the year for Ezra's trip;

(2) the problem involved in incorrectly placing the tenth day of the seventh month in 457 B.C. in September, and not in October, as required;

(3) the lack of a specific Julian date for the beginning.

These problems will be clarified below:

## 1- Problems Related to the Year 457 B.C. Artaxerxes' Accession, His 7th Year and Ezra's Trip

By adopting the chronological statements in Ezra, chapters 7 to 10 and Nehemiah, chapters 8: 1, 2, 9; 12: 26, 36, there is no doubt that Ezra traveled in either 458 B.C. or 457 B.C., and not in 428 B.C. or 398 B.C., as some theologians defend. However, the choice of Ezra's trip in either 458 or 457 B.C. depends, on both sides, on several assumptions, as becomes evident by reading the quotations given below.

Frank Moore Cross, from Harvard University, is usually quoted as having demonstrated conclusively the correctness of the traditional order of Ezra-Nehemiah in the *Journal of Biblical Literature*, 94 (1975) pp 5 - 18. A. F. R. (See also Brempong, pages 327-328).

For applications that calculate the Nabonassar Era (N. E.) go to:
http://www.staff.science.uu.nl/~gent0113/astro/almagestephemeris.htm

| **Egyptian Dating** | |
|---|---|
| 1st Year | Thoth 1, 284 to Thoth 1, 285 N. E. |
| | Dec. 17, 465 to Dec. 17, 464 B. C. |
| ... | ... |
| 7th Year | Thoth 1, 290 to Thoth 1, 291 N. E. |
| | Dec. 16, 459 to Dec. 16, 458 B. C. |
| See Leo Depuydt: "More Valuable than all Gold": Ptolemy's Royal Canon and Babylonian Chronology, at http://www.caeno.org/_Nabonassar/pdf/Depuydt_Ptolemy%20Canon%20and%20B%20Chronology.pdf | |

http://aegyptologie.online-resourcen.de/Date_Converter_for_Ancient_Egypt.

The dating of Artaxerxes' reign in the Egyptian calendar is attested beyond doubt by Ptolemy's Canon in *The Almagest* and by the *Elephantine Papyri*.

If Ezra had dated the reign of Artaxerxes according to this system, Ezra's trip in the seventh year of Artaxerxes would have taken place in 458 B.C., and not in 457 B.C., as some believed in the past, for lack of detailed dating systems documentation and misinterpretation of Ferguson´s dates, and as some still believe, for lack of detailed knowledge about Ptolemy's dating according to the Era of Nabonassar, which follows the Egyptian Calendar, which begins the year with Thoth 1. (See *The Chronology of Ezra 7*, pages 29, 30, 107, 110, 127, 138, 168-169, and a spreadsheet about the Nabonassar Era in the Appendix). The calendar applications in the site links above may be used to check Horn´s date conversions, especially the downloadable page of the excellent ***Almagest Ephemeris Calculator.***

| **Babylonian / Persian Dating** | |
|---|---|
| 1st Year | Nisan 1, 464 to Nisan 1, 463 B. C. |
| | April 13, 464 to April 3, 463 B. C. |
| ... | ... |
| 7th Year | Nisan 1, 458 to Nisan 1, 457 B. C. |
| | April 8, 458 to March 27, 457 B. C. |
| http://www.astro.uu.nl/~vgent/babylon/downloads/babylonian_chronology_pd1956.pdf and babycal_converter.htm | |

The dating of Artaxerxes' reign in the Babylonian/Persian calendar is attested beyond reasonable doubts by Babylonian tablets which have been published in the book *Astronomical Diaries and Related Texts from Babylon,* by the late Abraham J. Sachs (Volume 1, *Diaries from 652 B.C. to 262 B.C.*, Wien, 1988); by extracts published by van der Waerden (1974); and by documents listed by Parker and Dubberstein on pages 8-9, and 17-18 in *Babylonian Chronology*, 626 B.C. - A.D. 75, which is used as a standard reference by historians, astronomers and chronologists. PDF copies of this specilized book are found for download in the internet.

If Ezra had dated the reign of Artaxerxes according to this system which uses Accession Year and Nisan-Nisan, Ezra's trip in the seventh year of Artaxerxes would have taken place in 458 B.C., if the decree was issued before Artaxerxes' seventh year, that is, on his sixth year or earlier. We must remember that Ezra started on his trip on Nisan 1, (Ezra 7:6-8) the day the Babylonian year began, and that the decree was issued some unspecified time before he started on his trip (Ezra 7:6, 11). The decree (Ezra 7:13-26) permitted him to collect gifts in the province of Babylon and to gather the people (Ezra 7:13, 15-16), before he started on his journey on the first day of the first month in the 7th year of reign of Artaxerxes I (Ezra 7:9, 13-16, 27-28). The first day of the first month (Nisan 1), the date Ezra left Babylon, is the exact beginning of the Babylonian/Persian year. Nobody can *prove from the Bible* that the decree was issued in Artaxerxes´ seventh year, as is frequently intended by referring the readers to Ezra 7:7. (See Brempong, pp. 18, 21, 21, 317, 317, 323, 326, 336, 404, 415, 417). If this could be shown from the Bible, Horn´s book would become meaningless, because a Nisan-Nisan system would be disqualified right away. In the capacity of an inspired writer, Ellen G. White says the decree was given in 457 B.C. She says on page 326 of *The Great Controversy* that "in the seventh chapter of Ezra the decree is found. Verses 12-26. In its completest form it was issued by Artaxerxes, king of Persia, 457 B.C." This permits us to consider January 1, 457 B.C. as the earliest date possible. Thus the decree could have been issued from January 1 to a short time before Nisan 1, in 457 B.C.

## Jewish Tishri-Tishri Dating

This is the **ONLY** system that would yield and prove 457 B.C. as the year in which Ezra traveled. This is the system that calls for further research by the Seventh-day Adventist scholars and students. (See Remark in the end of this Chapter).

The dating of Artaxerxes' reign in the Accession / Tishri-Tishri system, as used in 2 Kings 24:12 (Horn, pp 64-67), by Nehemiah in chapters 1 and 2 and in the Elephantine papyrus Kraeling 6, presents some difficulties, owing to lack of detailed contemporary information about the Xerxes-Artaxerxes transition from August 4?-8?, 465 B.C. to January 2/3 464 B.C., or from August 4?-8?, 465 B.C. to Thoth 1 (December 17), 465 B.C. or from August 4?-8?, 465 B.C. to Tishri 1 (October 18), 465 B.C. (See *The Chronology of Ezra 7*, page 110).

If Ezra used this system for dating Artaxerxes´ reign, Ezra's trip in the seventh year of Artaxerxes I would have taken place in 458 or in 457 B.C., depending on the interpretation of some details about the Xerxes/Artaxerxes transition period, to be discussed below.

## Conflicting Views

First of all, let us get acquainted with some of the details and difficulties, and try to arrive at a transparent solution for such an important date.

### Statements within the Seventh-day Adventist Church about the Year 457 B.C. being the Year of Ezra's Trip

R. W. Olson, a former secretary of the White Estate, says:

> Drs. Lynn Wood and Siegfried Horn have established with *absolute certainty* (emphasis mine) the date 457 B.C. as the year when Artaxerxes issued his decree. With 457 B.C. definitely known, the other dates in the prophecy, such as A.D. 27, 31, 34 and 1844 are made equally sure. (See the *Seventh-day Adventist Bible Commentary*, vol 3, pp. 100-109; Horn and Wood, *The Chronology of Ezra 7*).[1]

In the statement above, Mr. Olson is staking everything on the "absolute certainty" of 457 B.C., in order to provide "definite" support for A.D. 27, 31, 34 and 1844. Later he recognized and acknowledged that this was an incorrect statement.[2]

To stake everything on the "absolute certainty" of the year 457, having as support Horn's *Chronology of Ezra 7* (Second Edition, Revised, 1970) is not a wise procedure, since Horn himself states on page 125 that some uncertainties remain to a certain degree, owing to lack of detailed information for the Xerxes-Artaxerxes I transition, more specifically from August 4?-8?, 465 B.C. to January 2/3, 464 B.C. The month Tishri, which in this system determines

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1. Robert W. Olson, *One Hundred and One Questions on the Sanctuary and on Ellen G. White* (Washington, D.C.: Ellen G. White Estate, 1981), 16.

2. The following letter was handed to me by Mr. Olson who told me that I could quote it in my paper. It shows that he is an honest and truth-loving man: "September 14, 1990. Dear Brother Oliveira: I want to thank you for calling my attention to an incorrect statement I made in the pamphlet, *One Hundred and One Questions*. I there stated, on page 16: 'Drs. Lynn Wood and Siegfried Horn have established with absolute certainty the date 457 B.C. as the year when Artaxerxes issued his decree.' You have pointed out to me that Drs. Horn and Wood have indicated that there remains 'a certain degree' of 'uncertainty' in their computations (*The Chronology of Ezra 7*, page 125). Your careful work is very helpful to me, and I want you to know that I appreciate this reminder that I need to be more careful myself. God bless you in your research. We need people like you in our church. Sincerely, (signed) Robert W. Olson".

the beginning of years of the king, corresponds to September/October. It is still impossible to determine whether Artaxerxes´ accession was before or after Tishri 1, in 465 B.C.

Now let us hear Hasel:

> The *terminus a quo* of the "seventy weeks" according to the historic-messianic interpretation is the "going forth of the commandment to restore and to build Jerusalem" (v. 25) that took place in the seventh year of Artaxerxes (Ezra 7:7, 8) when he issued his decree (vv. 11-26), that is, 457 B.C. The seventh year of Artaxerxes I is now *firmly established* (italics mine) as 457 B.C. and not as 458 B.C. because the accession of Artaxerxes I took place in December of 465 and his first year of reign in the Jewish reckoning began on Tishri 1, 464 B.C. Based on a solid historical support for this date for the first two divisions of the seventy-week period (7+62 weeks: 483 years) the *terminus ad quem* of the 483 years is 27 A.D., on the occasion of the baptism of Jesus, which marked the inauguration of the ministry of the Lord Jesus Christ.[3]

I do not know how Dr. Hasel can support the statement that the accession of Artaxerxes I took place in December. Certainly, he must have been aware that Horn's statement to this effect in the First Edition of his book had been revised in the Second Edition and that until August/81, in his *Ministry* article, Horn had not been bold enough to make such a positive statement, for he was aware of the difficulties encountered in this area. There are several mistakes in Hasel´s statements above.

Neuffer, who is quoted some paragraphs below from a paper published in 1986, is still aware of the problem.

The SDABC, volume 3, page 365, says the following:

> Seventh year of Artaxerxes. Ezra *probably* (emphasis mine) counted the 7th year of Artaxerxes according to the Jewish custom, that is, in terms of the Jewish civil calendar year, which began in the fall.

The word "probably" correctly reflects the inherent uncertainty.

Mr. Horn couches the following words with much caution:

> If the exact time of accession of a king is not ascertainable, an *uncertainty* (emphasis mine) remains as to which Jewish year is the accession year and which the 1st year, and the conversion of a Jewish date into the Julian calendar may be off by one year. For Artaxerxes I this *uncertainty* (emphasis mine) still exists to a certain degree. The only document dated in the calendar year in which Xerxes' death and Artaxerxes' accession occurred gives us merely the information that Artaxerxes had come to the throne before Jan. 2, 464 B.C. However, this document is one of the Jewish fall-to-fall calendar in its date line. It must be remembered that this document, written between Tishri, 465, and Nisan, 464, is dated "accession year of Artaxerxes." This shows that Artaxerxes could not have come to the throne, or at least was not recognized in Elephantine as king, until after Tishri 1. Otherwise the Jewish scribe would have written "year 1 of Artaxerxes" and not accession year. In this same document the equation of Artaxerxes' accession year with the 21st year of Xerxes - although Xerxes may have died in August, according to an unconfirmed report of a Hellenistic scribe - reflects an uncertainty caused by a power struggle after Xerxes' murder. This explains why the scribe continued to use the slain Xerxes' year 21 until it was certain which contender would hold the throne. Examples from other periods, before and after Artaxerxes' reign, prove this reasoning correct.

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3. Gerhard F. Hasel, *Redenção Divina Hoje* (Brasilia, D.F.: *Seminario Adventista Latino-Americano de Teologia*, 1981), 125. Published in Portuguese and here translated back into English.

Therefore we can conclude with reasonable certainty that Artaxerxes was not recognized as coming to the throne before Tishri 1 (Oct. 18) 465 B.C. The Jews thus counted the months following his accession to the throne until the fall of 464 as his accession year, and his regnal years began, according to Jewish reckoning, always 6 months later than according to the Persian count.[4]

Let's hear Horn again, now in 1981:

These divergent views have their bearing on the date of Ezra's return from Babylonia in the seventh regnal year of Artaxerxes I (Ezra 7:1-9). From ancient records, primarily dated cuneiform documents, it is established that Artaxerxes' first regnal year began in the spring of 464 B.C. and ended in the spring of 463 B.C. according to the reckoning of Persians. Consequently, his seventh year was the year 458-457 B.C., spring to spring. If Ezra counted the king's regnal years in this way, he would have returned in the spring of 458 B.C., for it is said that he left Babylonia during the month of Nisan in the seventh year of Artaxerxes and arrived in Jerusalem four months later (see verse 9). Following this reasoning, many commentators date the events described in Ezra 7 to the year 458 B.C.

On the other hand, if Ezra used the Jewish autumn-to-autumn calendar, as was apparently the case with his contemporary Nehemiah and also with the Elephantine Jews, the first year of Artaxerxes would have been computed by the Jews as having begun in the autumn of 464 B.C. and ended in the autumn of 463 B.C. Thus his seventh year would have begun in the autumn of 458 B.C. and ended in the autumn of 457 B.C. The month Nisan, a spring month in which Ezra and his group departed from Babylonia, would accordingly have fallen in the spring of 457 B.C., and their arrival in Jerusalem would have occurred in the summer of 457 B.C. Hence, the Elephantine papyri give strong support to our conclusion that the decree of Artaxerxes was issued and carried out in the year 457 B.C.…

However, the evidence that both the Jewish records of Elephantine and the book of Nehemiah used a fall-to-fall calendar and counted the regnal years of the Persian kings according to their own calendar provides ample support for designating 457 B.C. (and not 458 B.C.) as the year in which Ezra returned from Babylonia.[5]

In relation to his December statement in the First Edition of 1953, Horn says:

Ur tablet formerly relied on. – For a while it was thought that a cuneiform tablet found in the excavation campaign of 1930-31 in Ur provided the desired answer. Containing an agreement dealing with the rearrangement of land parcels among four brothers, it is dated in the 13th year of Artaxerxes I, but states that the original arrangement was signed in the 21st year of Xerxes. H. H. Figulla, the editor of this text, interpreted the broken remains of cuneiform characters preceding the latter year number as the remnants of the month name Kislimu. When in 1953 there came to light a cuneiform tablet of the Hellenistic period (to be discussed below) which dated Xerxes' death in August 465, <u>Figulla re-evaluated his previous reading of the Ur tablet and abandoned his former published interpretation</u>.

<u>This means that the Ur tablet can no longer be used as evidence that Xerxes was still living in December, 465, as was done in the first edition of the present work</u>.[6] (emphasis mine)

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4. S. H. Horn and Lynn H. Wood, *The Chronology of Ezra 7* (Washington, D.C.: Review and Herald, 1970) , 125-126.
5. S. H. Horn, "Elephantine Papyri and Daniel 8:14" in *The Ministry*, August 1981, 27.
6. S. H. Horn, *The Chronology of Ezra 7,* Secon Edition, 1970, 100.

It seems that until 1986 no new light had surfaced to help in the solution of this transition uncertainties, as may be seen in the article written by Julia Neuffer (see below), published by the Andrews University Press.

Brempong, in his doctoral dissertation in 1993, with the approval of Hasel, Doukhan, Terian, Davidson, Shea and Vyhmeister, Andrews University scholars, falls into the same pitfall, insisting on the Ur tablet, based on Figulla's abandoned views:

> An Ur tablet written in the thirteenth year of Artaxerxes I and published in the *Ur Excavations: Texts IV* also dates the death of Xerxes to around the same period. This tablet dates the death of Xerxes to after Kislimu 1, 465 B.C. Kislimu 1 in 465 B.C. began about December 17.[7]

Maybe the Ur tablet should have been carefully studied and re-evaluated by the Andrews University scholars who used it or permitted its use. (See Brempong, page 317, where he also uses the expression "firmly established" and page 330, note 3, where he reports directly to Figulla.)

## Statements outside the Seventh-day Adventist Church about the Year 457 B.C. versus the Year 458 B.C. being the Year of Ezra's Trip

Among the supporters of 457 B.C. for the year of Ezra's trip from Babylon, we have the following authors and reference works:

Pfeiffer:

> Over fifty years pass in silence between the dedication of the second Temple (515 B.C.) and the arrival of Ezra in Palestine in the seventh year of Artaxerxes (457 B.C.).[8]

Schultz:

> Fifty-eight years pass in silence between Ezra 6 and 7. Little is known about events in Jerusalem from the dedication of the Temple (515 B.C.) to the return of Ezra (457 B.C.) in the seventh year of Artaxerxes, king of Persia.
>
> A brief record of Ezra's activities in Jerusalem and the return of the exiles under his leadership is given in Ezra 7:2-10:44...
>
> Chronologically the data given in these chapters do not necessarily cover more than one year. The following seems to be the order of events:
>
> Nisan (first month)
>
> 1-3 encampment by the river Ahava
>
> 4-11 preparation for the journey
>
> 12 beginning of journey to Jerusalem
>
> Ab (fifth month)
>
> 1st day of this month they arrive in Jerusalem

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7. Brempong Owusu-Antwi, *An Investigation of the Chronology of Daniel 9:24-27* (Berrien Springs, MI: Andrews University Seventh-day Adventist Theological Seminary, 1993), 330.

8. Charles F. Pfeiffer, *The Old Testament History* (Grand Rapids, MI: Baker Book House, 1990), p. 477.

Kislev (ninth month)

public assembly called in Jerusalem after Ezra is informed about mixed marriages

Tebeth (tenth month)

beginning of examination of guilty parties and ending on the 1st day of Nisan.[9]

The historicity of Nehemiah has never been questioned by any competent scholar. Emerging as one of the most colorful figures in the postexilic era he served his people effectively from the year 444 B.C....

Ezra had been in Jerusalem thirteen years when Nehemiah arrived.…

The chronological data given in Nehemiah allots twelve years to Nehemiah's first term as governor, beginning in the twentieth year of Artaxerxes (444 B.C.). In the twelfth year of this term (Neh. 13:6) Nehemiah returned to Persia (432). How soon he returned to Jerusalem or how long he continued as governor is not indicated.

The events related in Neh. 1-12 could all have occurred during the first year of his leadership. On the first day of the first month, Nisan (444 B.C.), Nehemiah was granted his request to go to Jerusalem (Neh. 2:1). Being a man of decisive action he undoubtedly left shortly after this. The reparation of the walls was completed in Elul, the sixth month (Neh. 6:15). Since this project was begun a few days after his arrival and completed in fifty-two days, the time allowed for his preparation and journey is about four months. During the seventh month (Tishri) Nehemiah fully cooperated with Ezra in the religious observances (Neh. 7-10), continued his registration and very likely dedicated the walls in the period immediately following (Neh. 11-12). Except for a few statements that summarize the policies of Nehemiah, the reader is left with the impression that all of these developments occurred within the first year after his return.[10]

The International Standard Bible Encyclopedia:

Over fifty years pass in silence between the dedication of the second temple (515 B.C.) and the arrival of Ezra in Palestine in the seventh year of Artaxerxes (457 B.C.).[11]

Lewis:

The question of the identity of Artaxerxes is complicated by the fact that three Persian figures of this general period had that name: Artaxerxes I, Longimanus (464-424 B.C.); Artaxerxes II, Mnemon (404-359 B.C.), and Artaxerxes III, Ochus (359-338 B.C.). The brevity of this last reign eliminates Ochus from consideration, but complicated arguments over the dates and relative order of Ezra and Nehemiah continue. The evidence of the Elephantine papyri, dated in 408 B.C. (the seventeenth year of Darius II), which mentions the names of Sanballat and Jonathan the high priest (cf. Neh. 2:19; 12:23), would seem to establish that Nehemiah was active in the reign of Artaxerxes I and thus came to Jerusalem in 445 B.C. and returned to Susa in 432 B.C. If the Biblical order is to be maintained, then Ezra, who precedes Nehemiah, would have returned in 457 B.C. There is a widespread view, however, which reverses the order and argues that Ezra was active in the reign of Artaxerxes II; that is, in 398 B.C. The argument is complicated, but its crux seems to be that Jehohanan, son of Eliashib, is mentioned in connection with the work of Ezra (Ezra 10:6). Since he is also mentioned as being high priest in Elephantine papyri, it is

9. Samuel J. Schultz. *The Old Testament Speaks* (New York: Harper & Brothers, 1960), 265-266.

10. *Ibid.*, 268-269.

11. G. W. Bromiley, ed., *The International Standard Bible Encyclopaedia: Fully Revised*, 919, Entry : Israel, History of the People.

argued that Ezra must be dated as a close contemporary with that material. Those who wish to uphold the Biblical order deny the identity of Jehohanan of Ezra 10:6 with the one of the papyri or argue that Scripture does not actually say that Jehohanan was high priest when Ezra spent the night in his chamber (Ezra 10:6). It is further argued that he was at that time a young man and that he later became high priest as the Elephantine papyri imply. Thereby it is concluded that Jehohanan could still be high priest a half century after Ezra's visit and that Ezra could precede Nehemiah during the reign of Artaxerxes I.

Artaxerxes I, son of Xerxes, is well known from the classical historians, from some of the Elephantine papyri which are dated by his regnal years, and from the survey of his reign by Josephus, though the latter is not an independent witness for this part of Biblical history.[12]

Archer is on both sides, that is, he admits 458 B.C. or 457 B.C.:

On the assumption that Artaxerxes mentioned in Ezra 7:1 was Artaxerxes I Longimanus, Ezra's arrival at Jerusalem must have occurred in 457 B.C. ("the seventh year of the king," Ezra 7:8). Thus Ezra's career at Jerusalem commenced twelve years before that of Nehemiah, who did not come until the twentieth year, or 445 B.C. … The only reasonable conclusion which remains, therefore, is that Ezra returned in 458 or 457 B.C., and that Nehemiah's first governorship came in 445, and his second in 433. This alone does justice to all the testimony of the Biblical texts themselves.[13]

Unger seems to be on both sides, that is, he inadvertently mentions 458 B.C. and 457 B.C.:

The traditional date of Ezra's return to Jerusalem (vv. 7-8) is 458 B.C., in the seventh year of the reign of Artaxerxes I (Longimanus, 465-464 B.C.), although some scholars place him under Artaxerxes II (Mnemon, 404-358 B.C.).[14]

The caravan left Ahava on April 8, 457 B.C.[sic], and arrived in Jerusalem on July 9 (7:9)…. After Ezra had been in Jerusalem about 4 1/2 months (cf. 8:31; 10:9), he was confronted with the serious problem of intermarriage with the pagan peoples of the land.[15]

In the month of Chislev (Chisleu; i.e., December) in the twentieth year of Artaxerxes' reign (445 B.C.), Nehemiah had visitors.[16]

Nehemiah's protracted intercession of the previous four months had a climactic and exciting answer in the month Nisan (March/April) 1. It was still Darius's (?) twentieth year (cf. 1:1), because his official year began in Tishri, the seventh month (Sept./Oct.).[17]

Among the supporters of 458 B.C., we have the following:

Yamauchi:

The traditional view holds that Ezra preceded Nehemiah and was commissioned by Artaxerxes I in his seventh year (458 B.C.). Some, however, have argued that Ezra served under Artaxerxes II.[18]

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12. Jack P. Lewis, *Historical Backgrounds of Bible History* (Grand Rapids, MI: Baker Book House).
13. Gleason L. Archer, Jr., *A Survey of Old Testament Introduction* (Chicago, Moody Press, 1986).
14. Merril F. Unger, *Unger's Commentary on the Old Testament* (Chicago: Moody Press, 1981), Vol. 1, 630.
15. *Ibid.*, 632.
16. *Ibid.,* 639.
17. *Ibid.*, 640.

Longimanus was the third son of Xerxes and Amestris. His older brothers were Darius and Hystaspes. Darius was the eldest; Hystaspes was a satrap in Bactria (Diodorus 11.69.2). Their father was assassinated in his bedchamber in August 465, by Artabanus, a powerful courtier.

According to Ctesis (29-30), Artabanus deceived Artaxerxes into believing that Xerxes was killed by his brother Darius, the crown prince. After some months, Artaxerxes, who was but eighteen years old, managed to kill his brother Darius (Diodorus 11.69.1-5). Artabanus then tried to kill Artaxerxes, but was killed by Artaxerxes instead. Artaxerxes then defeated his brother Hystaspes in Bactria. The fact that he was the new king was known in far-off Elephantine in Egypt by January 2/3, 464 (Cowley #6). His first regnal year is reckoned from April 13, 464. He was to reign for a little over forty years until 424." (See J. Neuffer, "*The Accession of Artaxerxes I*," AUSS 6 (1968):81.)[19]

The Encyclopedia of Judaism:

EZRA Priest, scribe and religious reformer who led a group of Babylonian exiles back to Jerusalem in 458 BCE. His known activity began in the seventh year of the reign of the Persian king, Artaxerxes I (Ezra 7:7). At first, he seems to have acted unassisted, but after he was joined by Nehemiah, the two worked together.[20]

Olmstead:

On April 19, 458, the augmented company left the Ahava. The hand of their God was indeed over them, and he saved them from the enemy and the bandit on the road. The weary journey was ended August 4, (Ezra 7:9; 8:31-32.) and four days later Ezra, like the careful administrator that he was, weighed out the gold, silver, and utensils into the hands of a local priest (Ezra 8:31-34.).

The assembly was held in the rain on December 19, 458, and divorce of the alien women was accepted in principle; detailed examination of each individual case was begun on December 30 and ended March 27, 457 (Ezra, chaps. 9-10).[21]

De Vaux, also a supporter of 458, says the following:

The spring year was naturally retained when the Babylonian month-names replaced the ordinal numbers. Only one passage raises a difficulty. According to Ne 1:1 and 2:1, the month of Kislev and the following month of Nisan fell in the same twentieth year of Artaxerxes, which would imply an autumnal year. But it is unlikely that Nehemiah, living at the Persian court, where the Babylonian calendar was followed and the Babylonian month-names were used, did not also follow the official reckoning of the year. On the other hand, the Hebrew text of Ne 1:1 has only 'the twentieth year', without the name of the reigning king, which is strange. The text must be corrupt, and the likeliest explanation is that originally it did not contain, or it accidentally lost the mention of the year, which was later supplied mechanically from Ne 2:1; it was really the nineteenth year of Artaxerxes. It has also been suggested that an autumnal year is found in one of the Elephantine papyri, but the date is apparently incorrect.[22]

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18.Edwin M. Yamauchi, *Persia and the Bible* (Grand Rapids, MI: Baker Book House, 1990), 242.
19. *Ibid.*, 248.
20.The Encyclopaedia of Judaism, 252.
20.The Encyclopaedia of Judaism, 252.
21.A. T. Olmstead, *History of the Persian Empire* (Chicago, IL: The University of Chicago Press, 1948).

## Emendations and Assumptions

Horn says:

> Note 29 - Parker considers the year 3 of Kraeling 6 to be an error for year 4 and consequently recommends an emendation, JNES, 14 (1955), p. 274.[23]

The examination of the Kraeling 6 dateline is profitable at this point.

> Pharmuthi 8 = Tammuz 8, year 3 of Darius II (420 B.C.)[24]

Read Horn´s discussion about this document on page 148, and his table on page 154 of his book, then check it in the Web Sites listed above.

Parker's recommendation and De Vaux comments are understandable from the point of view of those who do not believe that the Jews used Tishri 1 for dating the beginning of years of reign of Babylonian and Persian kings but only Nisan 1. This is why they resort to the procedure of proposing an emendation for this document and for Nehemiah 1:1 and 2:1. If the Kraeling 6 dateline is using the Babylonian/Persian system, they could be right, since emendations in certain cases are needed, as admitted by Horn himself in the case of other documents analyzed. However, the arguments presented by Horn on pages 64-67 and 71-73 of his book are rather strong for us to accept the idea of an emendation for Kraeling 6.

Horn shows his uncertainty by stating the following:

> *It cannot, then, be ruled out* (emphasis mine) that the double-year dating of AP 6 may have been made according to the Persian calendar, though the Jewish is more likely.[25]

This quotation shows that it is not so easy to state with certainty if a dateline is Jewish or Persian. This can also be true for Kraeling 6, though I do not agree with the emendations proposed by Parker and de Vaux. Now, if we may not "rule out" that the double-year dating of AP 6 may have been made according to the Persian calendar, many arguments presented by Horn fall apart and the only document that would be of help would be Kraeling 6, which belongs to the Darius II period.

In a Persian (Nisan-Nisan) system, it is totally consistent to equate Xerxes' 21st year with Artaxerxes' accession year, even if Xerxes had died before August, that is, on any date after Nisan 1, 465 B.C., when Xerxes' 21st year began.

Horn continues offering the following consideration for the Jewish likelihood for AP 6, which would also apply to Kraeling 6:

> The papyrus AP 6 is part of an archive of documents dealing with the affairs of a Jewish military colony, whose members had lived at Elephantine long before the Persians took over Egypt under Cambyses. It is reasonable to assume that they had clung to their own calendar system and had not adopted the Persian calendar - the more so since they had not taken over the Egyptian calendar, else they would not have needed double dating. It seems most likely that they still employed their ancient Hebrew calendar, in use at least from the time of Solomon - a calendar which began each year with Tishri, the 7th month, and which was employed in the reckoning of the years of their own kings and of foreign rulers. AP 6, which dealt with an agreement over a disputed piece of land between a Jew and another man who, to judge by his name, may have been a Persian, was

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22. Roland de Vaux, *Ancient Israel* (New York, NJ: McGraw-Hill, 1965), vol. 1, 192.
23. *The Chronology of Ezra 7*, 89.
24. *Ibid.*, 148, 154.
25. *Ibid.*, 112.

written by a Jewish scribe, and most of the witnesses were Jews. It is therefore *reasonable to assume* (emphasis mine) that the Jewish calendar was used.[26]

We see on pages 70, 73, 75, 78, 82, 83, 84, 87, 90, 112, 113, 123 and 125 of Horn´s book that his arguments end in an assumption.

As to Kraeling 6, Horn says:

Kraeling 6, however, is the important extra-Biblical witness (1) for the existence of a fall-to-fall civil calendar among the Jews in Elephantine in the 5th century B.C., and (2) for the fact that the Jews there counted the regnal years of a Persian king according to this fall-to-fall calendar in the same way as Nehemiah had done a few years earlier (Neh. 1:1; 2:1).

Scholars who do not believe in the existence of such a regnal-year reckoning or of a civil fall-to-fall calendar among the Jews during that time will declare that the scribe of the papyrus Kraeling 6 made a mistake. Similarly scholars have charged the Nehemiah passages with being erroneous, since these verses do not agree with the theory that the Jews of that time had adopted the Babylonian spring-to-spring calendar.

Instead of declaring the Nehemiah passages and this papyrus from Elephantine as mistakes, it is more reasonable to see in them independent evidence supporting each other. Both documents come from the same age – one of them being extant in its original form – and were written by people who belonged to the same religious group. Hence it seems that their strong and united testimony should outweigh the theory of seeing mistakes in their dates.[27]

I share the same opinion worded above by Dr. Horn.

Another indication of the existence of a Tishri-Tishri system is found in the Macedonian Seleucid Era used in Antioch of Syria, according to Parker and Dubberstein:

In the Macedonian calendar the Seleucid era began with Dios 1 (Oct. 7), 312 B.C.; in the Babylonian it began with Nisanu 1 (Apr. 3), 311 B.C.[28]

## Neuffer's Misunderstanding

Julia Neuffer said the following about Artaxerxes:

The above-mentioned papyrus AP 6 equates 18 Kislev with 17 Thoth in year 21 (of Xerxes), i.e. the accession year of Artaxerxes (2/3 January 464 B.C.). This was formerly taken to indicate that his accession occurred near the end of December. Yet *it is reported that he came to the throne in August 465*, (emphasis mine) according to an unpublished Hellenistic tablet. The question of this accession date awaits the publication of the tablet, but Artaxerxes I's regnal reckoning is fixed by 8 of the 14 double-dated Aramaic papyri now published. (Note: For a discussion of the problem of Artaxerxes' accession, see Neuffer, "The Accession of Artaxerxes I", AUSS 6 (1968): 60-87; Horn and Wood, Ezra 7, pp. 98-116, 135-39.)[29]

The reference to the report is the following:

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26. *Ibid.*, 113.

27. *Ibid.*, 89.

28. Richard A. Parker and Waldo H. Dubberstein, *Babilonian Chronology*, 20. (See page 26 for the correspondence of the Macedonian Dios with the Hebrew Tishri). See Horn, 75, for additional evidence in the Mishnah.

V/14?-18?/21 (Aug. 4?-8?, 465), death by murder of Xerxes (unpub. eclipse text BM 32234 = S † 76-11-17, 1961, rev. II' 4' described LBART No. *1419. The day number is imperfectly preserved and all numbers from 14 to 18 are possible [Sachs]).[30]

(See Brempong, 330, note 4)

Visit http://www.livius.org/k/kidinnu/kidinnu.htm and look around for many Babylonian Tablets with their respective translations.

Neuffer in her Andrews University Press Paper of 1986 has misunderstood the statement, by thinking that the LBART document mentions accession. The document reports that Xerxes died on August 4?-8?, 465 B.C., *not* that Artaxerxes "came to the throne" on this date. (See Horn, pages 108-112).

The former belief in a December accession was because of an "Ur Tablet", as explained by Horn on pages 99-100, in the Second Edition of his book.

In Horn's *Chronology of Ezra* 7, Appendix 4, Julia Neuffer offers this piece of information:

1. *Manetho* (3d century B.C.) epitomized. – In the Epitome of Manetho's history the king list of the 27th Dynasty (Persian kings ruling as pharaohs of Egypt) includes Artabanus with a seven-month reign:

"3. Xerxes the Great, for 21 years.

4. Artabanus, for 7 months.

5. Artaxerxes, for 41 years.

Manetho *Aegyptiaca* (Epitome), Fragment 70 (from Africanus, preserved by Syncellus), Loeb ed., pp. 174, 175.) See Horn, page 166."

The seven-month reign attributed to Artabanus, mentioned by Manetho, would carry Artaxerxes' accession to a point after Tishri 1, 465 B.C., even after Jan 2/3, and his first year would then start on Tishri 1, 464 B.C., in a Tishri-Tishri reckoning system.

## Suppositions about Xerxes' Death

Xerxes' death on August 4?-8?, 465, has been questioned by Horn on account of the lateness of LBART No. *1419. Therefore I will put forward some assumptions to be considered:

1) If Xerxes had died after Thoth 1 (Dec. 17, 465 B.C), the Egyptians would have started dating documents in his 22nd year, which is not the case. On this date, Artaxerxes' year 1, in the Egyptian calendar, begins, and there is no year 22nd for Xerxes.

Shea says the following:

For the year in which Xerxes died, 465 B.C., the Egyptian New Year's day, Thoth 1, fell on our December 17. If Xerxes died before December 17, then Artaxerxes' second regnal year would have begun on that day; but instead, Artaxerxes' first year began on December 17, and this means - according to the Egyptian system - that Xerxes died between December 17 and the Persian Babylonian Spring New Year, Nisanu 1, in the spring.[31]

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29. "An Egyptian Time Scale and OT Chronology," by Julia Neuffer, in Lawrence T. Geraty and Larry G. Herr, eds., *Archaeology of Jordan and Other Studies* (Berrien Springs, MI: Andrews University Press, 1986), 576.

30. Parker and Dubberstein, *Babylonian Chronology*, 17, 31, 32.

Contrary to Shea, Neuffer logically thinks that:

> On Thoth 1 (Dec. 17), 465, the year number would have been changed to Xerxes' year 22, if he had been alive at that date.[32]

2) If Xerxes had died before Tishri 1 (October 18, 465 B.C.) and the Jewish scribes in Elephantine were aware of it, they would not have started his year 21, which is the case. AP 6, dated Jan. 2/3 464 B.C., says "year 21" of Xerxes and "beginning of reign (or accession year)" of Artaxerxes. (This argument does not hold if AP 6 is dated according to the Persian system).

Commenting on the term "beginning of reign (or accession year)", Horn says the following:

> The words *r's mlwkt'* (i.e. *r's mlkwt'*), here taken as designating the accession year, has been interpreted by Cowley (op. cit., p. 15) and others as "1st year." This view is untenable for several reasons: (1) The phrase *r's mlkwt'*, "beginning of reign," is the exact Aramaic equivalent of the Akkadian accession-year formula res sarruti, designating the time of reign before the beginning of the first full regnal year (Riekele Borger, Babylonisch-Assyrische Lesestucke, Heft 1 [Rome, 1963], Gossar, p. lxxvi); (2) for "year 1" a different phrase in Aramaic is used, *snt 1* (with the king's name) as in Kraeling 9, which is also the exact equivalent of the Akkadian date formula used in Babylonian texts; and (3) the explanatory but redundant clause translated by Cowley "when King Artaxerxes sat on his throne" can also be translated "when King Artaxerxes seated himself" or "was seated" on his throne, that is, "when he became king."[33]

Therefore, if things happened consistently and harmoniously with Tishri-Tishri calendrical practices, Xerxes must have died after Tishri 1 and before Thoth 1.

Considering Xerxes' death in August 465 B.C., the power struggle mentioned by Ctesias and others, and Manetho's reference to a seven-month reign for Artabanus, if counted from this August date, overreach Tishri 1, 465 B.C., which forces Artaxerxes accession year to be after Tishri 1, 465. B.C., up to Tishri 1, 464 B.C., when his first regnal year begins. (See Horn's book).

Though some uncertainties remain for lack of detailed information on this transition period, that is, from August 4?-8? 465 B.C. to January 2/3, 464 B.C., or from August 4?-8?, 465 B.C. to December 17, 465 B.C., or from August 4?-8?, 465 B.C. to October 18, 465 B.C, which forces Horn or anyone else to make some reasonable assumptions only, the defense of Ezra's trip in the seventh year of Artaxerxes as being in 457 B.C. is virtually correct. Presently, I do not know of any document that could invalidate this position. However, I would like to get hold of contemporary, solid and positive evidences.

Considering the complexity in dating the reign of Artaxerxes I, owing to variables such as Accession, Nonaccession, Thoth, Nisan, Tishri, etc., above all in the Tishri-Tishri system, it seems of little profit to enlist the testimony of Bible commentators in favor of either 458 or 457, because many of them have not delved into this subject and are only quoting their peers or making biased statements, as found in *1844 Made Simple*, pages 48-49, by Clifford Goldstein, published by the Pacific Press Association in 1988. Therefore, some have been

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31.William Shea, *Symposium on Revelation*, Daniel & Revelation Committee Series, vol. 6 (Silver Spring, MD: Biblical Research Institute), 392.

32. Julia Neuffer in *The Chronology of Ezra 7*, 173.

33. *The Chronology of Ezra 7,* 137.

inconsistent in their dates for Artaxerxes' years in the Ezra-Nehemiah period.

We must remember that the lack of detailed information in the book of Ezra makes this issue real. This gives rise to biased statements and overstatements.

The frustration of Horn, owing to the scarcity of documentation for the transition period, may be seen in the following quotation:

> There are no known documents from any part of the Persian empire recognizing a reign of Artabanus. Unfortunately this negative evidence is weak, because there are no known contemporary records dated in either the last year of Xerxes or the accession year of Artaxerxes, except the Aramaic papyrus AP 6. It is among the ironies of history that, although many thousands of dated documents of the Persian empire period survive, the year 465/4 is one of the poorest years represented.[34]

## Additional Remarks

In *70 Weeks, Leviticus, Nature of Prophecy*, page 57, Hasel refers to a statement of Dewey, saying:

> It has been claimed, "There is not a bit of solid evidence to show that in 457 B.C. there was a royal decree, or even one from God, ordering the rebuilding of Jerusalem."

and then he presents the following argument:

> The fact is undeniable that there was indeed a royal decree in 457 B.C. by Artaxerxes I as Ezra 7:1-26 states. There is an explicit reference to the command of Artaxerxes under the designation of a "decree"(Ezra 7:11, NASB) and by means of the Aramaic phrase "give a command" in Ezra 7:13 which has been rendered into English also as "issue a decree".

I think that in his objection Hasel avoids the issue, because he does not take into account the fact that Dewey is also referring to the year 457 B.C. In this regard I myself would like to have the solid evidences.

Unfortunately, on pages 317 and 318 of his dissertation, Brempong relies on the arguments of Hasel, unaware that Hasel is simply avoiding the issue.

It must be pointed out again that many Adventist writers assert that Artaxerxes' decree was issued in his seventh year, but biblically no one can guarantee that the decree was issued in the seventh year of Artaxerxes, because the chronological information in Ezra 7 is related to the trip, not to the issuing of the decree, which happened some time before Ezra started on his trip. What we can guarantee is that Ezra traveled in the seventh year. Now, the positioning of this trip in the proleptic Julian Calendar needs careful analysis and documenting, that is, it requires solid evidences which must be clearly and definitely related to the Jewish Tishri-Tishri reckoning. Mere allegations are not enough.

On page 334 of his dissertation, Brempong declares: "The seventh year of Artaxerxes I in this reckoning then starts from fall, 457 B.C., ..."

In spite of this being a statement in a doctoral dissertation, which requires thorough research and correctness, I believe that Brempong made an unintentional mistake, and that he means fall, 458 B.C., since Horn shows that the seventh year is from fall 458 to fall 457.

So, as far as I know, Ezra's trip in 457 is very likely, but not definitely proved by

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34. *Ibid.*, 106-107.

contemporary documents. Additional research by the Seventh-day Adventist scholars is necessary.

## Analysis of Chronological Data in Ezra

The defense of the year 457 can, however, be assisted by the analysis of the chronological data given by Ezra in chapters 7 through 10 and by astronomically and chronologically dating them and determining the day of the week. We can not accept some of the activities described to have been carried out on the Sabbath day, if we remember Ezra's zeal for God's law, as stated in Ezra 7:10.

For example, Olmstead, who has been quoted above, says that on April 19, 458, the augmented company left Ahava.

The Bible informs us that they left Ahava on Nisan 12 (Ezra 8:31).

The Bible also informs us that they left Babylon on Nisan 1 (Ezra 7:9).

Parker and Dubberstein in *Babylonian Chronology* , page 32, inform us that Nisan 1, 458 B.C., corresponds to April 8 (April 7/8).

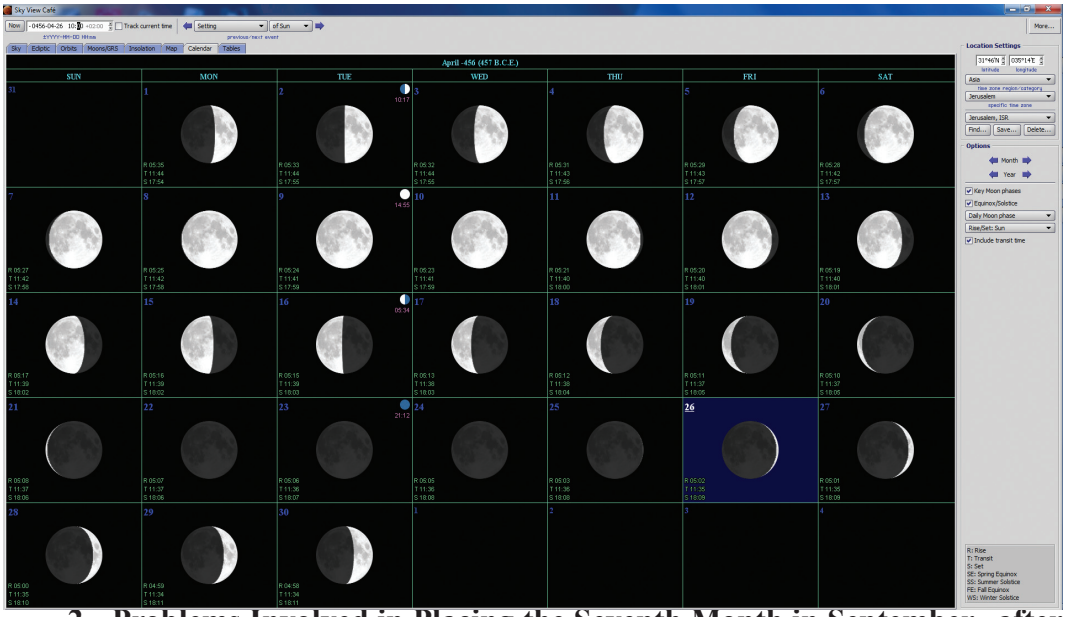
Several astronomy programs listed in the appendices generate calendars.

A good example is found at www.skyviewcafe.com

Nisan 1 corresponds to April 7/8, sunset to sunset, which is Friday sunset to Saturday sunset. Ezra would not have left Babylon on Saturday, a Sabbath day, according to Ezra 7:6 and 10.

This condition would be required by the data for 458 B.C.[35]

Such a situation does not happen in 457 B.C., especially if the month of Nisan is placed in April. Nisan 1 would correspond to April 25/26, sunset to sunset, a Friday, and this would harmonize perfectly with the Biblical account. Ezra 7:9 and 8:15 show that Ezra started on his trip on Nisan 1, arrived at Ahava, and remained there for three days. The immediate day after his arrival at Ahava (Nisan 2, which corresponds to April 26/27, sunset to sunset) would have been a Sabbath day.[36]




## 2 - Problems Involved in Placing the Seventh Month in September, after Ezra's Arrival in Jerusalem

We have just seen that if Ezra's trip had been in 458 B.C. this would have presented a problem related to Sabbath observance. Now we are going to see that if Ezra's trip occurred in 457 B.C., the year must have begun in April, instead of March, otherwise there would be problems related to Sabbath observance again. (See Horn, pages 115-116, 158.)

The SDABC says, taking as a basis the tables of Parker and Dubberstein and of Horn (which place the beginning of the year on March 27, and consequently the fifth month, Ab, in July):

> The day of departure, according to the Jewish calendar on p. 158 of *The Chronology of Ezra 7*, was most probably March 27, 457 B.C. See also pages 115-116 and 127. The time spent on the way was four months. The exiles arrived at Jerusalem on the first day of the fifth month (Ab), or *approximately July 23*, 457 B.C.[37]

Horn has Ab 1 = July 22/23 sunset to sunset (23 = Tue.).

Ab 2 = July 23/24 sunset to sunset (24 = Wed.).

Ab 3 = July 24/25 sunset to sunset (25 = Thu.).

Ab 4 = July 25/26 sunset to sunset (26 = Fri.).

Horn's position is astronomically untenable, because the combined altitude and azimuth of the moon do not allow the visibility of the new crescent at the sunset of July 22, as

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35. Saturday, April 8, -457 [458 B.C.]; Julian Day : 1554235.5; Day of the year : 98 (Data generated by the computer program "Calendar" by Jeffrey Sax in the Companion Disk for the book *Astronomical Algorithms* by Jean Meeus, published by Willmann-Bell, Inc.)

36. Friday, April 26, -456 [457 B.C.]; Julian Day : 1554619.5; Day of the year : 117 (Data generated by the computer program "Calendar").

shown by the chart above and the visibility chart on page 131. With a difference in azimuth of 6 degrees between the Sun and the Moon, the Moon could be visible only when above 11 degrees of altitude, but its altitude on July 22 is only 8 degrees.

The SDABC says 'approximately July 23', probably to avoid confrontation with the PDBC date, which is astronomically more consistent with visibility parameters.

PDBC has Abu 1 = July 23/24 sunset to sunset (24 = Wed.).

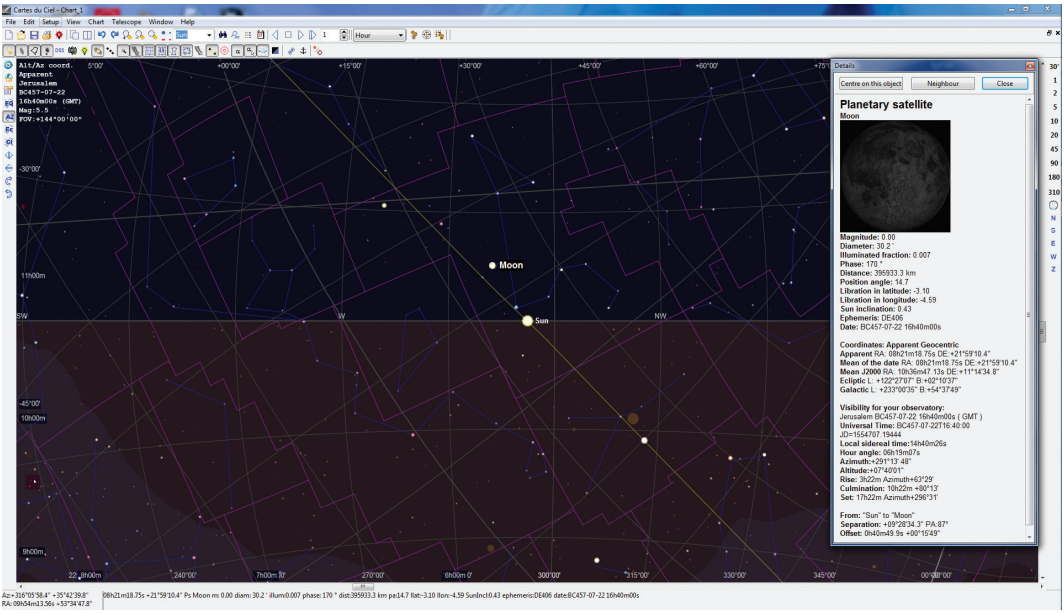
Abu 2 = July 24/25 sunset to sunset (25 = Thu.).

Abu 3 = July 25/26 sunset to sunset (26 = Fri.).

Abu 4 = July 26/27 sunset to sunset (27 = Sat.).

The PDBC position is astronomically correct because the Moon was sufficiently high to be seen at sunset, on July 23, 457 B.C..

But why do Horn and the SDABC assume an astronomically untenable position, in order to make the month start one day earlier? Probably to avoid Abu 4, or Ab 4, on a Sab-




bath day. The Bible says that Ezra "arrived in Jerusalem on the first day of the fifth month" (Ezra 7:9). And Ezra 8:32-34 says:

> So *we arrived in Jerusalem, where we rested three days. On the fourth day*, in the house of our God, we weighed out the silver and gold and the sacred articles into the hands of Meremoth son of Uriah, the priest. Eleazar son of Phinehas was with him, and so were the Levites Jozabad son of Jeshua and Noadiah son of Binnui. Everything was accounted for by number and weight, and the entire weight was recorded at that time.

*Would Ezra be weighing goods on July 27, 457 B.C., a Sabbath day!?* Therefore, Nisan 1 must be in April, and Ab 1 must be in August, which in turn makes Tishri 1 to be in October,

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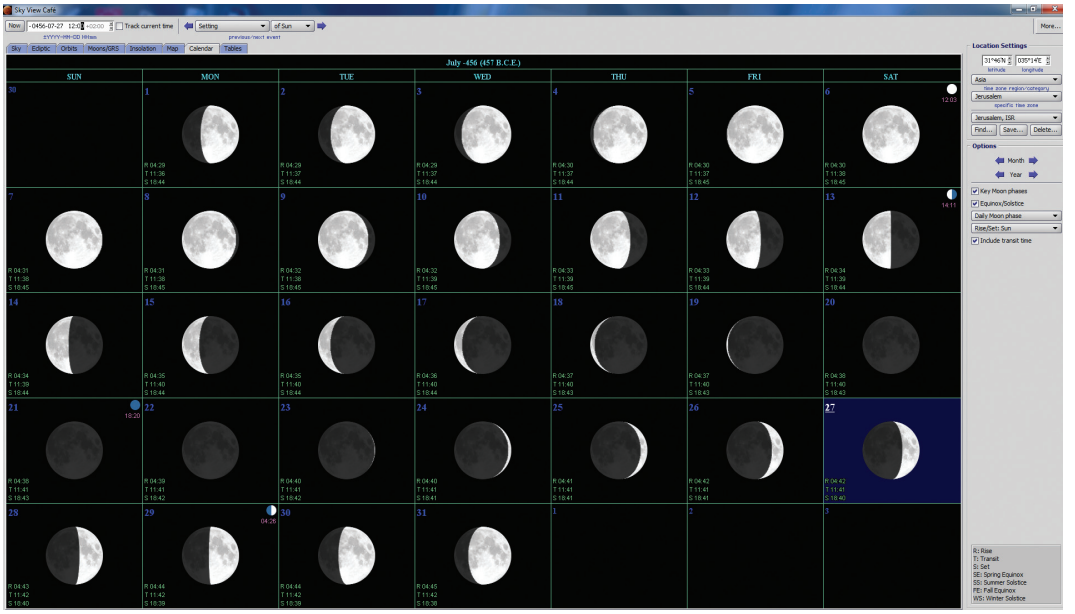
37. SDABC, Vol. 3, 365.




which makes the prophecy of Daniel 8:14 and Daniel 9:24-27 harmonious throughout, the middle of the seventieth week falling in April and the end of the 2300 years falling in October.

# EZRA 10

## ADDITIONAL SUPPORT FOR TISHRI = OCTOBER IN 457 B.C.

9. **Within the three days**, all the men of Judah and Benjamin had gathered in Jerusalem. And on the **twentieth day of the ninth month**, all the people were sitting in the square before the house of God, greatly distressed by the occasion and because of the rain. (heavy rain).
Ezra 10:9.

(Gesenius word 1653, GESHEM = rain, violent rain, heavy shower, downpour. It is different from MATAR, which denotes any rain).

13. But there are many people here and it is the **rainy season**; so we cannot stand outside. Besides, this matter cannot be taken care of in a day or two, because we have sinned greatly in this thing.
Ezra 10:13.

(Rainy season = Gesenius words 6256 and 1653 = time of heavy rain).
9. The twentieth day. In 457 B.C. Kislev 20 was probably Dec. 7. (See page 108).

SDABC, Vol III, page 385.

In 457 B.C., December 7 is a Sabbath. Would it be possible for them to assemble on the Sabbath to deal with this matter?
In verse 13 this matter is called "task or work", the Gesenius word 4399 which is also used in Exodus 20:8-11. However, astronomically, December 8, a Sunday, would be a better fit for Kislev 20. But this would not do either, because the people would have to assemble on the third day, and in the previous days, that is, on Friday and the Sabbath, the people in Jerusalem and throughout Judah would have be in the process

of being summoned and traveling, as we can learn from verses 7-9 which say.
7. A proclamation was then issued throughout Judah and Jerusalem for all the exiles to assemble in Jerusalem.
8. Anyone who failed to appear **within three days** would forfeit all his property, in accordance with the decision of the officials and elders, and would himself be expelled from the assembly of the exiles.
9. **Within the three days**, all the men of Judah and Benjamin had gathered in Jerusalem. And on the **twentieth day of the ninth month,** all the people were sitting in the square before the house of God, greatly distressed by the occasion and because of the rain.

Ezra 10:7-9.

On the other hand, if we take the following situation, things work out harmoniously.

Kislev 1 = Dec. 18 ?  Kislev 20 = Jan. 6, 456 B.C. (Monday)
Kislev 1 = Dec. 19  Kislev 20 = Jan. 7, 456 B.C. (Tuesday)

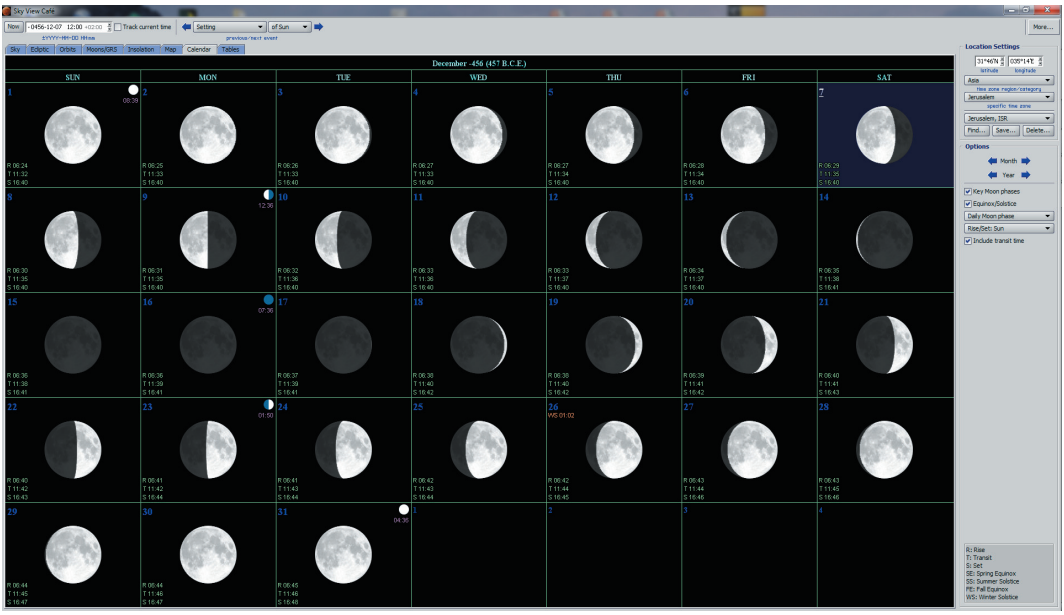
Now, Tuesday is the third day of the week, Sunday and Monday could have been used by the people in responding to the summons.

Tebet 1 = Jan. 16 ? (Thursday)  [Ezr 10:16]
Tebet 1 = Jan. 17  (Friday)
Nisan 1 = Apr. 15  (Tuesday)  [Ezr10:17]

There would have been no breaking of the Law which they were so zealously concerned about, as can be seen in verse 3 of chapter 10.

"In the Bible the days of the week are simply numbered and the seventh day is also named sabbath (------, shabbat; shabbaton)."
Handbook of Biblical Chronology, page 15.
by Jack Finegan
Princeton University Press.

"The great rain. The ninth month, beginning in our November or December, brings heavy rains to Palestine. The winter rains start toward the end of October or the beginning of November, with light showers, but by early December heavy rain is falling. The incidental mention of "the great rain" is one of



those seemingly unimportant touches that mark the story as authentic."
SDABC, Vol III, pages 385-386.

"On the fourth day after the arrival, the treasures of silver and gold, with the vessels for the service of the sanctuary, were delivered by treasurers in the hands of the temple officers, in the presence of witnesses, and with the utmost exactitude. Every article was examined "by number and by weight." Ezra 8:34.

The children of the captivity who had returned with Ezra "offered burnt offerings unto the God of Israel" for a sin offering and as a token of their gratitude and thanksgiving for the protection of holy angels during the journey. "And they delivered the king's commissions unto the king's lieutenants, and to the governors on this side the river: and they furthered the people, and the house of God." Verses 35, 36.

Very soon thereafter a few of the chief men of Israel approached Ezra with a serious complaint.
... Ezra 9:1, 2."
Israel, Its Captivity and Restoration, page 287.
(Prophets and Kings 619, by Ellen G. White)

Born of the sons of Aaron, **Ezra** had been given the priestly training; and in addition to this **he had acquired a familiarity with the writings of the magicians, the astrologers, and the wise men of the Medo-Persian realm.** But he was not satisfied with his spiritual condition. He longed to be in full harmony with God; he longed for wisdom to carry out the divine will. And so he "prepared his heart to seek the law of the Lord, and to do it." Ezra 7:10. **This led him to apply himself diligently to a study of the history of God's people, as recorded in the writings of prophets and kings.** He searched the historical and poetical books of the Bible to learn why the Lord had permitted Jerusalem to be destroyed and His people carried captive into a heathen land. {PK 608.1}

If Ezra had access to documents from the time of Daniel he would have known that the year 457 B.C. required cyclically Tishri 1 in October.

16... So they convened on the **first day of the tenth month** to investigate the matter.
17. And they finished investigating all the men who had married foreign wives by the **first of the first month**.
Ezra 10:16-17. [See Esther 2:16; 3:7]

"Sat down. The sittings of the commission appointed to decide individual cases began their work on Tebet 1, which was Dec. 18, 457 B.C., ten days after the mass meeting in Jerusalem had decided to refer the matter of the heathen wives to a panel of appointed leaders.
17. Made an end. The work of the commission closed the first day of the first month, Nisan 1 of 456 B.C., which was April 15. Thus the sessions of the special court continued almost four months, because in the spring of 456 B.C. a **second Adar** was **PROBABLY** inserted before Nisan (see p. 108; also Vol. II, pp. 103, 116).
SDABC, Vol. III, page 386.

| SDABC | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr |
| Tishri | Hesh-van | Kislev | Tebeth | Shevat | Adar | Adar II | Nisan |
| 07 | 08 | 09 | 10 | 11 | 12 | 13 | 01 |

| JUAREZ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr |
| Elul | Tishri | Hesh-van | Kislev | Tebeth | Shevat | Adar | Nisan |
| 06 | 07 | 08 | 09 | 10 | 11 | 12 | 01 |
| Tishri 1, 457 = October 19/20 Nisan 1 456 = April 14/15 sunset to sunset. | | | | | | | |

"During the typical year a farmer plows his field and plants his grain crops after the "autumn rains" of October through December have softened the hard, sun-baked soil. The grain crops grow from December through February, when 75 percent of the rain falls, and they continue to ripen during March and April, as the rains begin to taper off. These "spring rains" are important for producing bumper crops. The Bible actually refers to the three parts of the rainy season in Deuteronomy 11:14: "Then I will send **rain [Heb. matar; Dec.-Feb.]** on your land in its season, both **autumn [Heb. yoreh; Oct.-Dec.]** and **spring rains [Heb. malqosh; March-April]**, so that you may gather in your grain, new wine and oil. (cf. also Jer 5:24; Hos 6:3)."

January and February, usually the rainiest months of the year.

[See Chart on page 26.]

The Harper Atlas of the Bible, page 25.
Edited by James B. Pritchard.

| **Autumn Rain** | **Heavy Rain** | **Spring Rain** |
|---|---|---|
| **[Yoreh; Oct.-Dec.]** | **[Geshem, Matar] [Dec. to Feb.]** | **[Malqosh; Mar.-Apr.]** |

"Agricultural Year. - In Palestine and neighboring lands the agricultural year has always begun in the autumn. After the spring grass has been parched and the soil baked by long, rainless summer, the autumn rains moisten the soil for planting. This is the early rain, beginning perhaps in October and increasing in November. The wet season lasts through the winter, ending with the "latter rain" of spring, which matures the grain (see Deut. 11:14; Jer. 5:24; Hosea 6:3; Joel 2:23). The barley harvest in Palestine begins in the middle or end of April, and that of wheat comes in the next month, followed by summer fruits, then grapes and olives in the late summer and fall. Note that from April/May to October there is dry weather for successive harvests, as is shown by the following tabulation from Ellsworth Huntington. Palestine and its Transformation (London: Constable and Company, Ltd., 1911), page 34.
The minute fractions of an inch listed between May and October show that the scant showers thus represented by these averages come so infrequently that these months may be considered actually dry.

**Average Rainfall at Jerusalem, in Inches**

| | | |
|---|---|---|
| January 6.41 | May 0.25 | September 0.03 |
| February 5.05 | June 0.008 | October 0.37 |
| March 4.18 | July 0.00 | November 2.38 |
| April 1.60 | August 0.004 | December 5.53 |

38.SDABC, Vol. 5, 256.

39. Years: 590 B.C. (PDBC, 5, 28); 571 B.C. (Ibid.); 552 B.C. (Ibid); 533 B.C. (Ibid., 7, 29); 476 B.C. (Ibid., 8, 31); 419 B.C. (Ibid., 9, 33); 400 B.C. (Ibid.).

40. Papirus Kraeling 3; Horn, *The Chronology of Ezra 7,* 145.

| Annual total, 25.8 |
| --- |

SDABC, Vol. II, pages 109-110.

"In the regions of Mediterranean climate (southern California, southern Australia, far southern Africa, central Chile, and the Mediterranean Sea area itself) the seasonal fluctuations of precipitation are reversed from those in low latitudes; **winter is the wet season** and summer is the dry season."

Encyclopaedia Britannica - Micropaedia - Volume IX, page 10.
(Seasonal Drought)

"The Jewish colonists in Egypt who wrote these papyri were in correspondence with their returned brethren in Palestine, but we do not know whether they were in close enough contact to enable them to keep the **insertion of the 13th month** in exact synchronism with the reckoning followed at Jerusalem.

5 Certain evidence, not conclusive, has led some scholars to believe that these colonists failed at one period to make the adjustment properly; that by inserting too few 13th months they allowed their calendar to diverge from the normal 19-year cycle, with the year beginning too early, and then, through closer contact with revived Judaism in Palestine, corrected the error by inserting the extra month more often. This could easily have happened, but the evidence is based on double dates that are inconclusive or disputed. If it did occur, it would be interesting to know the cause - possibly **the fact that the barley harvest in southern Egypt, coming earlier than in Palestine,** could not be depended on as a guide."
SDABC, Vol. II, page 121.

Horn's Chronological table is a **tentative reconstruction**. For the year 457 B.C., there is no documental evidence and the date given, Tishri 1 = September 20, is the second lowest in the cycle.

Parker and Dubberstein's Babylonian Chronology also has Tishri starting in September in 457 B. C. but they, too, do not have documents to guarantee Tishri in September, as can be verified by referring to page 8 of PDBC, where we find documentation for the 5th year and then for the 10th year of Artaxerxes I, but none for the seventh or eighth years of reign.

See the file SEASON

## Problems in our Literature

The Appendix to *The Great Controversy*, page 690, says:

> Page 290, 292. PROPHETIC DATES. - According to Jewish reckoning the fifth month (Ab) of the seventh year of Artaxerxes' reign was from July 23 to August 21, 457 B.C. After Ezra's arrival in Jerusalem in the autumn of the year, the decree of the king went into effect.

If the fifth month (Ab) in 457 B.C. is dated as July 23 to August 21, this would make the seventh month (Tishri) to begin in September.

Now, if Tishri begins in September in 457 B.C., the 2300-year prophecy will end in September in 1844 A.D. Additionally, the middle of the seventieth week will have to be in March, instead of April.

This date for the fifth month was based on the chronological tables given in Horn's *The Chronology of Ezra 7* and in Parker and Dubberstein´s *Babylonian Chronology,626 B.C. - A.D. 75*. However, it is necessary to remember that these tables are just *tentative*

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41. SDABC, Vol. 2, 121.

42. Since "the Egyptians under Persian rule were not required to conform to the dating system of their overlords" (*The Chronology of Ezra 7*, 80-81), and this is evidenced by double-dated papyri, the same must be true of the Jews.

*reconstructions* and that for the year 457 there is no documental evidence to confirm the dates proposed. The SDABC says the following about these tables:

> We must allow a possible error of a day in some of the months, also that of a month occasionally when, in the absence of a source document dated in the 13th month, the extra month may have been tabulated in the wrong year. In applying these Babylonian lunar-calendar tables to Biblical dates, the authors allow the possibility of a still higher proportion of the months being a day off because of the difference in longitude between Babylon and Jerusalem; and of course a discrepancy of a month would occur whenever the Jews inserted the extra month at a different time from the Babylonian calendar.[38]

The documented Babylonian dates for Tishri 1 from 600 B.C. to 400 B.C. in years cyclically corresponding to 457 B.C. are:

**590 B.C. 10/21 (Documented Addar II, in 590, P.D.B.C. pp 4-5, 28)**

**571 B.C. 10/21 (Documented Addar II, in 571, P.D.B.C. pp 4-5, 28)**

**552 B.C. 10/21 (Documented Addar II, in 552, P. D.B.C. pp 4, 7, 28)**

533 B.C. 09/20

514 B.C. not documented

495 B.C. not documented

476 B.C. 09/21

457 B.C. not documented

**438 B.C. not documented (uncertain in Horn)**

419 B.C. 09/21

400 B.C. 09/20 [39]

After this time the Babylonian calendar achieved regularity and all the subsequent cyclic dates fall in September.

Documented dates from the Jewish colony of Elephantine in the 5th century B.C. for years cyclically corresponding to 457 B.C. seem to be lacking:

457 B.C. not documented

438 B.C. **10**/20 [40]?

419 B.C. not documented

400 B.C. not documented

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43. *God and Our Destiny* (Adult Sabbath School Lessons: January, February, March 1987), 124.
44. SDABC, Vol. IV, 853.
45. Horn, *The Chronology of Ezra 7,* 115.
46. *Ibid.*, 127.

| Climate data for Jerusalem (1881–2007) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
| Record high °C (°F) | 23.4 (74.1) | 25.3 (77.5) | 27.6 (81.7) | 35.3 (95.5) | 37.2 (99) | 36.8 (98.2) | 40.6 (105.1) | 44.4 (111.9) | 37.8 (100) | 33.8 (92.8) | 29.4 (84.9) | 26 (79) | 44.4 (111.9) |
| Average high °C (°F) | 11.8 (53.2) | 12.6 (54.7) | 15.4 (59.7) | 21.5 (70.7) | 25.3 (77.5) | 27.6 (81.7) | 29.0 (84.2) | 29.4 (84.9) | 28.2 (82.8) | 24.7 (76.5) | 18.8 (65.8) | 14.0 (57.2) | 21.5 (70.7) |
| Daily mean °C (°F) | 9.1 (48.4) | 9.5 (49.1) | 11.9 (53.4) | 17.1 (62.8) | 20.5 (68.9) | 22.7 (72.9) | 24.2 (75.6) | 24.5 (76.1) | 23.4 (74.1) | 20.7 (69.3) | 15.6 (60.1) | 11.2 (52.2) | 17.5 (63.5) |
| Average low °C (°F) | 6.4 (43.5) | 6.4 (43.5) | 8.4 (47.1) | 12.6 (54.7) | 15.7 (60.3) | 17.8 (64) | 19.4 (66.9) | 19.5 (67.1) | 18.6 (65.5) | 16.6 (61.9) | 12.3 (54.1) | 8.4 (47.1) | 13.5 (56.3) |
| Record low °C (°F) | -6.7 (19.9) | -2.4 (27.7) | -0.3 (31.5) | 0.8 (33.4) | 7.6 (45.7) | 11 (52) | 14.6 (58.3) | 15.5 (59.9) | 13.2 (55.8) | 9.8 (49.6) | 1.8 (35.2) | 0.2 (32.4) | -6.7 (19.9) |
| Rainfall mm (inches) | 133.2 (5.244) | 118.3 (4.657) | 92.7 (3.65) | 24.5 (0.965) | 3.2 (0.126) | 0 (0) | 0 (0) | 0 (0) | 0.3 (0.012) | 15.4 (0.606) | 60.8 (2.394) | 105.7 (4.161) | 554.1 (21.815) |
| % Humidity | 72 | 69 | 63 | 58 | 41 | 44 | 52 | 57 | 58 | 56 | 61 | 69 | 58.3 |
| Avg. rainy days | 12.9 | 11.7 | 9.6 | 4.4 | 1.3 | 0 | 0 | 0 | 0.3 | 3.6 | 7.3 | 10.9 | 62 |
| Sunshine hours | 192.2 | 226.3 | 243.6 | 267.0 | 331.7 | 381.0 | 384.4 | 365.8 | 309.0 | 275.9 | 228.0 | 192.2 | 3,397.1 |
| Source no. 1: Israel Meteorological Service[139][140] | | | | | | | | | | | | | |
| Source no. 2: Hong Kong Observatory for data of sunshine hours[141] | | | | | | | | | | | | | |

http://en.wikipedia.org/wiki/Jerusalem#Climate

As may be seen, there are documented dates attesting to Tishri in October in years cyclically corresponding to 457 B.C., that is, 590, 571, 552, and probably 438 B.C. So, it cannot be affirmed that the date equivalent to Tishri 1 in 457 B.C. occurred in September in Jerusalem, because in the time of Daniel, from the time the Jews lived in Babylon until they returned to Jerusalem in the time of Cyrus, the cyclic years had been in October.

In Parker and Dubberstein, Nisan 1 falls in April in A.D. 31. This year has cyclic regularity throughout the table, as may be verified by moving throughout the table every 19 years. This calls for  and supports a Tishri = October in 457 B.C., when we go back cyclically 69.5 weeks from the middle of the seventieth week in April.

Starting with the B. C. dates and going forward to the A. D. dates, the cyclic years corresponding to A. D. 31 are: 597, 578, 559, 540, 521, 502, 483, 464, 445, 426, 407, 388, 369, 350, 331, 312, 293, 274, 255, 236, 217, 198, 179, 160, 141, 122, 103, 84, 65, 46, 27, 8, 12, *31*, 50, 69. See the dates for Nisanu 1 or Nisan 1 in the books *Babylonian Chronology*, *626 B.C. – A.D 75*, pages 27 to 47 and *The Chronology of Ezra 7*, pages 157 to 159. In Horn the resulting Nisan = April in the years 464, 445 and 426 are attested by the documents AP 6, AP 13 and Kr 5, respectively.

However, these are Babylonian and Elephantine dates, not Jewish dates used by the people living in Jerusalem in Ezra's time. About differences that may have occurred between the calendar in Elephantine and the calendar in Jerusalem, the SDABC says:

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47. Jacques Doukhan, *Drinking at the Sources* (Mountain View, CA: Pacific Press, 1981), 134-135. Doukhan, in *Daniel: The Vision of the End*, Revised Edition, January 1989, 33, says that "Artaxerxes issued this decree in the seventh year of his reign, that is in the autumn of 457 B.C"; later in *Secrets of Daniel*, 143, Review and Herald, 2000, he modified his wording to "According to the book of Ezra, Artaxerxes would have issued his decree late in the seventh year of his reign (verse 8), that is, in the early *fall* of 457 B.C.E., as Ezra left Babylon on the first day of the fifth month and arrived in Jerusalem on the first day of the fifth month (verses 8, 9). Therefore 457 is the point of departure of our prophecy." Doukhan still does not understand that the decree was given some unspecified and unknown time before Ezra started on his trip from Babylon. The Bible does not date the decree. It just dates Ezra´s trip and arrival.

> The Jewish colonists in Egypt who wrote these papyri were in correspondence with their returned brethren in Palestine, but we do not know whether they were in close enough contact to enable them to keep the insertion of the 13th month in exact synchronism with the reckoning followed at Jerusalem.
>
> Certain evidence, not conclusive, has led some scholars to believe that these colonists failed at one period to make the adjustment properly; that by inserting too few 13th months they allowed their calendar to diverge from the normal 19-year cycle, with the year beginning too early, and then, through closer contact with revived Judaism in Palestine, corrected the error by inserting the extra month more often. This could easily have happened, but the evidence is based on double dates that are inconclusive or disputed. If it did occur, it would be interesting to know the cause - possibly the fact that the barley harvest in southern Egypt, coming earlier than in Palestine, could not be depended on as a guide.[41]

It is also important to remember that the Jews in Jerusalem did not have to be subject to the calendrical pattern of the priest in Babylon during the Persian Empire,[42] and that at Jerusalem they had to present ripe barley for Passover, so they must have followed their own calendar practices. This means that even if the seventh month in Babylon or in Elephantine had begun in September, it does not necessarily follow that this was the case in Jerusalem, where Ezra was. The whole prophetic scheme requires Tishri = October in 457 B.C., in order to be harmonious, precise and consistent throughout.

The second problem with the appendix note in *The Great Controversy* is that Ezra arrived in Jerusalem in the fifth month, which happens to be in the summer, not in the autumn, as stated. The decree, however, for the purpose of the cleansing-of-the-sanctuary prophecy, becomes effective in the autumn, because the cleansing of the sanctuary takes place on Tishri 10, in the autumn, as clearly and correctly stated by Ellen G. White, in *The Great Controversy* , pages 328, 398-40 and 410.

The appendix note in *The Great Controversy* has its origin in Horn. The same is true of other unacceptable statements, such as the following, in the Sabbath School Lesson for the first quarter, 1987:

> According to the SDA Bible Commentary this places the date for the beginning of the 2300-year prophecy in the late summer or early fall of 457 B.C. (Vol.4, p. 853).[43]

The lesson is quoting the SDABC, which received Horn's contribution:

> The specifications of the decree were not carried out until after Ezra returned from Babylon, which was the late summer or early fall of 457 B.C. For a discussion of Ezra 7 and the historical accuracy of the date 457 B.C. as the 7th year of Artaxerxes, see Vol. III, pp. 100-104. For a full discussion of the subject see S. H. Horn and L. H. Wood, *The Chronology of Ezra 7* (rev. ed., 1970).[44]

The SDABC is quoting Horn:

> These documents, taken together with the Biblical statements of Nehemiah and Ezra, lead to the inescapable conclusion that the decree of Artaxerxes I went into effect, after Ezra's return from Babylon, in the late summer or early fall of 457 B.C.[45]

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48. *The Great Controversy*, 398-400, emphasis supplied. See G C. 410, too.

In that case Ezra's journey, which began in the month of Nisan of the 7th year of Artaxerxes and ended in Ab (5th month), took place from late March to late July in 457 B. C., and the decree of Artaxerxes I went into effect after Ezra's arrival in Palestine in late summer or early fall of that same year.[46]

Jacques Doukhan, a professor at Andrews University, says:

178. The date which the biblical account provides for the decree of Artaxerxes is pinpointed in Ezra 7:8. It is the moment when Ezra arrives in Jerusalem and finally announces to Israel the terms of the decree, and this became effective from that time on. This brings us to the fifth month of the seventh year of Artaxerxes...

It is precisely in the fifth month, Ezra tells us that the decree was promulgated. The first month, was that of Nisan (month of the Passover; see Ezra 6:19); so the fifth month takes us to Ab: *it is the end of summer of 457 B.C.*[47]

The parts of the statements that I would like to comment are the expressions "late summer or early fall" and the statement by Doukhan implying that the decree becomes effective in the "fifth month", which is in summer too.

Gerhard F. Hasel stated in the book *Symposium on Daniel*, page 433:

When the end of a time period is stressed, the inevitable matter of its beginning comes to view. In other words, beginning and end belong together – and implicitly also what takes place during the vision.

Now, the Seventh-day Adventist Church believes that the period given in Daniel 8:14 ended on October 22, 1844. So, if the end of this time period is stressed, "the inevitable matter of its beginning comes to view." However, a consensus regarding the exact point for starting the period is lacking. This point must be found and determined astronomically and calendrically.

In contrast with this, Ellen White explicitly says:

That which led to this movement was the discovery that the decree of Artaxerxes for the restoration of Jerusalem, which formed the starting point for the period of the 2300 days, **went into effect in the autumn of the year 457 B.C.**, and not at the beginning of the year, as had been formerly believed.

Reckoning *from the autumn of 457,* the 2300 years terminate *in the autumn of 1844.*

Arguments drawn from the Old Testament types also pointed *to the* **autumn** as the time when the event represented by the **"cleansing of the sanctuary"** must take place. *This was made very clear as attention was given to the manner in which the types relating to the first advent of Christ had been fulfilled….*

*These types were fulfilled, not only as to the event, but as to the time. On the fourteenth day of the first Jewish month*, the very day and month on which for fifteen long centuries the Passover lamb had been *slain*, Christ, having *eaten* the Passover with His disciples,… *That same night*… He was taken by wicked hands to be crucified and slain….

In like manner the types which relate to the second advent must be fulfilled at the time pointed out in the symbolic service. Under the Mosaic system the **cleansing of the sanctuary**, or the great Day of Atonement, occurred on the **tenth day of the seventh Jewish month** (Leviticus 16: 29-34)...

**The tenth day of the seventh month, the great Day of Atonement, the time of the cleansing of the sanctuary,** which in the year 1844 fell upon the twenty-second of October, was in **harmony** with the proofs already presented that the 2300 days would terminate in the autumn, and the conclusion seemed irresistible.[48]

"To accept this conclusion was to renounce the former reckoning of the prophetic periods. The 2300 days had been found to begin when the commandment of Artaxerxes for the restoration and building of Jerusalem **went into effect, in the autumn of 457 B.C.** Taking this as the starting point, there was **perfect harmony** in the application of all the events foretold in the explanation of that period in Daniel 9:25-27.

Sixty-nine weeks, the first 483 of the 2300 years, were to reach to the Messiah, the Anointed One; and Christ's baptism and anointing by the Holy Spirit, A.D. 27, exactly fulfilled the specification. In the midst of the seventieth week, Messiah was to be cut off. Three and a half years after His baptism, Christ was crucified, in the spring of A.D. 31. The seventy weeks, or 490 years, were to pertain especially to the Jews. At the expiration of this period the nation sealed its rejection of Christ by the persecution of His disciples, and the apostles turned to the Gentiles, A.D. 34. The first 490 years of the 2300 having then ended, 1810 years would remain. From A.D. 34, 1810 years extend to 1844. "Then," said the angel, "shall the sanctuary be cleansed." **All the preceding specifications of the prophecy had been unquestionably fulfilled at the time appointed."** G. C. 410.

In *The Great Second Advent Movement,* page 160, John Norton Loughborough said:

"Another writer, S. S. Snow, in the Cry of Aug. 22, 1844, speaking of the 2300 days, said:

'They began at the going forth of the decree to restore and build Jerusalem. The decree was made at the first by Cyrus, renewed by Darius, and completed by Artaxerxes Longimanus in the seventh year of his reign. It was fully promulgated, and **went into effect in the autumn of the year B. C. 457,** when Ezra, having arrived at Jerusalem by the good hand of the Lord, restored the Jewish Commonwealth, appointed magistrates and judges, and commenced the building of the wall.'"

It is VERY IMPORTANT to compare Snow´s statement "went into effect in the autumn of the year B.C. 457" above, with Ellen G. White´s statement "went into effect in the autumn of the year 457 B.C." in the Great Controversy, pages 398 and 410, especially on account of the consequences of the chronological inconsistencies introduced by these Seventh-day Adventist theologians.

So the chronological scheme presented in these passages is the following:

Tishri 10, 457 BC <—> Nisan 14/15, AD 31 <—> Tishri 10, AD 1844.

By these statements of Ellen G. White, it can be seen that the fourteenth and fifteenth days of the first month (Nisan 14/15), in the middle of the seventieth week, help to clarify the beginning of the period, which must be a cleansing-of-sanctuary date, that is, a Tishri 10.

This same reasoning had been used by Samuel Sheffield Snow in 1844 and in 1845, in *The True Midnight Cry*, August 22, 1844, page [2] and in the *Jubilee Standard*, May 22, 1845, pages 84-85.

To find the beginning of the prophetic periods, it is necessary to go back 69.5 weeks from the middle of the seventieth week, that is, from Nisan 14/15, 31 A.D.

Conversely, these calculations also mean that, in order to arrive on the *14/15th days* of a lunar month by going forward 69.5 weeks, or 486.5 years, or 177690.33 days, which

are 6017 lunations and 4.7 days, we must start counting the period *from the 10th day* of a lunar month.

But how can we know that we have to start in the *seventh* month?

Well, we know that we have to get to the *first* month, which is the Passover month, when the cessation of the sacrifices and offerings took place (see Dan. 9:27, Eph. 5:2, Heb. 5:1; 7:27; 8:3; 9:9-10, 14, 26; 10:1-10, Ex. 12:1-10; 13:4, Est. 3:7, the Last Passover texts in the Gospels, and D.A. 757).

If we start in the seventh month and advance 486 years, we arrive in the seventh month, but we still have to advance 0.5 year, which is six months. Therefore, we will arrive in the first month (7 + 6 = 13 = 1st month after a common year of 12 months). Thus, the Nisan 14/15 in the middle of the seventieth week will lead us to a Tishri 10 in the beginning of the prophetic period, and, consequently, to a Tishri 10 in the end of the 2300 years.

The middle of the seventieth week, therefore, requires typologically, chronologically, astronomically and mathematically **that the 70 weeks and the 2300-evening-morning prophecies (y) start (s) on Tishri 10,** the Day of Atonement, Yom Kippur, in the seventh month of the Jewish Calendar, at the hour of the evening sacrifice, which was a high point in the sanctuary service, as may be seen in Ex. 29:38-42, Num. 28:1-8, Dan. 9:21, and Ezra 9:4-5.

This Tishri 10 in 457 B.C. will be the tenth day in the eighth year of Artaxerxes (Tishri – Tishri reckoning), since his seventh year was from Tishri 1, 458 B.C. to Tishri 1, 457 B.C.. Consequently, the 2300-year prophetic period begins 10 days within the **eighth** year of Artaxerxes, and not in the seventh year, as some authors presently teaching in our institutions state. Shea, on page 84 of *Selected Studies on Prophetic Interpretation,* and Brempong [together with the Historicist-Messianic interpreters (page 21) listed by him in the footnote of page 20], on pages 20, 21, and 67 of his doctoral dissertation, think differently.

## Think This Over

In 1845, Samuel Sheffield Snow wrote:

Consequently we must see that **the 2300 days, of which the 70 weeks form the first part, began on the tenth day of the seventh month,** whatever may have been the date of the year. From Ezra viii. 35, 36, we also showed that on that **day of atonement or expiation**, when the children of Israel who had returned from captivity offered their bullocks, rams and goats, according to the law, the "king´s commissions" were delivered to the properly constituted executive officers, who were commanded under penalty of death, banishment, confiscation of goods, or imprisonment, to furnish Ezra and the Jews whatever they required according to the law of God, and to do it speedily. See Ezra vii. 21-26. Did they obey that command? Certainly. The laws of the Medes and Persians were not to be trifled with. See the last clause of chap. viii. 36, "And they furthered the people and the house of God". **Here we find the "going forth of the commandment" on the 10th day of the 7th month.**

Again, it must not be forgotten, that the first 7 weeks of the 70 were divided from the remainder, and allotted to the building of the street and wall; see Dan. ix. 25. Now should we say that 7 years were allotted for the promulgation of the gospel of the kingdom, and then say that those 7 years began 3, 6, 9 months before the work began for which they were allotted, we should be guilty of an absurdity or contradiction. So also when it is admitted that those 7 weeks were allotted for the work of building the street and wall, to say the time commenced before they began the work is absurd. But when did the work commence?

| | | | | | | |
|---|---|---|---|---|---|---|
| **69.5 weeks x 7 days = 486.5 days = 486.5 years (Dan 8:14; 9:24-27; Num. 14:34; Eze. 4:6-7)** | | | | | | |
| **486.5 years x 365.2422 days (solar year) = 177690.33 days** | | | | | | |
| **177690.33 days / 29.53059 days (synodic month) = 6017.1615 lunations** | | | | | | |
| | | | | | | |
| **10** | **>.....>** | **10** | **11** | **12** | **13** | **14** | **15** |
| **6017 lunations from sunset** | | **4.7 days** | | | | |
| **6017 lunations from evening sacrifice** | | **4.7 days** | | | | |
| **6017 lunations + 4.7 days** | | | | | | |
| **6017.1615 lunations** | | | | | | |

Not until the Jews had arrived in Judea, the magistrates had been appointed, and by the "king´s commission," clothed with authority and power to carry the commandment or decree of the God of heaven into effect. This decree from God was begun by Cyrus, as his instrument or agent. See Isa. xliv. 28, ´That saith of Cyrus, He is my shepherd, and shall perform all my pleasure: even saying to Jerusalem, Thou shalt be built; and to the temple, Thy foundations shall be laid.´ Again, Isa. xlv. 13, ´I have raised him up in righteousness, and I will direct all his ways: he shall build my city, &c. For the fulfillment of this prophecy, see 2 Chron. xxxvi. 22, 23; Ezra i. 1-4. Now read Ezra vi. 1-14, and it will be seen that the decree *made* by Cyrus, was *renewed* by Darius, and *completed* by Artaxerxes. **But the point of consummation was its "going forth," or going into effect,** in the *commencement* of the BUILDING OF THE CITY. And this, we have shown, was **at the great day of expiation,** after Ezra and the Jews had returned from Babylon. There the *first step* was taken after the *completion* of the decree or commandment, towards *building the city*, when "they DELIVERED THE KING´S COMMISSIONS unto the king´s LIEUTENANTS, and to the GOVERNORS, which were on this side of the river: and they furthered the people, and the house of God." **We come then to this necessary and unavoidable conclusion: - that as the 2300 days began, so they must end, on the tenth day of the seventh month.** *Well*, what then? Why, ´THEN *shall the* SANCTUARY be JUSTIFIED, - [see margin].Jubilee Standard, May 22, 1845, p. 84-85, Prophetic Chronology - Continued.

Remark for the item "Jewish Tishri-Tishri Dating":

On page 317 of Brempong´s *Doctoral Dissertation*, and on page 84 of Shea´s S*elected Studies on Prophetic Interpretation*, we find the following footnotes and texts containing statements that must be avoided, because they are misleading, impossible to prove or simply assumed:

3. See Horn and Wood, Chronology of Ezra 7. 89-106, who in a detailed discussion of the Persian, Egyptian, and Jewish calendars **firmly establish** the date of 457 B.C. for the 7th year of Artaxerxes I; ...

Shea, "The Prophecy of Daniel," 99-101, **has determined the date based upon** the cross references of the Olympiad Dates, Ptolemy´s Canon, Elephantine Papyri, and the Babylonian cuneiform tablets. The author of Ezra was using the Tishri-to-Tishri (i.e., fall-to-fall) calendar instead of the Babylonian Nisan-to-Nisan (i.e., spring-to-spring) [Brempong].

The decree for the return given to Ezra who began that reconstruction (Ezra 4:11-16) was issued in the seventh year of Artaxerxes I (Ezra 7:7-26). The seventh year of Artaxerxes I can be fixed

through classical historians, Ptolemy´s Canon, the Elephantine papyri, and Neo-Babylonian contract tablets to 458/457. Jews of that time employed a fall-to-fall calendar (Neh 1:1; 2:1), so **Daniel´s 70 weeks began in the year that extended from the fall of 458 B.C. to the fall of 457 B.C.** [Shea].

An important advice of Ellen G. White about needed correction, follows:

This test would reveal the strength of those who with real faith had obeyed what they believed to be the teaching of the word and the Spirit of God. It would teach them, as only such an experience could, the danger of accepting the theories and interpretations of men, instead of making the Bible its own interpreter. To the children of faith the perplexity and sorrow resulting from their error would work the needed correction. They would be led to a closer study of the prophetic word. They would be taught to examine more carefully the foundation of their faith, and to reject everything, however widely accepted by the Christian world, that was not founded upon the Scriptures of truth. *The Great Controversy*, page 354.

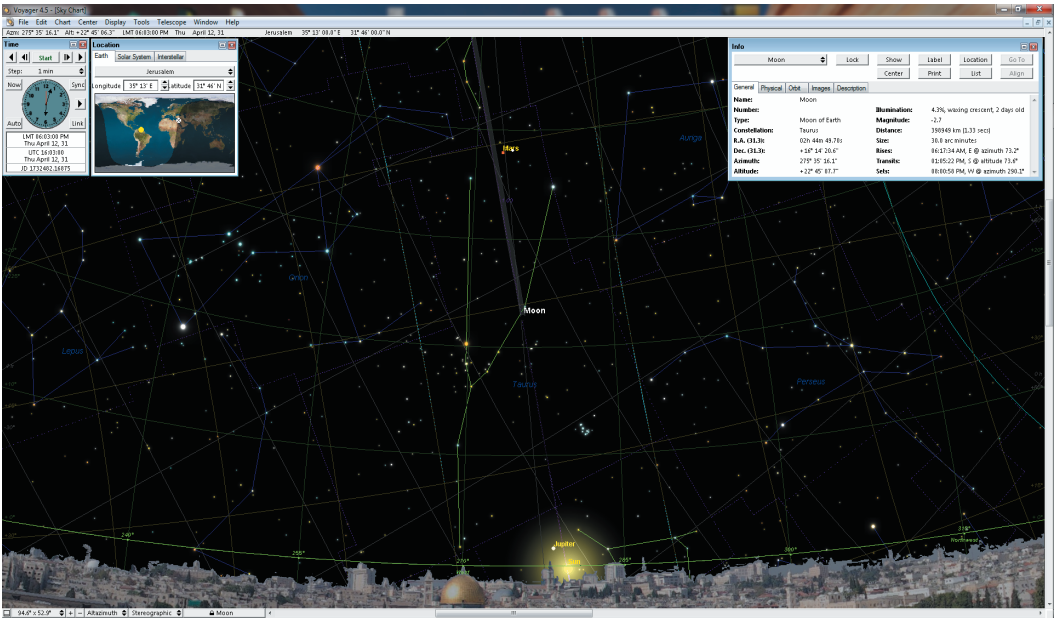
SIGNS OF THE TIMES
J. V. Himes, J. Litch, and S. Bliss, Editors
BOSTON, APRIL 12, 1843.
**Throwing Away the Key.--The seventy weeks of Dan. ix. 24 have been universally admitted, by commentators and students of prophecy, to have been prophetic weeks of years, and to have been fulfilled in 490 years from B.C. 457 to A.D. 33. So obvious and universal has been this interpretation of it among both Jews and Christians, that hardly a lisp has ever been heard against it. Even those expositors of these last days, who have departed from the universal opinion of most standard protestant commentators, and deny that the days of Daniel are, in prophecy, years, yet they have never dared to deny that the seventy weeks are weeks of years. The seventy weeks however have been so conclusively shown to be the key to the 2300 days, that the only way to avoid the conclusion of those days terminating in 1843, has been to show that "the key does not fit the lock." Those who have thus labored have however been so unsuccessful in disconnecting the 8th and 9th of Daniel, that they have been tempted to throw away the seventy weeks. {April 12, 1843 JVHe, HST 44.1**
**Source Book for Bible Students by the Review and Herald Publishing Association in 1919:**

**Knowing the starting-point, Feb. 26, 747 b. c., it is but a matter of computation, or measuring, to tell in what year of our modern reckoning a given year of the canon falls. {1919, SBBS 42.1}**
**According to Ptolemy, the year in which Artaxerxes began to reign was the two hundred eighty-fourth year of the canon. This year 284, according to our calendar, began Dec. 17, 465 b. c. 3 {1919, SBBS 42.2} (NOW CORRECT)**
**...**
**The record of Nehemiah and Ezra fully establishes the fact that Artaxerxes began his reign at the end of the summer, or in the autumn. Neh. 1:1; 2:1; Ezra 7:7-9. 4 His first year, therefore, was from the autumn of 464 b. c. to the autumn of 463 b. c., and his seventh year was from the autumn of 458 b. c. to the autumn of 457 b. c. {1919, SBBS 42.6}**
**Under Ezra's commission the people began to go up to Jerusalem in the spring of that year, 457 b. c. (in the first month, or April), and**
**43**
**they "came to Jerusalem in the fifth month" (August). Ezra 7, 8, 9. Ezra and his associates soon thereafter "delivered the king's commissions unto the king's lieutenants, and to the governors on this side the river: and they furthered the people, and the house of God." Ezra 8:36. {1919, SBBS 42.7}**

**Handbook for Bible Students by the Review and Herald Publishing Association in 1922:**

**The record of Nehemiah and Ezra fully establishes[Original illegible] the fact that Artaxerxes began his reign at the end of the summer, or in the autumn. Neh. 1: 1; 2: 1; Ezra 7: 7-9. 4 <u>His first year, therefore, was from the autumn of 464 b. c. to the autumn of 463 b. c., and his seventh year was from the autumn of 458 b. c. to the autumn of 457 b. c.</u> {1922, HBS 21.2}**
**Under Ezra's commission the people began to go up to Jerusalem in the spring of that year, 457 b. c. (in the <u>first month, or April</u>), and they "came to Jerusalem in the <u>fifth month" (August</u>). Ezra 7, 8, 9. Ezra and his associates soon thereafter "delivered the king's commissions unto the king's lieutenants, and to the governors on this side the river: and they furthered the people, and the house of God." Ezra 8: 36. {1922, HBS 21.3}**

**John Nevins Andrews:**
These important dates are clearly and unequivocally established by historical, chronological, and astronomical testimony. Sixty-nine of the 70 weeks from the decree in B.C. 457 ended in A.D. 27, when our Lord was baptized, and began to preach, saying, "The time is fulfilled." Mark 1. Three and a half years from this brings us to the midst of the week in A.D. 31, the period of 70 weeks terminates in the autumn of A.D. 34. **<u>Or, to be more definite, the first three and a half years of the seventieth week ended in the first Jewish month (April) in the spring of A.D. 31.</u>** The remaining three and a half years would therefore end in the seventh month, autumn of A.D. 34. {1872 JNA, S23D 27.1}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Name: Moon
Number:
Type: Moon of Earth
Constellation: Taurus
R.A. (J1.3): 02h 44m 49.78s
Dec. (J1.3): +18° 14' 20.6"
Azimuth: 275° 35' 16.1"
Altitude: +22° 45' 07.1"
Illumination: 4.3%, waxing crescent, 2 days old
Magnitude: -2.7
Distance: 398949 km (1.33 secs)
Size: 30.8 arc minutes
Rises: 06:17:34 AM, E @ azimuth 73.2°
Transits: 01:05:22 PM, S @ altitude 73.4°
Sets: 08:00:58 PM, W @ azimuth 290.1°
Aurigae
Orion
Moon
Lepus
Taurus
Perseus
Jupiter
Mars
Moon
Azimuth
Stereographic

# CHAPTER III

# PROBLEMS RELATED TO THE MIDDLE OF THE SEVENTIETH WEEK

In Chapter II, it was shown that the date of 457 B.C., for the beginning of the 2300 years, cannot be conclusively proved. However, it can be supported and fixed by reckoning the prophetic periods using the date of the crucifixion as a base or anchor point. This solution can be reached, first by fixing the middle of the seventieth week, when the cessation of sacrifices and offerings, predicted in Daniel 9:27, and according to Eph. 2:11-22; 5:2; Heb. 5:1; 7:27; 8:3-4, 6-7; 9:9-12, 26; 10:1-2, 5-10; 13:8-15; Gal. 4:10, Mat. 26:17-31, Mar. 14:1, 12, Luke 22:7-23, Ex. 12:1-16, Ex. 13:3-10, Lev. 23:4-8 fulfilled with the ceremonies on Nisan 14 and 15, and ultimately with the death of Christ on the cross at 3 PM, on Nisan 15, and then by going back 69.5 weeks from this middle, which has fine details or information in relation to the month, the day of the month, the day of the week and even the hour. In order to fix this middle point, it will be necessary to examine the historical, typological, astronomical and chronological evidences available. This must be so because of lack of details in Ezra 7 and 8 about the date the decree was issued (Ezra 7:13, Daniel 9:25) and the activities described from the fourth day of the fifth month (Ezra 8:33-36) and the activities described in relation to the twentieth day of the ninth month (Ezra 10:7-9). The date for starting the prophetic periods, the tenth day of the seventh month (Leviticus 16:29; 23:27, Numbers 29:7), Tishri 10, the Day of Atonement, Yom Kippur, the day the sanctuary was cleansed or justified (Daniel 8:14), is not explicitly mentioned by Ezra, from Ezra 7:1 to Ezra 10:44.

## References in the Bible and in the Writings of Ellen G. White

In the Bible there are just a few historical and chronological references made by Matthew and Luke:

> After Jesus was born in Bethlehem in Judea, during the time of King Herod, Magi from the east came to Jerusalem. … Then Herod called the Magi secretly and found

out from them the exact time the star had appeared. After they had heard the king, they went on their way, and the star they had seen in the east went ahead of them until it stopped over the place where the child was. … On coming to the house, they saw the child with his mother Mary, and they bowed down and worshiped him. … And having been warned in a dream not to go back to Herod, they returned to their country by another route. When they had gone, an angel of the Lord appeared to Joseph in a dream. "Get up," he said, "take the child and his mother and escape to Egypt. Stay there until I tell you, for Herod is going to search for the child to kill him." So he got up, took the child and his mother during the night and left for Egypt, where he stayed until the death of Herod. When Herod realized that he had been outwitted by the Magi, he was furious, and he gave orders to kill all the boys in Bethlehem and its vicinity who were two years old and under, in accordance with the time he had learned from the Magi. … After Herod died, an angel of the Lord appeared in a dream to Joseph in Egypt and said, "Get up, take the child and his mother and go to the land of Israel, for those who were trying to take the child's life are dead." So he got up, took the child and his mother and went to the land of Israel. But when he heard that Archelaus was reigning in Judea in place of his father Herod, he was afraid to go there. Having been warned in a dream, he withdrew to the district of Galilee, and he went and lived in a town called Nazareth (Matt. 2:1-23, NIV).

And Luke says:

Jesus, when he began his ministry, was about thirty years of age (Luke 3:23, NIV).

The Writings of Ellen G. White present the following references:

The decree of imperial Rome for the enrollment of the peoples of her vast dominion has extended to the dwellers among the hills of Galilee. As in old time Cyrus was called to the throne of the world's empire that he might set free the captives of the Lord, so Caesar Augustus is made the agent for the fulfillment of God's purpose in bringing the mother of Jesus to Bethlehem.[1]

About forty days after the birth of Christ, Joseph and Mary took Him to Jerusalem, to present Him to the Lord, and to offer sacrifice.[2]

The wise men had seen a mysterious light in the heavens upon that night when the glory of God flooded the hills of Bethlehem. As the light faded, a luminous star appeared, and lingered in the sky. … Through dreams they were instructed to go in search of the newborn Prince.[3]

The priests and elders of Jerusalem were not as ignorant concerning the birth of Christ as they pretended. The report of the angels' visit to the shepherds had been brought to Jerusalem, but the rabbis had treated it as unworthy of their notice.[4]

The wise men departed alone from Jerusalem. The shadows of night were falling as they left the gates, but to their great joy they again saw the star, and were directed to Bethlehem. … At Bethlehem they found no royal guard stationed to protect the newborn King. None of the world's honored men were in attendance. Jesus was cradled in a manger.[5]

In like manner Joseph received warning to flee into Egypt with Mary and the child. And the angel said, "Be thou there until I bring thee word: for Herod will seek the young child to destroy Him." Joseph obeyed without delay, setting out on the journey by night for greater security.[6]

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1. *The Desire of Ages*, 44. Emphasis mine.
2. *Ibid.,* 50.
3. *Ibid.,* 60.
4. *Ibid.*, 62.

> Through the wise men, God had called the attention of the Jewish nation to the birth of His Son. Their inquiries in Jerusalem, the popular interest excited, and even the jealousy of Herod, which compelled the attention of the priests and rabbis, directed minds to the prophecies concerning the Messiah, and to the great event that had just taken place.[7]
>
> Herod in Jerusalem impatiently awaited the return of the wise men. As time passed, and they did not appear, his suspicions were roused. … Soldiers were at once sent to Bethlehem, with orders to put to death all the children of two years and under.[8]
>
> This act of cruelty was one of the last that darkened the reign of Herod. Soon after the slaughter of the innocents, he was himself compelled to yield to that doom which none can turn aside. He died a fearful death.[9]
>
> Joseph, who was still in Egypt, was now bidden by an angel of God to return to the land of Israel. Regarding Jesus as the heir of David's throne, Joseph desired to make his home in Bethlehem; but learning that Archelaus reigned in Judea in his father's stead, he feared that the father's designs against Christ might be carried out by the son. Of all the sons of Herod, Archelaus most resembled him in character. Already his succession to the government had been marked by a tumult in Jerusalem, and the slaughter of thousands of Jews by the Roman guards.[10]
>
> Again Joseph was directed to a place of safety. He returned to Nazareth, his former home, and here for nearly thirty years Jesus dwelt.[11]
>
> Christ had sojourned in the world for thirty-three years; He had endured its scorn, insult, and mockery; He had been rejected and crucified. Now, when about to ascend to His throne of glory, … His promise to those loved ones whom He leaves on earth is, "I am with you alway, even unto the end of the world." Matt. 28:20.[12]

These texts convey the idea that the time from the birth of Jesus to the death of Herod was short, reinforcing the idea that Christ was thirty years old when He was baptized and started His ministry, as stated in Luke 3:23.

## Historical Evidences about Rulers

Jesus was born before the death of Herod the Great (Matt. 2:1-38), at the time of a census or enrollment carried out in the territory of Herod, in accordance with a decree of Augustus, during the governorship of Quirinius in the Roman province of Syria (Luke 2:1-7). John the Baptist was born six months before Jesus

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5. *Ibid.*, 63.
6. *Ibid.*, 64.
7. *Ibid., 64.*
8. *Ibid.*, 65.
9. *Ibid.*, 66.
10. *Ibid.66.*
11. *Ibidem.*

(Luke 1:36), also in the days of Herod (Luke 1:5; cf. 2:1). John began his ministry in the fifteenth year of the reign of Tiberius Caesar, Pontius Pilate being governor of Judea (Luke 3:1). Christ was baptized about six months later, probably a few days after the beginning of Tiberius' sixteenth year, in a Tishri-Tishri system like the Macedonian Seleucid Era used in Antioch of Syria.

## Herod

Our main source for the life of Herod is Flavius Josephus (A.D. 37 – c. A.D. 100). But he wrote after the fall of Jerusalem in A.D. 70, and his data show that he himself was not sure of the details related to Herod. He was not an independent witness, since he lived and wrote many years after Herod's death. His main source on Herod is Nicolaus of Damascus[13], who is frequently mentioned in his books.

Josephus makes it clear that about three years passed between Herod's first obtaining the kingdom at Rome and his second obtaining it upon the taking of Jerusalem and death of Antigonus[14]. All the years of reign of Herod in Josephus are dated from the death of Antigonus, or at the soonest from the conquest of Jerusalem, and never from his first obtaining the kingdom at Rome, about three years before.

### *Herod's years of reign*

Josephus informs us that Herod took Jerusalem

> when Marcus Agrippa and Caninius Gallus were consuls at Rome, on the hundred and eighty-fifth Olympiad, on the third month, on the solemnity of the fast, as if a periodical revolution of calamities had returned since that which befell the Jews under Pompey; for the Jews were taken by him on the same day, and this was after twenty-seven years' time.[15]

Marcus Agrippa and Caninius Gallus were consuls at Rome from January 1, 37 B.C. to January 1, 36 B.C, according to E. J. Bickerman, in *Chronology of the Ancient World, Revised Edition*, 1980, pages 140-162.

It is mentioned that the city fell on the third month, however this probably means not the third month of the Jewish calendar, but the third month of the siege.[16] It could hardly refer to the third month of the Jewish calendar, since the third month falls in the spring and at a certain point of the siege Josephus mentions that "it was summer time" (Ant. 17.6.4). Besides, he says that the city fell on the solemnity of the fast, which at another place he makes it clear it is the day of atonement,[17] which was in the autumn.

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12. *Ibid.*, 830.

13. "I appeal to those that have written of the acts of Pompey; and, among them, to Strabo and Nicolaus [of Damascus]; and besides these, to Titus Livius, the writer of the *Roman History*, who will bear witness of this thing." Antiquities 14.4.3, in *The Works of Josephus: New Updated Edition* (Peabody, MA: Hendrickson Publishers, 1987).

14. "When the rigor of winter was over, Herod removed his army, and came near to Jerusalem, and pitched his camp far by the city. Now this was the third year since he had been made king at Rome" (Ant. 14.15.14).

So Herod and Sossius (the general sent by Antony to assist him) probably took Jerusalem on the Day of Atonement (October 5/6), 37 B.C. This was the same strategy used by Pompey in 63 B.C., and that is why Josephus mentions that the city was taken "on the same day" on both occasions. Jerusalem was taken by Pompey on the Day of Atonement (Tishri 10 = October 23/24, 63 B.C.), on a weekly Sabbath day.

Thus, although many reckon Herod's years of reign from the Spring (Nisan), Josephus' statements favor starting his reign from the autumn, after the fall of Jerusalem and death of Antigonus.

It is also important to notice that, although Josephus mentions that "this was after twenty-seven years' time," the correct figure seems to be 26 years, since Pompey took the city in 63 B.C., "when Caius Antonius and Marcus Tullius Cicero were consuls"[18] (Jan. 1, 63 - Jan. 1, 62 B.C.), and Herod and Sossius took the city in 37 B.C., "when Marcus Agrippa and Caninius Gallus were consuls at Rome"[19] (Jan. 1, 37 - Jan. 1, 36 B.C.).

## *Herod's death*

Josephus mentions that Herod died

> having reigned thirty-four years, since he had caused Antigonous to be slain, and obtained his kingdom; but thirty-seven years since he had been made king by the Romans.[20]

Thirty-four years from 37 B.C. takes us to 3 B.C.
Did Herod die in the 34th (37th) year of reign or after reigning 34 (37) years?
S. Westerholm says the following about the reckoning of Herod's death date:

> In order to reckon the date of Herod the Great's death, evidence that is primarily literary and numismatic must be considered. Josephus tells us that Herod the Great was proclaimed King of Judea by the Romans when Calvinus and Pollio were proconsuls, or late 40 B.C. (Ant. 14.385-85; J. W. 1.282-85; Tacitus Hist. 5:9). He then adds that Herod (see Herodian Dynasty) reigned for thirty-seven years from the time of that proclamation (Ant. 17.191; J. W. 1.665). There is considerable debate as to whether Josephus was reckoning according to solar years, or following the accession-year chronology (Herod did not gain possession of his domain until 37 B.C.). There is also the question of whether or not he was counting inclusively, that is, reckoning partial years as whole years.

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15. Ant. 17.6.4.

16. Although at another place he says that the siege lasted for five months (Wars, 1.18.2) or six months (Wars 5.9.4). When he speaks of the capture of Jerusalem by Pompey, in 63 B.C., he also uses the expression "on the third month" (Ant. 14.4.3-4), and in Wars 1.7.4 and 5.9.4 he makes it clear he is speaking of the third month of the siege.

17. "However the high priest did not wear these garments at other times, but a more plain habit; he only did it when he went into the most sacred part of the temple, which he did but once a year; on that day when our custom is for all of us to keep a fast to God" (Wars 5.5.7). "There was another person made high priest for a single day, that very day which the Jews observed as a fast" (Ant. 17.6.4). See also Ant. 3.10.2,3. The Bible also favors this interpretation: "This is a perpetual law for you. On the tenth day of the seventh month you will fast and refrain from work, both citizen and resident alien; for this is the day on which the rite of expiation will be performed for you to purify you, to purify you before Yahweh from all your sins. It will be a sabbatical rest for you and you will fast. This is a perpetual law" (Leviticus 16:29-31, The New Jerusalem Bible). "Much time had been lost, and sailing had already become dangerous because by now it was after the Fast. So Paul warned them" (Acts 27:9, NIV).

> Most scholars are still persuaded by the work of E. Schurer (cf. Bernegger, Hoehner) that Josephus is correct about the time of Herod's accession and the length of his reign. This would place the death of Herod at about 3 B.C. However, Josephus also tells us that an eclipse of the moon occurred shortly before Herod's death (Ant. 17.167), and in view of the fact that this is the only time Josephus mentions this sort of phenomenon, it is improbable that he fabricated this piece of information. There were no such eclipses in 3 B.C., but there was one on March 12/13, 4 B.C. He also informs us that Passover was celebrated shortly after Herod's death (Ant. 17.213; J. W. 2.10). In 4 B.C. the first day of Passover would have been April 11. Thus, it is likely Herod died between March 12 and April 11, 4 B.C. and presumably the discrepancy of one year is accounted for by inclusive reckoning of regnal years. This means that Jesus was born sometime before March of 4 B.C.
>
> The numismatic evidence is complex, but we do know that Herod's first coin was dated 'Year 3.' This coin was minted perhaps shortly after his final capture of Jerusalem in 37 B.C., thus back-dating his reign to the time in 40 B.C. when the Romans proclaimed him to be ruler of Judea (cf. Edmonds). This evidence also places Herod's death at about 3 B.C., but here again the question of inclusive reckoning of years arises, which would seem to allow the possibility of 4 B.C.[21]

Thus, the evidences seem to point to the death of Herod in 3 B.C., but scholars are inclined to favor 4 B.C. because of the eclipse of March 12/13, 4 B.C. However, it is not said how much time elapsed between this eclipse and Herod's death. It could have been some days or it could have been several months. The same is true about the Passover which followed his death.

And usually this is not mentioned, but there was also a small penumbral eclipse in 3 B.C. which, on account of its small size, may have not been visible in Jerusalem, could have been easily calculated by Chaldean astronomers in those days. (Bao-Lin in Canon Of Lunar Eclipses 1500 B.C. - A.D. 3000, published by Willmann-Bell, Inc. in 1998, has a partial penumbral lunar eclipse of mag. 0.119 on March 2, 3 B.C. The astronomy program Sky View Café shows it too. Time 02:53 a.m., Jerusalem time).

After Herod's death there is the mention of a Passover. Although some scholars hold that this Passover occurred one month after the eclipse, others hold that it occurred thirteen months after the eclipse.[22]

Though some scholars hold that Herod died between March and April, 4 B.C., it cannot be stated with absolute certainty that Herod died before the 4 B.C. Passover. Some scholars argue in favor of the latter part of 4 B.C. and others in favor of 3 B.C.[23] This would be specially true if Josephus is reckoning the years of reign of Herod from the fall, and if Herod died after having reigned 34 (37) years.

The data available are not sufficiently consistent and detailed for reaching an unassailable

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18. Ant. 14.4.3.
19. Ant. 17.6.4.
20. Wars, 1.33.8.

conclusion. As to the reigns of Herod's sons, W. P. Armstrong and J. Finegan say the following:

> This date of Herod's death [4 B.C.] is confirmed by the evidence for the duration of the reigns of his three sons. Archelaus was deposed in 759 [A.U.C.] 6 [A.D.] (Dio Cassius Hist. lv.27; in the consulship of Aemilius Lepidus and Lucius Arruntius) in the tenth year of his reign (Ant. xvii, 13.2; cf. BJ ii.7.3, which gives the year as the 9th). Antipas was deposed most probably in the summer of 792/39 (Ant. xviii.7.1f.; cf. 611; xix.8.2; BJ ii.9.6; HJP2, I.352 n. 42, and 327 n. 165). There are coins of Antipas from his forty-third year (F. W. Madden, Coin of the Jews [1881], pp. 121ff.). The genuineness of a coin from the forty-fourth year is questioned by Schurer but accepted by Madden. The coin from the forty-fifth year is probably spurious (HJP2, I, 327 n. 165). Philip died after reigning thirty-seven years, in the twentieth year of Tiberius - Aug. 19, 786/33-787/34 (Ant. xvii.4.6). There is also a coin of Philip from his thirty-seventh year (Madden, p. 126). Thus Archelaus, Antipas, and Philip began to reign in 750/4. The death of Herod in 4 B.C. has been questioned by W. E. Filmer in JTS, N.S. 17 (1966), 283-298, but decisively reaffirmed by T.D. Barnes in JTS, N.S. 19 (1968), 204-209.[24]

It should be noticed that Josephus says in one place that Archelaus was deposed in his tenth year, and at another place that he was deposed in his ninth year.

So, on the basis of the historical evidences available, it is not possible to affirm that Herod died before the 4 B.C. Passover, or even that he died in the year 4 B.C. This is still a pending matter, with many uncertainties.

## *The temple*

Josephus mentions the following about the construction of the temple by Herod:

> And now Herod, in the eighteenth year of his reign, and after the acts already mentioned, undertook a very great work, that is to build of himself the temple of God.[25]

If the first year of Herod's reign was 37/36 B.C., his eighteenth year would be 20/19 B.C.

Although in *Wars* 1.21.1 Josephus says that Herod rebuilt the temple in the "fifteenth year" of his reign, this dating must be wrong, as demonstrated by Jack Finegan, in $ 432, page 277 of his book *The Handbook of Biblical Chronology*, and the statement in *Antiquities* probably is correcting the information given in *Wars*.

But at what point in his eighteenth year (20/19 B.C.) did he start the construction of the temple?

> But while they were in this disposition, the king encouraged them, and told them he would not pull down their temple till all things were gotten ready for building it up entirely again. And as he promised them this beforehand, so he did not break his word with them, but got ready a

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21. Joel B. Green et al, ed., *Dictionary of Jesus and the Gospels* (Downers Grove, Ill: Inter Varsity Press, 1992), 66, 67.

22. William Whiston, the translator of Josephus' Works, says: "This Passover, when the sedition here mentioned was moved against Archelaus, was not one, but thirteen months after the eclipse of the moon, already mentioned" (*The Works of Josephus*, p. 465, note *a*).

23. William Whiston, for instance, says: "This calculation, from all Josephus's Greek copies is exactly right; for since Herod died about September, in the fourth year before the Christian era…" (*The Works of Josephus*, p. 483, note *c*).

> thousand wagons, that were to bring stones for the building, and chose out ten thousand of the most skillful workmen, and brought a thousand sacerdotal garments for as many of the priests, and had some of them taught the arts of stone cutters, and others of carpenters, and then began to build; but this not till everything was well prepared for the work.[26]

Josephus says that he had everything prepared before starting, so probably he did not start the construction in the beginning of his eighteenth year. If the reckoning of Herod's years of reign is from the autumn, it is probable that he began the construction early in 19 B.C., in the spring, after the rainy season was over. Josephus says:

> It is also reported, that during the time that the temple was building, it did not rain in the daytime, but that the showers fell in the nights, so that the work was not hindered. And this our fathers have delivered to us; nor is it incredible, if any have regard to the manifestations of God. And thus was performed the work of the rebuilding of the temple.[27]

From the information given in the Bible, it can be seen that the preferable time for starting construction was in the springtime:

> In the four hundred and eightieth year after the Israelites had come out of Egypt, in the fourth year of Solomon's reign over Israel, in the month of Ziv, the second month, he began to build the temple of the Lord (I Kings 6:1).
>
> In the second month of the second year after their arrival at the house of God in Jerusalem, Zerubbabel son of Shealtiel, Jeshua son of Jozadak and the rest of their brothers (the priests and the Levites and all who had returned from the captivity to Jerusalem) began the work, appointing Levites twenty years of age and older to supervise the building of the house of the Lord (Ezra 3:8).

Besides, Josephus informs us that

> the temple itself was built by the priests in a year and six months, - upon which all the people were full of joy; and presently they returned thanks, in the first place, to God; and in the next place for the alacrity the king had shown. They feasted and celebrated this rebuilding of the temple: and for the king, he sacrificed three hundred oxen to God; as did the rest, everyone according to his ability: the number of which sacrifices is not possible to set down; for it cannot be that we should truly relate it: for at the same time with this celebration for the work about the temple, fell also the day of the king's inauguration which he kept of an old custom as a festival, and it now coincided with the other; which coincidence of them both made the festival most illustrious.[28]

As already seen, Herod's inauguration was in the autumn of 37 B.C., so the festival

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24. G. W. Bromiley, ed., *The International Standard Bible Encyclopedia – Chronology of the NT* (Grand Rapids, MI: Eerdmans, 1992).

25. Ant. 15.11.1. Emphasis mine.

26. Antiquities 15.11.2. Emphasis mine.

which celebrated the king's inauguration must have been in the autumn of 18 B.C. If the temple was built in a year and six months, this would have been from Nisan, 19 B.C., to Tishri, 18 B.C.

When Jesus was challenged by His opponents, on the occasion of the first Passover of His public ministry, "It has taken forty-six years to build this temple, and you are going to raise it in three days?" (John 2:20), the date would probably have been the spring of A.D. 28 (46 years, beginning in the spring of 19 B.C.).

Again, on the basis of the historical evidence available, it would not be possible to affirm conclusively if the construction of the temple began in 20 B.C. or in 19 B.C., and, therefore, if forty-six years would take us to the Passover of A.D. 27 or of A.D. 28 (the first Passover of Christ's ministry), although the evidences analyzed seem to favor the year 19 B.C. and the year A.D. 28 , respectively.

## *Conclusion*

So there is a series of questions to be considered.

Are Herod's years of reign reckoned from the Spring (Nisan) or from the Autumn (Tishri)? Did Herod die in the 34th (37th) year of reign or after reigning 34 (37) years? Is the time between the eclipse of 4 B.C. and the Passover one month or thirteen months? When in his eighteenth year (20/19 B.C.) did he actually start rebuilding the temple? Was it in 20 B.C. or 19 B.C.? Did Archelaus reign until his 10th year (*Ant.* 17.13.2-3) or his 9th year (*Wars* 2.7.3)? Is the time between Pompey's conquest of Jerusalem in the autumn of 63 B.C. and Herod's conquest 27 years as Josephus wrote, or is it 26 years, which seems to be the correct figure? Josephus was not infallible. He made several chronological mistakes. He was not an eyewitness.

The answers to these questions have a bearing on the conclusion to reach. For this reason, it cannot be proved conclusively whether the ministry of Christ began in A.D. 26 or in A.D. 27, on the basis of the historical data about Herod.

Ellen White says that when He was about to ascend to heaven "Christ had sojourned in the world for thirty-three years." [29]

Since 4 B.C. + 34 = -3 + 34 = A.D. 31, if we accept the above statement of E. G. White, Christ could not have been born before about forty days after the Passover of 4 B.C., otherwise on the day of His ascension in A.D. 31, forty days after His resurrection, He would have already completed 34 years. Therefore, Herod must have died later than the Passover of 4 B.C. Possibly, late in 4 B.C. or early in 3 B.C.

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27. Ant. 15.11.7.
28. Ant. 15.11.6.

## Tiberius Caesar

Luke 3:1-3 says:

> 1. In the fifteenth year of the reign of Tiberius Caesar – when Pontius Pilate was governor of Judea, Herod tetrarch of Galilee, his brother Philip tetrarch of Iturea and Traconitis, and Lysanias tetrarch of Abilene – 2. during the high priesthood of Annas and Caiaphas, the word of God came to John son of Zechariah in the desert. 3. He went into all the country around the Jordan, preaching a baptism of repentance for the forgiveness of sins. (NIV)

Several Seventh-day Adventist authors, such as Doukhan[30], Hasel[31], Shea[32] and the SDABC itself[33], place the baptism of Jesus in the fifteenth year of Tiberius. (See Brempong, 351, 354, 355, and 368). Now I will say why I disagree with this position.

The SDABC says that

> though Luke is generally considered to have been a Gentile, it seems he may here be using the form of chronological reckoning then current among the Jews. On the basis of a fall-to-fall year and the nonaccession-year system for figuring regnal years (see Vol. II, pp. 136-139), the first year of Tiberius would be considered to have closed in the autumn of A.D. 14. Accordingly, his "fifteenth year" would begin in the autumn of A.D. 27 and continue until the autumn of A.D. 28. According to *The Desire of Ages*, page 233 the baptism of Jesus occurred during the fall of A.D. 27, and thus very early during the "fifteenth year" of Tiberius.[34]

On the other hand, it says that

> John may have commenced his ministry about the Passover season of the year A.D. 27.[35]

By comparing the latter statement with the first one, it can be seen that there is no harmony with the biblical information that John began his ministry in the fifteenth year of Tiberius, since John's ministry would be displaced to Tiberius' 14th year in the scheme defended by the SDABC (the year comprised between the autumn of 26 and the autumn of 27 A.D.).

Luke equates the fifteenth year of Tiberius with the beginning of John's ministry, not with Jesus' baptism, which may have taken place about 6 months later[36], which most likely will be in the beginning of Tiberius' 16th year. If we accept Tiberius' 15th year as starting in the fall of 27 A.D., John is deprived of the time for his months of ministry. Therefore, I prefer to agree here with Doukhan's position:

> The fifteenth year must be counted beginning in 765 (year 12 in our reckoning), the date of which Augustus caused it to be voted by the Senate and the Roman people as the law of the empire that Tiberius would be his equal at the head of the Roman Empire. …
>
> Furthermore, the Syrian calendar, which we have reason to believe was the one followed by Luke, made the regnal year begin in autumn, just as the Israelites of the Old Testament had done (cf.

29. The Desire of Ages, 830.

*Dictionnaire Encyclopedique de la Bible*, article "Chronologie du Nouveau Testament"). The fifteenth year of Tiberius therefore extends from the autumn of 779 to the autumn of 780 of the Roman era, i.e., from autumn 26 to autumn 27 of our era.[37]

About the fifteenth year of Tiberius, in relation to the Seleucid Era used in Antioch, Geldenhuys says:

> As an author with historical aptitude, Luke gives an exceptionally full chronology for the commencement of John's public appearance. He does this because, on account of the preparatory nature of his work, it is really also the time-indication for the beginning of the public appearance of Jesus (which commenced only about six months later); Luke is chiefly concerned throughout to let the full light fall upon Christ. Here he states that the divine charge to John to act openly as the forerunner of Christ was given "in the fifteenth year of Tiberius Caesar". Tiberius was emperor from the death of Caesar Augustus in A.D. 14 (on the 19th August) until A.D. 37. Some consider that his fifteenth year is reckoned here from the time when he was appointed co-ruler of the provinces by his stepfather Augustus in A.D. 11-12. But no example is produced of his regnal years being counted from any other epoch than his actual accession. According to the Roman reckoning, this would make his fifteenth year A.D. 28-29. <u>But in Syria the reigns of monarchs were reckoned according to a method retained from the days of the Seleucid dynasty, by which a new regnal year started in September-October.</u> Tiberius' second year would by this computation have started in September-October of A.D. 14, although in fact he had donned the purple only a month earlier; and his fifteenth year would be deemed to start in September-October of A.D. 27. …
>
> All these chronological data, taken together, show that John was called to appear as forerunner of Christ in public between the years A.D. 26 and 29. Probably the exact year was A.D. 27.[38]

Like Tacitus and Suetonius, Josephus also counts the reign of Tiberius from the death of Augustus.[39]

However, Charles L. Childers says:

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30. "According to this passage, Jesus began His ministry in the fifteenth year of the reign of Tiberius Caesar, from the moment when He was baptized and anointed (meshiah) by the Spirit of God (cf. Luke 3:21, 22)" (Jacques Doukhan, *Drinking at the Sources* (Boise, ID: Pacific Press, 1981), 135.

31. "In A.D. 27 the baptism of Jesus occurred - noted by Luke as the fifteenth year of the Roman emperor Tiberius (Luke 3:5) - and He began His ministry as the Messiah" ("Interpretations of the Chronology of the Seventy Weeks," by Gerhard F. Hasel, in *70 Weeks, Leviticus, Nature of Prophecy.* Daniel and Revelation Committee Series, vol. 3. Silver Spring, MD: BRI, 1989, 28).

32. "According to the NT Jesus was baptized and anointed by the Holy Spirit in the fifteenth year of Tiberius Caesar (Luke 3:1, 21)" ("The Prophecy of Daniel 9:24-27," by William H. Shea, in *70 Weeks, Leviticus, Nature of Prophecy*). See also Brempong, pages 351, 354, 355, 368.

33. "Date of Jesus' Baptism. - If Luke 3:1 refers to A.D. 27/28 as the year in which John the Baptist came out of the wilderness and in which he baptized Jesus, this agrees perfectly with the interpretation of the chronology of Christ's ministry that puts His baptism at some time soon after Tishri 1, in the autumn of A.D. 27 or 483 years after 'the going forth of the commandment' in the autumn of 457 B.C." (*SDABC*, vol. 5, p. 247).

34. *SDABC*, Vol. 5, 714.

35. *Ibid.*, 716.

Just when this fifteenth year of the reign of Tiberius was is a matter of dispute. Tiberius became emperor at the death of Augusts in A.D. 14-15. If the fifteenth year is counted from this date it would correspond to A.D. 28-29. But this would mean that either Jesus was older than Luke said he was (3:23) or He was born two years later than He is generally believed to have been born (about 4 B.C.). Some scholars contend that Luke is reckoning Tiberius' reign from A.D. 11-12, when he became joint ruler with his stepfather, Augustus. This contention has been challenged on the ground that it is out of harmony with the way Roman historians date the events in Roman history - the custom being to date from the beginning of an emperor's reign as sole ruler. However, Luke was not a Roman historian and there is evidence to show that the custom of dating from the beginning of a joint rule was followed in the East. Since Luke lived, was educated, and wrote in the East, it is most reasonable to suppose that he followed the Eastern custom of dating from the beginning of the joint rule of Tiberius and Augustus – A.D. 11-12 – and thus John's ministry began in A.D. 26-27.[40]

So, according to Bromley:

as seems likely, the method of reckoning by imperial years rather than by the yearly consuls was not definitely fixed when Luke wrote, it is possible that he may have counted the years of Tiberius from his appointment in 764/11 or 765/12 to equal authority with Augustus in the provinces (Velleius ii, 121; Suetonius *TIBERIUS* 20; Tacitus ANN. i.3).[41]

And Finegan says:

On Oct 23, A.U.C. 765 = A.D. 12, he celebrated a triumph for his military victories in Germany and Pannonia. Referring to this event, Suetonius says that 'the consuls caused a law to be passed soon after this that he should govern the provinces jointly with Augustus and hold the census with him.' The date when Tiberius thus began to govern the provinces jointly with Augustus was probably A.D. 12, although arguments have been presented for putting it in A.D. 11 or 13. In this connection Tacitus describes Tiberius Nero as *collega imperii*, "colleague in the empire", and some consider him joint emperor with Augustus from this time on.[42]

After examining the range of possible years for the fifteenth year of Tiberius in *The Handbook of Biblical Chronology* by Jack Finegan, pages 259-273, and noticing that the Metonic Cycle is not being used in any of the calendars proposed, I have the impression that what Luke meant is similar to what Josephus does in relating the Jewish calendar to the Syrian/Macedonian used in Antioch (which was similar to the Babylonian, except for the year starting in the autumn). Some information is provided in Finegan, paragraphs

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36. "Jesus commenced His public ministry when He 'began to be about thirty years of age' (see on Luke 3:23). This was in the autumn of A.D. 27 (DA 233; see pp. 242-247; see on Luke 3:23). John was about *six months older than Jesus* (see on Luke 1:39, 57), and it is reasonable to think that his ministry began about six months prior to that of Christ. Thus John may have begun in the spring of the same year, perhaps about the Passover season." (*SDABC*, vol. 5, p. 294). Since among the Jews it was considered that at 30 years of age a man reached full maturity and therefore could assume the responsibilities of public life, it is reasonable to conclude that both John and Jesus began their public ministry at the age of 30 (see DA 133, 147). It is also reasonable to conclude that John began his ministry about the Passover season, in the spring. "The apt illustrations John used in his preaching imply that the time of the (spring) harvest was not far away (see on Matt. 3:7, 12)" (SDABC, *idem*). The words winnowing fork, threshing floor, gather wheat, chaff (see Luke 3:1-2, 15-18, 21-23) remind us of summer.

37. J. Doukhan, *Drinking at the Sources* (Boise, ID: Pacific Press, 1981), 135.

117-130, in Josephus and in Parise, pages 8-12. I have reasons to believe that the 15th year of Tiberius, according to Luke, is from October 01/02, A.D. 26 to September 20/21, A.D. 27. I also think that a deeper research will prove this to be true for this chronology in Luke. See I Mac. 1:10; 3:13, 37; 4:59; John 10:22; II Mac. 15:36; Mt. 4:24; Luke 2:1-2; Acts 11:19-26; Galatians 1:17, 21; Esther 9.

## Pilate

Pilate was the Roman governor of Judea from A.D. 26 to A.D. 36/37.
Josephus says the following about his appointment:

> [Then] came Annius Rufus, under whom died Caesar, the second emperor of Romans, the duration of whose reign was fifty-seven years, besides six months and two days (of which time Antonius ruled together with him fourteen years; but the duration of his life was seventy-seven years); upon whose death Tiberius Nero, his wife Julia's son, succeeded. He was now the third emperor; and he sent Valerius Gratus to be procurator of Judea, and to succeed Annius Rufus. … When Gratus had done those things, he went back to Rome, after he had tarried in Judea eleven years, when Pontius Pilate came as his successor.[43]

Pilate must have assumed his position as *Praefectus Iudaeae* after July 1st.[44]
Josephus still says that

> Pilate, the procurator of Judea, removed the army from Cesarea to Jerusalem, to take their winter quarters there, in order to abolish the Jewish laws. So he introduced Caesar's effigies, which were upon the ensigns, and brought them into the city; ... Pilate was the first who brought those images to Jerusalem, and set them up there; which was done without the knowledge of the people, because it was done in the nighttime.[45]

Because of the Samaritans' complaint to Vitellius, prefect of Syria, Pilate was deposed in the end of A.D. 36 or in the beginning of 37:

> So Vitellius sent Marcellus, a friend of his, to take care of the affairs of Judea, and ordered Pilate to go to Rome, to answer before the emperor to the accusation of the Jews. So Pilate, when he had tarried ten years in Judea, made haste to Rome, and this in obedience to the orders of Vitellius, which he durst not contradict; but before he could get to Rome, Tiberius was dead.[46]

It should be noted that he arrived in Rome after Tiberius' death. Tiberius died on March 16, A.D. 37, according to Suetonius and Tacitus.[47]

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38. Norval Geldenhuys, *Commentary on the Gospel of Luke,* pp. 134, 135. Part of The New International Commentary on the New Testament (Grand Rapids, MI: Eerdmans, 1975).

39. Wars 2.9.1 and 2.9.5.

40. *Beacon Bible Commentary: Matthew - Mark – Luke*, vol. 6 (Kansas City, Beacon Hill Press), 459-460.

41. *Chronology of the New Testament.* G. W. Bromiley, ed., The International Standard Bible Encyclopedia: Fully Revised (Grand Rapids, MI: Eerdmans, 1992), 688.

Considering that Josephus says that Valerius Gratus reigned 11 years (July, A.D. 15 - July, A.D. 26);

Considering that Pilate arrived to take his office after July 1, A.D. 26;

Considering that he introduced the ensigns in Jerusalem about wintertime;

Considering that Josephus says that when Pilate was deposed he had reigned 10 years (July A.D. 26 - July A.D. 36);

Considering that he was deposed in the end of A.D. 36, or in the very beginning of 37 A.D.;

It can be concluded that his term of office in Judea began in the latter part of A.D. 26, and that John's ministry could not have started in the early part (spring) of A.D. 26, but only in the spring of A.D. 27[48], and that Jesus was baptized six months later, in the autumn of A.D. 27. Tishri 1 = Sep 20/21, Tishri 10 = Sep 29/30. September 30, A.D. 27, Tuesday, may have been the day on which Jesus was baptized by John.

## Conclusion

Concluding, it could be said that the historical evidences available point to the years A.D. 26 or A.D. 27 for the beginning of Christ's ministry and to the years A.D. 30 or A.D. 31 for His death, but, on the basis of these evidences, it would not be possible to establish conclusively which of these two options should be preferred, although it seems that the arguments are stronger in favor of A.D. 27 and A.D. 31.

From the evidences above, the years A.D. 30 and A.D. 31 are the only candidates as the year when Christ died.

## Astronomical Evidences

Within the possible period of the crucifixion (during the governorship of Pilate, from A.D. 26 to A.D. 36), a Nisan 14 or a Nisan 15 can fall on a Friday only in the years A.D. 30, 31 or 33. The year A.D. 33 seems to be excluded as an option, since the date of March 21 is too early for the beginning of Nisan, according to the Babylonian cycle of that time and according to the ancient Egyptian/Persian/Jewish reckoning indicated by the Elephantine papyri (5th century B.C.), and the dating of 63 B.C, discussed on **page ?.** So the options left for astronomical analysis are the years A.D. 30 and A.D 31.

### *Year A.D. 30*

The year A.D. 30 admits a Nisan 14 on a Friday, but not a Nisan 15. The ~~following~~ chart shows the astronomical situation for Nisan 1 on March 23, which would be needed for Nisan 15 to fall on Friday, April 07. The moon would be only 07° 34' 38" above horizon at sunset, and so too low for visibility, considering the difference of azimuth between the

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42. Jack Finegan, *Handbook of Biblical Chronology* (Peabody, Mass: Hendrickson Publishers, 1964), 259.

43. Ant. 18.2.2

44.The fact that the officers appointed by Rome to govern its provinces entered on office on July 1st is inferred from an order given in 15 D.C. by emperor Tiberius that they should "leave (Rome) on June 1st" (Dio Cassius, *History of Rome*, 57,14,5). *Paul - A Critical Life*, [*Paulo - Biografia Crítica*, 33, Edições Loyola, 2000] by Jerome Murphy-O´Connor, Oxford University Press, 1996.

sun and the moon of just 5º 15'. Besides, a Nisan month starting as early as March 23 is questionable, on the basis of what was said above. The year 465 B.C., which corresponds cyclically to the year A.D. 30 has Nisan 1 in April, in Horn.

In his article " Lunar Visibility and the Crucifixion", Bradley C. Schaefer gives **R = -0.6** for the moon at the sunset of March 23, in Table 1, page 57, and on page 58 he explains the meaning of R:

> The R parameter is defined as the logarithm of the ratio of the apparent brightness of the moon to the minimum brightness required to distinguish the moon against the twilight sky evaluated at the time of best visibility. R is calculated such that an adult with average eyesight will have a 50 per cent probability of detecting the moon in a cloudless sky for the given conditions for an R value of zero (Schaefer 1989a). **A negative value implies a prediction that the moon will not be visible**. Positive values indicate that the moon should be visible. If R is less than 1, I would characterize the moon as being difficult to spot, while a value greater than 2 means easy visibility. Page 58
>
> Lunar Visibility and the Crucifixion, by Bradley E. Schaefer
> The Quarterly Journal of the Royal Astronomical Society, Vol.31, No. 81 (March 1990)

The ~~previous~~ chart shows the situation defended by Parker and Dubberstein in the book Babylonian Chronology, which is astronomically right and justifies defending a Nisan 14 on April 7, Friday, A.D 30, if Nisan really started in March.

### *Year A.D. 31*

Among the Catholic and Protestant commentators, it is generally held that the year A.D. 31 is not a candidate for being the year in which Christ died. They usually prefer the year A.D. 30 or A.D. 33. The only exception seems to be J. Jeremias, who considers the year A.D. 31 a candidate. (See Brempong, 381)

On examining the writings of astronomers about this subject, it is verified that they too ignore the year A. D. 31, with the exception of William Hales (1747 - 1831).

The two main reasons for this are that they are led to believe that Christ died on a Friday 14th, and that the projection of the present Rabbinic calendar, as done by Fotheringham, making it possible for Nisan to start early in March, corresponds exactly to the calendar used in the time of Christ.

For example, Bradley Schaefer, from the NASA-Goddard Space Flight Center, makes the following statements:

> All four gospels in the New Testament claim that Jesus was executed on a Friday afternoon during the Jewish month of Nisan. Matthew 26:17, Mark 14:12, and Luke 22:7 imply that this was also the first day of the Jewish feast of Passover, the 15th of Nisan. But John 18:28 and

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45.Ant. 18.3.1

46.Ant. 18.4.2

47."For soon afterwards Tiberius's last consuls, Cneius Acerronius and Caius Pontius, entered on office … On the 17th day before the calends of April, his breath failing, he was believed to have expired… And so died Tiberius, in the seventy eighth year of his age" (Tacitus, Annals 6.45,50,51). See also Suetonius, *The Lives of the Twelve Caesars,* chapter Tiberius Nero Caesar.

48. When John began his ministry Pilate was already governor of Judea (Luke 3:1).

19:31 indicate the date was the 14th.

The Gospel authors also state that the crucifixion happened when Pontius Pilate was the Roman procurator of Judea, which historians tell us was from A.D. 26 to 36. So, in principle, all a modern historian has to do is find when Friday fell on the 14th or 15th of Nisan between 26 and 36.

This job has long been the province of astronomers, especially because the ancient Jewish months were begun when the lunar crescent was first sighted after new Moon. …

The only remaining satisfactory dates are April 7th in the year 30, and April 3rd in 33. Both correspond to the 14th of Nisan, in agreement with John. This means the Last Supper was not a Jewish seder as is stated in Mark, Matthew, and Luke. Instead, as in John, the crucifixion fell on the traditional date when the Passover lamb was killed, suggesting the symbolism of Jesus dying for humanity's sins. This is the only case I know of where astronomy can decide between alternative interpretations of the Bible.[49]

However, the Seventh-day Adventist Church has always defended the year A. D. 31, as the year in which Christ died. To be more specific, the Seventh-day Adventist Church, in the SDABC, Volume 5, page 252, states that Christ died on the cross on April 27, A.D. 31.

The date defended seems to be based on statements of Ellen G. White and on the investigations carried out by Grace Amadon in the early 1940´s, as quoted in the Bibliography of the same Volume 5, page 265. There is a file for Grace Amadon in the Andrews University Library with several papers related to this subject and committee meetings. The index may be seen at:

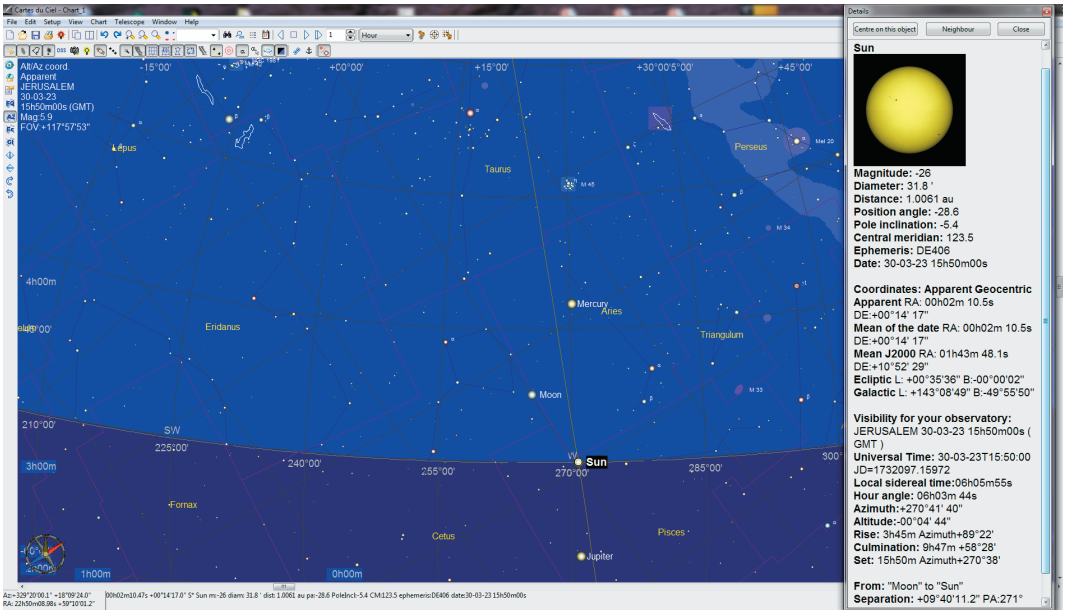
http://www.andrews.edu/library/car/AmadonGraceCollection.pdf

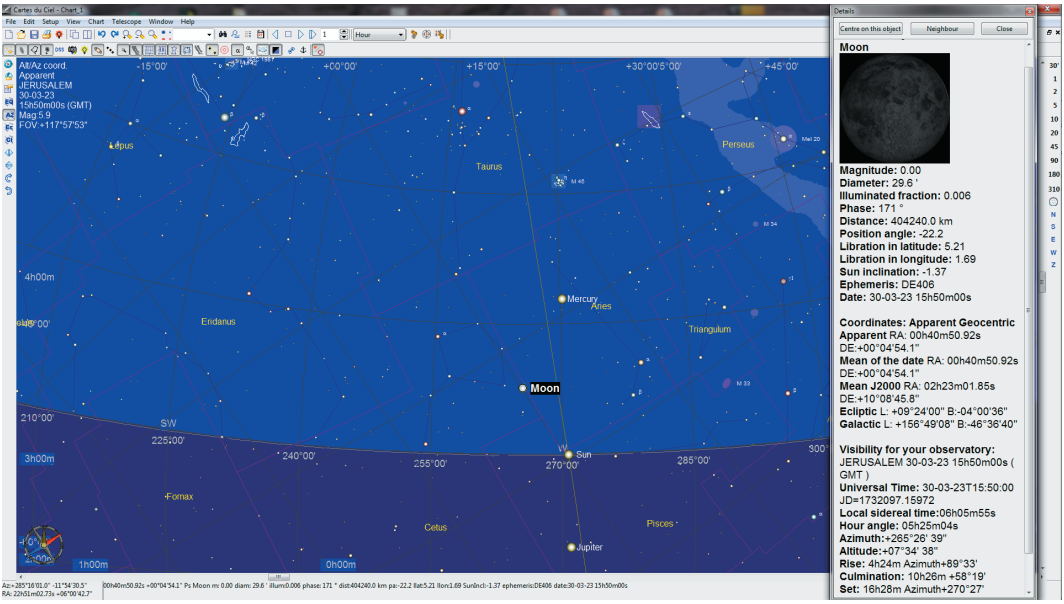
Read the files about committee meetings in the end of 1939 and beginning of the 1940´s.

Parker and Dubberstein say that in the year A.D. 31 Nisan 1 fell on April 12 (11/12, sunset to sunset), which makes Nisan 14 fall on Wednesday, April 25 (24/25, sunset to sunset).

However, the authors themselves admit on page 25 of their book *Babylonian Chronology*:

Accordingly it is possible that a certain number of dates in our tables may be wrong by one day, but as they are purely for historical purposes, this uncertainty is unimportant.



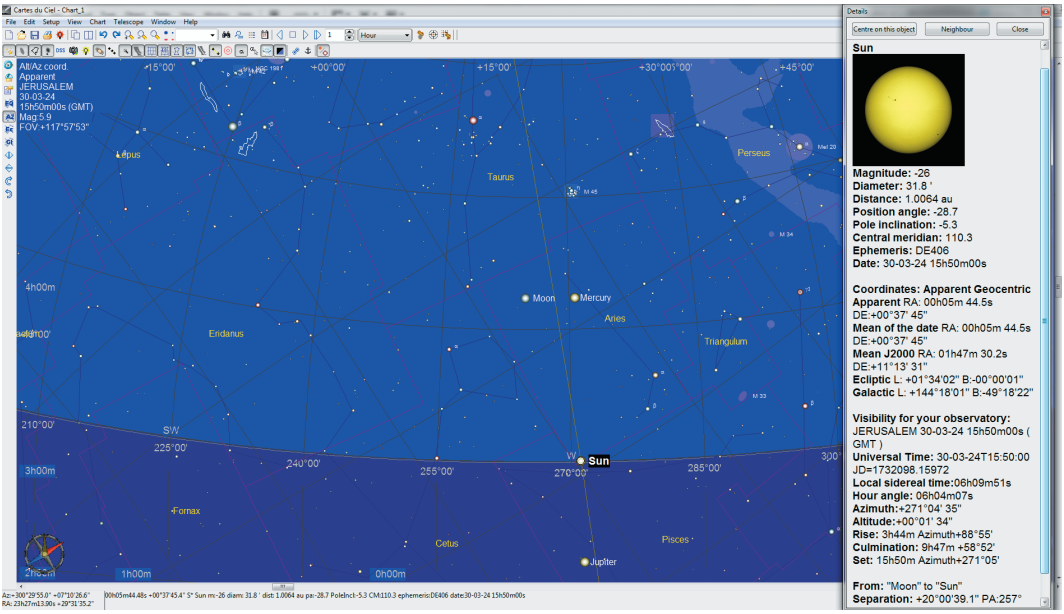


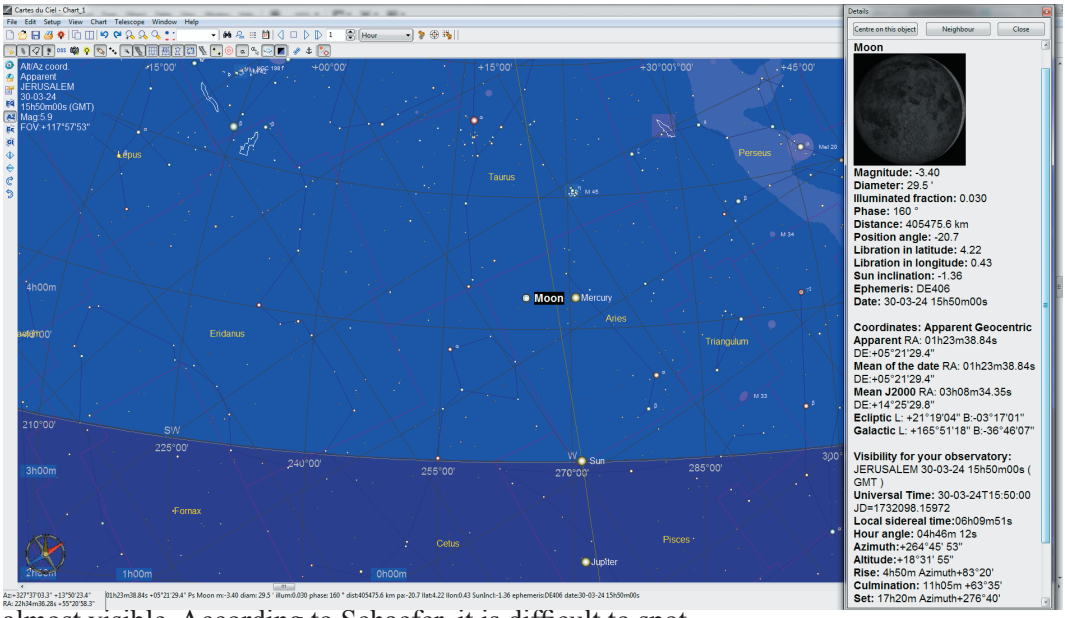

Towards the close of the 29th day of a month a watch was kept for the young crescent moon low in the western sky just after sunset. If the crescent was visible, a new month was begun; otherwise an extra day was added to the month.

Schaefer, in his article "Lunar Visibility and The Crucifixion," says the following about the visibility of the moon on April 11, A.D. 31:

> If R is less than 1, I would characterize the moon as being difficult to spot. … Sunset of April 11, A.D. 31, R = 0.9.[50]

The chart ~~above~~ shows the astronomical situation of the moon on April 11, the position defended by Parker and Dubberstein. The altitude of the Moon is 11° 25′, its azimuth is 276°, and the azimuth of the Sun is 279°. The difference in azimuth is 3°. The Moon is






almost visible. According to Schaefer, it is difficult to spot.

The ~~following~~ chart shows the astronomical situation of the moon on April 12. The altitude of the moon is 22° 30´. The new crescent can be easily spotted. No need to wait for the next sunset.

And the ~~next~~ chart shows the position defended by Maxwell and the SDABC. The moon is almost 34° of altitude, too high and old to start a month. I have never found a single Assyrian, Babylonian or Jewish document that justifies starting a month with such a high and old crescent moon.

I have found a few Assyrian, Babylonian and Jewish documents that justify starting a month as I do, with a crescent moon about 22 degrees high.

So, astronomically speaking, it is perfectly possible for A.D. 31 to be the year for Christ's death, provided that we consider that Nisan 1st was on April 13 (12/13, sunset to sunset); that, therefore, Nisan 14th fell on Thursday, April 26, (25/26, sunset to sunset); and that Christ died on Friday, April 27, a Nisan 15th.

What is astronomically untenable is the position that A.D. 31 was the year of the crucifixion on the basis of the assumption that Friday, April 27, was a Nisan 14. Both the SDABC and Pastor C. Mervyn Maxwell, in the article "Why Cannot Astronomers Date the Crucifixion?", in his book *God Cares*, Volume 1, pages 249-254, published in 1981 by the Pacific Press Association, adopt this position. The preceding month had started on March 13/14, sunset to sunset, as admitted by Maxwell. Using all the thirty days possible in a month, we arrive at April 12/13, sunset to sunset. However, the first day of Nisan, for Pastor Maxwell, is April 13/14. How can this be possible if the months never had 31 days? Brempong´s reasonings on pages 377 and 381 of his dissertation are similar to Maxwell´s.

When evaluating the visibility of the moon, Dr. Maxwell jumps from the sunset of April 10 to the sunset of April 13:

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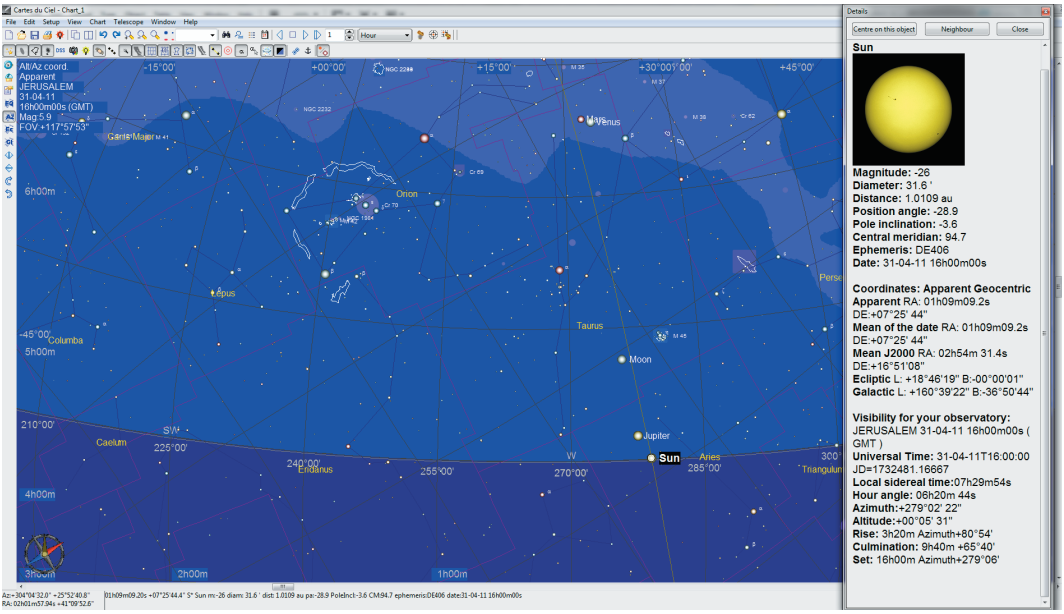
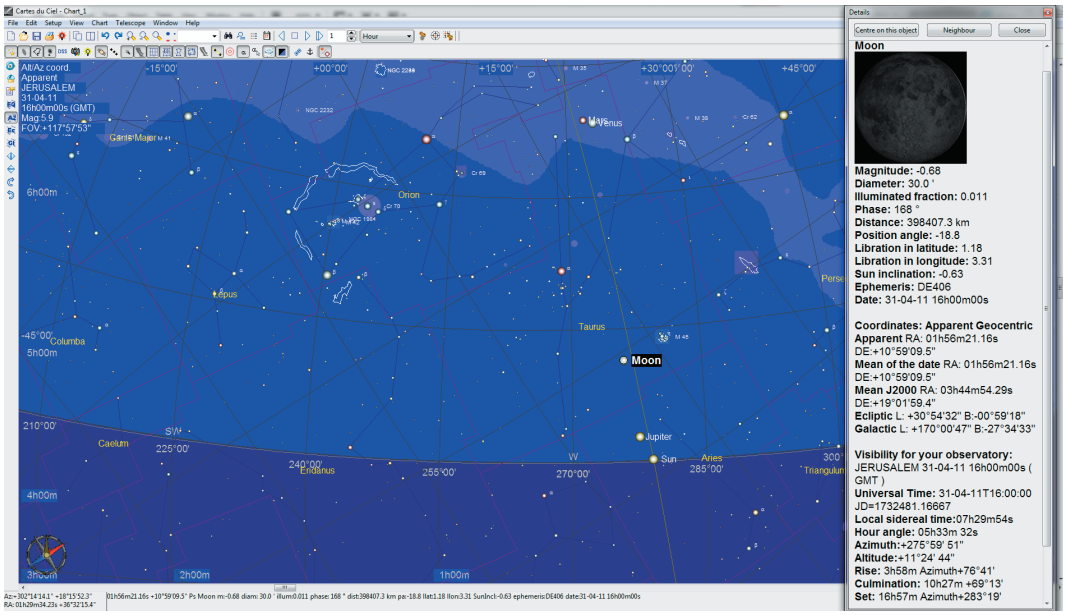
49. *Bradley E. Schaefer, "Dating the Crucifixion" in* Sky and Telescope*, April, 1989.*

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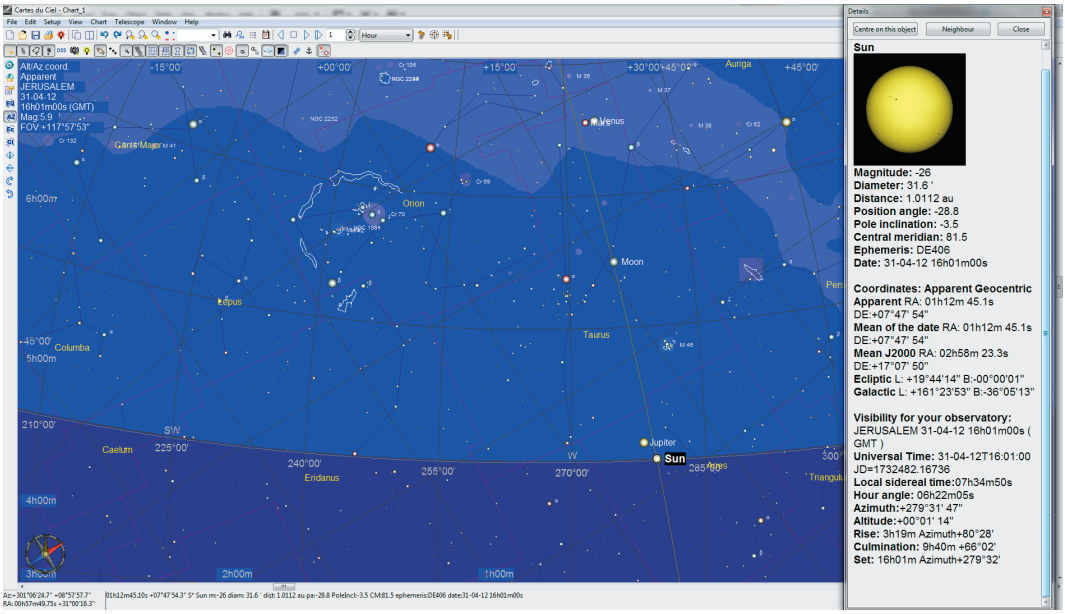
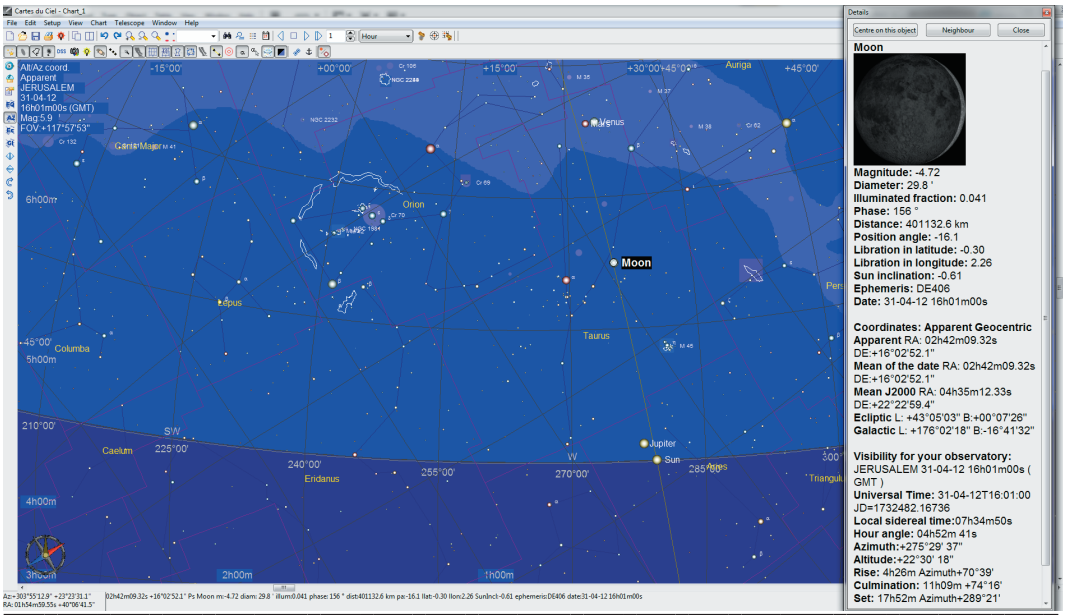
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| NISAN | | | | | | | | | | | | | | | | | | | |
| This is the situation defended by Parker & Dubbertein | | | | | | | | | | | | | | | | | | | |

50. Bradley E. Schaefer, "Lunar Visibility and the Crucifixion," in *The Quarterly Journal of the Royal Astronomical Society*, number 31, 1990, pp. 53-67.




| A.D. 31 APRIL | | | | | | | | | | | | | | | | | | | |
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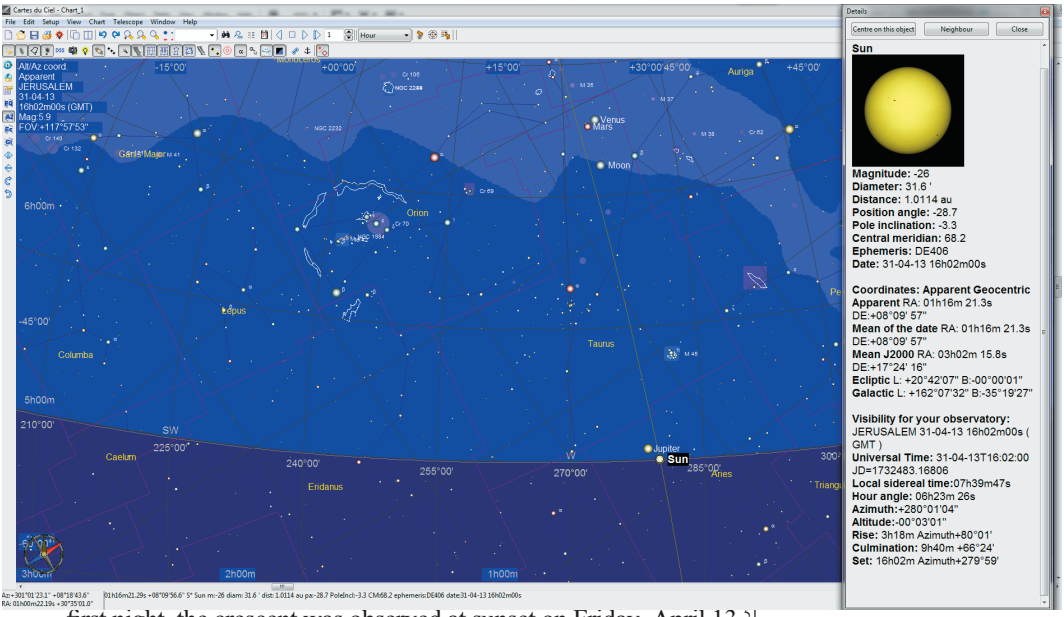
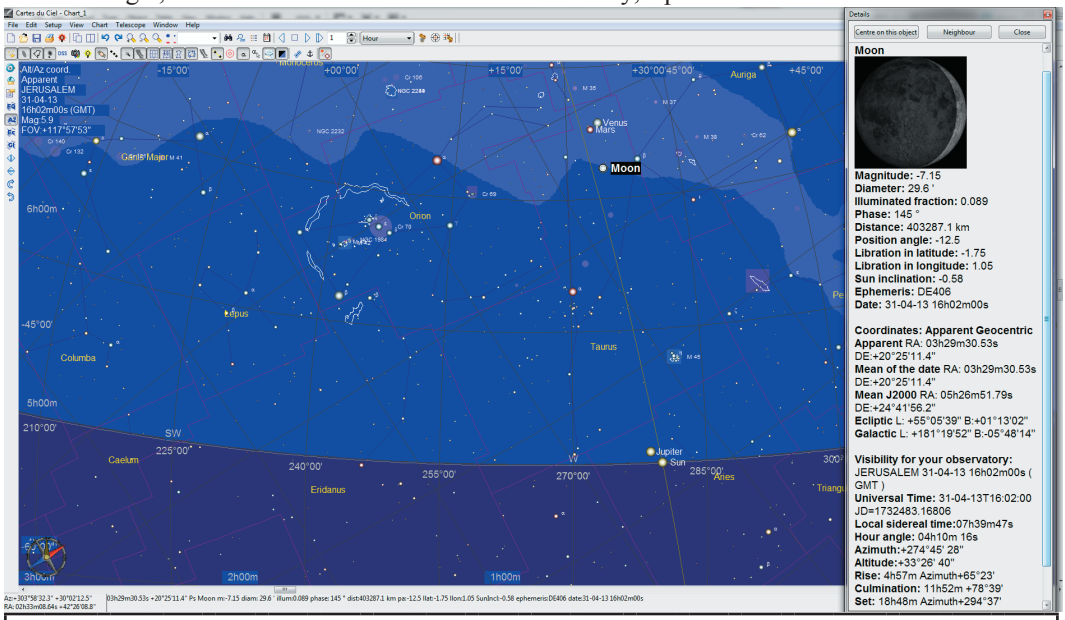
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | **15** | 16 | 17 |
| NISAN | | | | | | | | | | | | | | | | | | | |
| This is the situation defended by Juarez | | | | | | | | | | | | | | | | | | | |

If the interval between this April 10 new moon and the first visibility of the crescent moon at Jerusalem was a very long 3.19 days, as it could have been, or if it was shorter but was obscured the




first night, the crescent was observed at sunset on Friday, April 13.[51]

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| | | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 |
| NISAN | | | | | | | | | | | | | | | | | | | |
| This is the situation defended by Maxwell | | | | | | | | | | | | | | | | | | | |

51. Maxwell, 255.

Dr. Maxwell jumped to his conclusion too fast. He should have tested the visibility parameters for each subsequent sunset.

If the crescent was "obscured the first night" after conjunction, that is, at the sunset of April 10, which indeed was, owing to the very short time elapsed, the second night must be checked, the sunset of April 11, on which night it was almost visible; then he should have checked the third night, the sunset of April 12, on which night the moon was high and old enough to be seen, thus permitting us to start counting the month at this sunset.

The following statements by Maxwell should also have been borne in mind in the analysis of visibility:

> Official observers stood on vantage points at sunset on the 29th of a month and scanned the western sky eagerly.[52]

> Originally a month was the twenty-nine or thirty days between the first appearance of a crescent moon at sunset and the first appearance of the next crescent moon.[53]

> If there were a low-lying cloud, if merely a denser-than-average haze polluted the horizon at Jerusalem, the anticipated crescent would not be observed. The current month would commence on the following night, even if the crescent were still obscured.[54]

> The earliest crescent often cannot be seen until the sun has set long enough for the dusk to be somewhat advanced, and often it is so close to the horizon by then that it drops out of sight after being visible to a trained eye for only a few minutes.[55]

However, the moon Pastor Maxwell defends as the first visible crescent in April of A.D. 31, the one at the sunset of April 13, the fourth sunset after conjunction, will stay up after sunset for about three hours because it was about 34 degrees above the horizon at sunset. Would the "being visible … for only a few minutes" apply in this case?

In the book *The Chronology of Ezra 7*, pages 154-155, Horn never uses such a long translation period as defended by Dr. Maxwell, not even for autumn new moons, much less for spring new moons. On page 33, Horn says:

> In the Near East it takes 16.5 to 42 hours after conjunction – depending on whether her movements in relation to her distance from the earth are fast or slow – before the moon becomes visible again in the form of a thin crescent, waxing larger and larger until the time of full moon.

Besides, we are told that:

> In the spring the ecliptic - the apparent path of the Sun across the sky and the approximate path of the Moon and planets - stands nearly straight up from the western horizon after sunset. That also makes April a good time to look for a very young moon.[56]

Maxwell says that "A. D. 31 is as possible as A. D. 30 if atmospheric and astronomical conditions combined to place Nisan 1 that year at a maximum interval after the new moon."[57]

Astronomers know that for April (spring in the northern hemisphere), for an observer

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52. Ibid., 252, emphasis mine.
53. *Idem*, p. 250, emphasis mine.
54. Ibid., 252, emphasis mine.
55. Ibid., 252.
56. *Astronomy*, April 1989, 54 [magazine].
57. Maxwell, 252.

in Jerusalem in A.D. 31, the astronomical conditions do not combine to lengthen the period as much as Maxwell wishes, that is, 3.19 days, as written on page 255 of his book.

## Conclusion

In conclusion, it could be said that historically and astronomically there are two narrowed down possibilities for the death of Jesus: A.D. 30 and A.D. 31. Astronomically, A.D. 30 admits a Friday as a Nisan 14 but not as a Nisan 15, and A.D. 31 admits a Friday as a Nisan 15 but not as a Nisan 14. The choice between Friday = Nisan 14 and Friday = Nisan 15 determines the year. But did Christ die on Nisan 14 or on Nisan 15?

## Chronological Evidences

On the surface, there seems to be a tension between John and the Synoptics regarding this subject. The gospel of John seems to imply that Christ died on Nisan 14, and the Synoptics imply that He died on Nisan 15. All the evidences available from the Bible and from the Writings of Ellen G. White must be examined in order to reach an acceptable conclusion.

### Nisan 14 – the day the lamb was sacrificed

As to the paschal lambs, it is said:

> Take care of them until the fourteenth day of the month, when all the people of the community of Israel must slaughter them at twilight (Ex. 12: 6).

What does the expression "at twilight" (Ex. 12: 6) mean?
Deut. 16: 5, 6 also says:

> You must not sacrifice the Passover in any town the Lord your God gives you except in the place He will choose as a dwelling for His name. There you must sacrifice the Passover in the evening, when the sun goes down, on the anniversary of your departure from Egypt.

The expression "in the evening, when the sun goes down" in Ex. 12:6 and Deut. 16: 6 is sometimes interpreted to mean or to state that the Passover lamb was killed after sunset, and the expression "at twilight" ("between the two evenings") is understood to mean the short period of time between sunset and nightfall. However, this is not the case, as will be seen.

How are these expressions understood by Jewish writers?
A Jewish commentary says:

> At twilight. Hebrew bein ha- arbayim, literally means "between the two settings." Rabbinic sources take this to mean "from noon on." [Mish. Pes. 5:1 and Pes 58a imply that the slaughtering took place from 2:30 P.M.] According to Radak, the first "setting" occurs when the sun passes its zenith just after noon and the shadows begin to lengthen, and the second "setting" is the actual sunset. Josephus testifies that the paschal lamb was slaughtered in the Temple between 3 and 5 P. M. [Wars 6.9.3].[58]

Josephus says:

> (423) So the high priests, upon the coming of their feast which is called the Passover, when they slay their sacrifices, from the ninth hour till the eleventh.…[59]

Philo:

XXVII. (145) And after the feast of the new moon comes the fourth festival, that of the Passover, which the Hebrews call pascha, on which the whole people offer sacrifice, beginning at noon-day and continuing till evening.[60]

The Mishnah:

A. The daily whole offering [of the afternoon] [generally] was slaughtered at half after the eighth hour [after dawn, about 2:30 P.M..] and offered up at half after the ninth hour [about 3:30 P.M.].

B. On the eve of Passover, [the daily whole offering] was slaughtered at half after the ninth hour [about 3:30 P.M.].

C. whether on an ordinary day or on a Sabbath.

D. [If, however,] the eve of Passover coincided with the eve of the Sabbath [Friday], it was slaughtered at half after the sixth hour [12:30 P.M..] and offered up at half after the seventh hour [1:30 P.M.],

E. and [then] the Passover offering [was slaughtered] after it.[61]

H. [If] one slaughtered it before midday, it is invalid,

I. since it is said, At twilight (Ex. 12:6).[62]

The Book of Jubilees:

Remember the commandment which the LORD commanded you concerning Passover, that you observe it in its time, on the fourteenth of the first month, so that you might sacrifice it before it becomes evening and so that you might eat it during the night on the evening of the fifteenth from the time of sunset. … So that the children of Israel will be ones who come and observe Passover on its appointed day on the fourteenth of the first month between the evenings from the third (part) of the day until the third (part) of the night because two parts of the day are given for light and one third for evening. This is what the LORD commanded you so that you might observe it between the evenings. … And in the days when a house is built in the name of the LORD in the land of their inheritance, they shall go there and they shall sacrifice the Passover at evening when the sun is setting on the third (part) of the day.[63]

The Dead Sea Scrolls:

6. The fourteenth day of the first month, [at twilight,] 7 [they will celebrate the Passover of YHWH;] they will perform sacrifice prior to the evening offering and they will sacrifice [...] [64]

The Bible:

The Lord's Passover begins at twilight on the fourteenth day of the first month. On the fifteenth day of that month the Lord's Feast of Unleavened Bread begins; for seven days you must eat bread made without yeast. On the first day hold a sacred assembly and do no regular work

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58. *The JPS Torah Commentary* (Philadelphia – New York – Jerusalem, The Jewish Publication Society, 5751/1991), on Exodus 12:6.

59. Flavius Josephus, *The Wars of the Jews,* 6.9.3, emphasis supplied.

60. *The Works of Philo: Complete and Unabridged* (Peabody, MA: Hendrickson Publishers, 1993), emphasis supplied.

61. Jacob Neusner, ed., *The Mishnah: A New Translation* (New Haven and London: Yale University Press, 1988), Pesahim 5:1.

62. *Idem*, Pesahim 5:3.

(Leviticus 23:5-7).

It must be borne in mind that "at twilight" in verse 5 must necessarily mean some time before sunset, since at sunset the fifteenth day of the month, that is, the first day of Unleavened Bread, began.

As can be seen from 2 Chron. 35:1-19, in the Passover celebrated in the time of Josiah, the Levites and priests sacrificed and roasted thousands of animals till nightfall, therefore they must have begun doing that some hours before sunset. This confirms that the Passover lamb was really sacrificed on the fourteenth, before sunset.

What about the expression "in the evening" used in Deuteronomy 16: 5-6?

It seems that the expression "evening" as used in the Bible is a very flexible term. Nehemiah 13:19 shows that "evening" may mean before sunset. Exodus 12:18 and Leviticus 23:32 show that "evening" may mean at sunset. Mark 1:32 shows that "evening" may mean after sunset.

In the New Testament the word "evening" is *opsia*. About this word, the following is said:

> *Opsia* = evening, two of which were reckoned by the Hebrews, one, from the ninth hour until sunset, Mat. 8:16; 14:15 et al; and the other, from sunset until dark, Mat. 14:23; 16:2, et al.[65]

By understanding that the term "evening" has such a broad meaning, that is, that it may mean before sunset, at sunset, after sunset, we perceive why God stated that the evening sacrifice, the incense offering and the Passover slaying should be between the two evenings or two settings:

Incense between the two evenings or settings (Ex. 30:8);

Evening sacrifice between the two evenings or settings (Ex. 29:39, 41);

Passover Lamb killed between the two evenings or settings (Ex. 12:6).

What is meant by these settings? Would it be between midday, when the sun starts to decline and cast its shadow, and about 6 P.M. when the sun dips below the horizon and the moon and stars start to govern the night? As we will see, it can be demonstrated that for the evening sacrifice and the hour of incense or prayer the term means about 3 P.M.. Would the same apply in the case of the Passover slaying, since the expression is the same?

## Nisan 15 – the day the lamb was eaten

It has been shown that the Passover lamb was sacrificed on the fourteenth before sunset. Now, when was the Passover lamb eaten?

(1) Was the Passover slain and eaten on the fourteenth? Or

(2) Was the Passover slain on the fourteenth and eaten on the fifteenth?

> This month is to be for you the first month, the first month of your year. Tell the whole community of Israel that on the tenth day of this month each man is to take a lamb for his family, one for each household. …Take care of them until the fourteenth day of the month, when all the people of the community of Israel must slaughter them at twilight [between the two evenings]. … That

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63. Jubilees 49:1, 10-11, 19.

64. Florentino Garcia Martinez, *The Dead Sea Scrolls Translated*, "The Temple Scroll" Col. XVII, 6 (Brill, 1994), p. 157.

65. Moulton Analytical Greek Lexicon.

same night they are to eat the meal roasted over the fire, along with bitter herbs, and bread made without yeast (Ex. 12:2, 3, 6, 8).

That this night was the night beginning the fifteenth is made clear in Numbers 33: 3, 4:

The Israelites set out from Rameses on the fifteenth day of the first month, the day after the Passover. They marched out boldly in full view of the Egyptians, who were burying all their firstborn, whom the Lord had struck down among them; for the Lord had brought judgment on their gods (NIV).

Deuteronomy 16:1-4 says:

Observe the month of Abib and celebrate the Passover of the LORD your God, because in the month of Abib he brought you out of Egypt by night. Sacrifice as the Passover to the LORD your God an animal from your flock or herd at the place the LORD will choose as a dwelling for his Name. Do not eat it with bread made with yeast, but for seven days eat unleavened bread, the bread of affliction, because you left Egypt in haste – so that all the days of your life you may remember the time of your departure from Egypt. Let no yeast be found in your possession in all your land for seven days. Do not let any of the meat you sacrifice on the evening of the first day remain until morning.

The roasted Passover Lamb had to be eaten at night with unleavened bread, and the feast of Unleavened Bread started with the fifteenth, according to Leviticus 23:6; consequently the Passover lamb was eaten with unleavened bread on the fifteenth. Read Leviticus 23:4-8, carefully:

4 " 'These are the LORD's appointed feasts, the sacred assemblies you are to proclaim at their appointed times: 5 The LORD's Passover begins at twilight on the fourteenth day of the first month. 6 On the fifteenth day of that month the LORD's Feast of Unleavened Bread begins; for seven days you must eat bread made without yeast. 7 On the first day hold a sacred assembly and do no regular work. 8 For seven days present an offering made to the LORD by fire. And on the seventh day hold a sacred assembly and do no regular work.' "

Therefore, the Passover lamb was sacrificed on the fourteenth and eaten on the fifteenth.

With this the SDABC and SDA writers in general agree:

Time of the Passover – The paschal lamb was slain in the late afternoon of Nisan 14, following the regular sacrifice, and eaten, with unleavened bread, after sunset that same night, during the early hours of Nisan 15 (Ex. 12:6-14, 29, 33, 42, 51; 13:3-7; Num. 9:1-5; 33:3; Deut. 16:1-7...[66]

Though the Passover may be properly listed as a separate "appointed meeting," a *mo'ed*, it may also be considered a part of the Feast of Unleavened Bread. The Passover lamb was slain on the 14th of the first month and eaten that night, in the beginning of the 15th, the first day of the Feast of Unleavened Bread.[67]

Because Jewish days began at sunset, the afternoon on which the Passover lamb was slain came near the end of Nisan 14; and the evening, when the lamb was eaten, was actually the beginning of Nisan 15.[68]

## When Christ should have been sacrificed?

By misunderstanding John 18:28 and 1 Cor. 5:7-8, many affirm that the sacrifice of Christ had to coincide with the sacrifice of the paschal lamb, that is, Christ had to be sacrificed on a Nisan 14. What does Ellen White say about this?

> These types were fulfilled, not only as to the event, but as to the time. On the fourteenth day of the first Jewish month, the very day and month on which for fifteen long centuries the Passover lamb had been slain, Christ, having eaten the Passover with His disciples, instituted that feast which was to commemorate His own death as "the Lamb of God, which taketh away the sin of the word." That same night He was taken by wicked hands to be crucified and slain.[69]

When the text above is read, it must be borne in mind that time is passing as we advance from the time the lamb is slain to the time the lamb is eaten. During the passage of time we go from the fourteenth to the fifteenth, as the sun sets. This same mental exercise is needed when we read the next sentence "That same night He was taken by wicked hands to be crucified and slain". Was He crucified that same night? No, time was flowing, and Christ would be killed at about 3 PM, Friday, on Nisan 15th..

The position that Christ should die in the fifteenth is confirmed by another statement of Ellen G. White:

> In the upper chamber of a dwelling at Jerusalem, Christ was sitting at table with His disciples. They had gathered to celebrate the Passover. The Saviour desired to keep this feast alone with the twelve. He knew that His hour was come; He himself was the true paschal lamb, and <u>on the day the Passover was eaten he was to be sacrificed</u>. He was about to drink the cup of wrath; He must soon receive the final baptism of suffering. But a few quiet hours yet remained to Him, and these were to be spent for the benefit of His beloved disciples.[70]

Ellen G. White is saying clearly here that Christ was to be sacrificed on the day the Passover was eaten, not on the day the paschal lamb was slain or sacrificed.

> All the ceremonies of the feast were types of the work of Christ. … The slain lamb, the unleavened bread, the sheaf of first fruits, represented the Saviour.[71]

The emblems Christ left us in remembrance of His sacrifice were connected not to Nisan 14, but to Nisan 15. When he was eating, Christ was the antitype not only of the Passover lamb, but also of the unleavened bread. And type met the antitype not only when He died on the cross, but also when He instituted the Lord's Supper, giving to His disciples the unleavened bread to eat and the wine to drink, as stated in 1 Cor. 11:23-29.

> [23] For I received from the Lord what I also passed on to you: The Lord Jesus, on the night he was betrayed, took bread, [24] and when he had given thanks, he broke it and said, "This is my body, which is for you; do this in remembrance of me." [25] In the same way, after supper he took the cup, saying, "This cup is the new covenant in my blood; do this, whenever you drink it, in remembrance of me." [26] For whenever you eat this bread and drink this cup, you proclaim the Lord's death until he comes.
>
> [27] Therefore, whoever eats the bread or drinks the cup of the Lord in an unworthy manner will be guilty of sinning against the body and blood of the Lord. [28] A man ought to examine himself

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66. SDABC, Vol. 5, 533.
67. SDABC, Vol. 1, 801.
68. C. Mervyn Maxwell, *God Cares*, 249, emphasis supplied.
69. *The Great Controversy*, 399.

before he eats of the bread and drinks of the cup. [29] For anyone who eats and drinks without recognizing the body of the Lord eats and drinks judgment on himself. [30] That is why many among you are weak and sick, and a number of you have fallen asleep. [31] But if we judged ourselves, we would not come under judgment. [32] When we are judged by the Lord, we are being disciplined so that we will not be condemned with the world. [1]

For Christ, our paschal lamb, has been sacrificed. Let us, therefore, celebrate the festival, not with the old leaven, the leaven of malice and evil, but with the unleavened bread of sincerity and truth (1 Cor. 5: 7-8, NIV).

## When did Christ keep the Passover?

Much discussion among Biblical scholars has arisen as to when Christ ate the Passover with His disciples.

What does the Bible say?

The three passages in the Synoptics (Matt. 26:17, Mark 14:12 and Luke 22:7) say that the disciples prepared the Passover for Christ on the first day of Unleavened Bread, leaving no room for doubts: the day could only be Nisan 14, as specified in Exodus 12:6; 13:4 and Leviticus 23:5.

The chronological expressions used by the evangelists confirm this:

And on the first day of Unleavened Bread, when they sacrificed the Passover lamb, his disciples said to him, "Where will you have us go and prepare for you to eat the Passover?" … And the disciples set out and went to the city, and found it as he had told them; and they prepared the Passover. And when it was evening he came with the twelve (Mark 14:12, 16-17, RSV).

The Greek expression used is τὸ πάσχα ἔθυον. ἔθυον is the third person plural imperfect active of Θύω, to kill in sacrifice, slay, sacrifice, immolate. So the verb used is in the imperfect. What are the implications?

The imperfect tense, therefore, represents continued action in past time. There is no one way to translate the imperfect, for the tense itself may indicate customary, repeated, prolonged, or continuing action, or even action attempted or begun. The imperfect of BAPTIZO, therefore, may be correctly translated in any one of the following ways: "I was baptizing", "I used to baptize"; "I was continuing to baptize"; "I began to baptize"; "I tried to baptize". The correct way to translate must be determined by the context.[72]

Let's see how several versions translate the passage:

On the first day of the Feast of Unleavened Bread, when it was customary to sacrifice the Passover lamb, Jesus' disciples asked him, "Where do you want us to go and make preparations for you to eat the Passover?" (NIV).

And on the first day of the feast of Unleavened Bread, when the Passover lamb was being sacrificed, His disciples said to Him, "Where do You want us to go and prepare for You to eat

1 The Holy Bible : New International Version. electronic ed. Grand Rapids : Zondervan, 1996, c1984, S. 1Co 11:23-32

70. *The Desire of Ages*, 642.
71. *Ibid.*, 77.

the Passover?" (NASB).

> And the first day of Unleavened Bread, when they killed the Passover, his disciples said unto him, Where wilt thou that we go and prepare that thou mayest eat the Passover? (KJV)

Who are "they"? The people assisted by the priests and Levites, that is, the whole community of Israel. The passages of 2 Chronicles 35:5-6, 10-13 and Ezra 6:19-20 imply that on the day of the Passover all the people took their paschal lambs to the temple in order to be sacrificed there, in compliance with Ex. 12:6.

> The Passover lamb was not killed in a private house, but in the temple, in the court of it, and that always on the fourteenth of Nisan, after noon: so says Maimonides [Hilchot Korban Pesach. c. 1. sect. 1, 3],

> "it is an affirmative command to slay the Passover on the fourteenth of the month Nisan, after the middle of the day. The Passover is not slain but in the court, as the rest of the holy things; even in the time that altars were lawful, they did not offer the Passover on a private altar; and whoever offers the Passover on a private altar, is to be beaten; as it is said, 'thou mayest not sacrifice the Passover within any of thy gates, which the Lord thy God giveth thee', #De 16:5."[73]

Thus it can be concluded that the day on which the Passover lamb was being sacrificed by the Jews was Thursday. Therefore, Thursday must necessarily be Nisan 14.

There is another passage that should be considered:

> Then came the day of Unleavened Bread, on which the Passover lamb had to be sacrificed. (Luke 22:7, RSV).

The emphatic language of Luke 22:7, "had to, must" is translated from the Greek word ἔδει, third person singular, imperfect of δέω (dei'= an impersonal verb meaning "it is necessary"), which means to bind, that is, to put under obligation of law, duty, etc.; to bind by a legal or moral tie; to be necessary, proper, inevitable, binding, obligatory, as defined in Greek Lexicons.

> The imperfect ἔδει refers to a past obligation that continues into the present, here one that is met.[74]

> MUST. DEI, an impersonal verb, signifying 'it is necessary,' or 'one must,' 'one ought'... in the case of Christ, by reason of the Father's will, ... of a necessity of law, duty, equity, ... of necessity arising from the determinate will and counsel of God, ...[75]

These texts make it clear that that was the day for killing the Passover lamb, and that what Christ was doing, all the people of Israel were doing too. All of them sacrificed and kept the Passover on that day.

Matthew 26:2 gives support to this idea: "You know that after two days the Passover is coming, and the Son of Man is to be delivered up for crucifixion."

The Greek verb form οιδατε (You know, You have known) is the indicative, perfect, active, second person, plural. Greek grammars say that "the Greek perfect tense denotes the present state resultant upon a past action." So, the disciples, on account of their past

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72. James F. Efird, *A Grammar for the New Testament Greek* (Nashville, TN: Abingdon Press, 1990).

experiences, had known this since the beginning of the month, when the sequence of the days of the month was established.

Matthew 26:17 reinforces this idea by stating that "the disciples came to Jesus, saying, 'Where do You want us to prepare for You to eat the Passover?'"

On the basis of a possible evidence from the Dead Sea Scrolls that the Essenes observed the Passover always on a Wednesday, Pastor Maxwell says that "it is possible, therefore, that Passover was observed in Palestine on Wednesday, Thursday, and Friday in the year Jesus died," because the Jews could not agree on how to calculate Passover in terms of the moon.[76]

The Essenes lived in isolated communities, and had peculiar practices. The Jews in general, however, obeyed the regulations of the Sanhedrin, and it was the Sanhedrin that fixed the date for the beginning of the month after hearing and examining witnesses about the appearance of the moon.[77]

The Passover and the other appointed feasts of the Lord were proclaimed feasts, that is, they should be proclaimed in their seasons to the people (see Lev. 23:2, 4, 21, 37; Num. 15:15-16). And this was done by the Sanhedrin. Jesus told the Jews: "The scribes and the Pharisees sit in Moses' seat: All therefore whatsoever they bid you observe, that observe and do; but do not ye after their works: for they say, and do not" (Matthew 23: 1-3). In spite of their hypocrisy, they did have authority from God, and regulation of the religious calendar is a good example of that authority.

Besides, Ellen G. White says:

> Jesus was nearing Jerusalem to attend the Passover. He was surrounded by multitudes who were also going up to this great yearly feast. At His command, two of the disciples brought an ass's colt that He might ride into Jerusalem.[78]

The idea is that He was going to participate in the feast, as all the other Jews.
She still says:

> So every year, the same night on which they left Egypt, all the Israelites kept the feast of the Passover at Jerusalem. … The time had now come when Christ was to keep the feast with His disciples, and He told Peter and John to find a place, and make ready the Passover supper. A great many people came to Jerusalem at this time, and those who lived in the city were always ready to give a room in their houses for visitors to keep the feast. The Saviour told Peter and John that when they had gone into the street, they would meet a man carrying a pitcher of water. Him they were to follow, and they were to go into the house where he went. And they were to say to the good man of that house: "The Master saith unto thee, Where is the guest chamber, where I shall eat the Passover with My disciples?" This man would then show them a large upper room furnished for their needs; there they were to prepare the Passover supper. And it all happened just as the Saviour had told them it would. At the Passover supper the disciples were alone with Jesus. The time they spent with Him at these feasts had always been a time of joy; but now He was troubled in spirit. … This was the last time that Christ was to keep the feast with His disciples. It was really the last Passover that was ever to be kept. For the lamb was slain to

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73. *John Gill's Expositor* on John 18:28.

74. Lenski, *Interpretation of Luke*, 1036.

75. W. E. Vine, *Expository Dictionary of New Testament Words: Four Volumes in One* (Grand Rapids, MI: Zondervan Publishing House), 93.

teach the people about Christ's death; and when Christ, the Lamb of God, should be slain for the sins of the world, there would be no need of slaying a lamb to represent His death.[79]

There is nothing in these texts indicating that Jesus kept the Passover on a different occasion from the Jewish people in general. The idea is that all were keeping it at the same time, and that this was the "**last Passover that was ever to be kept**".

The fact that Christ kept the Passover not only at the appointed day, but at the appointed hour, is clear:

> And they made ready the Passover. And in the evening He came with the twelve (Mark 14:17, KJV).

> When the hour came, Jesus and his apostles reclined at the table. And he said to them, "I have eagerly desired to eat this Passover with you before I suffer" (Luke 22:14-15).

There are only two options. When Jesus kept the Passover on Thursday night, beginning of the religious Friday, either He kept it

1) Incorrectly, on the wrong day; or
2) Correctly, on the appointed day.

The first option is inconceivable, since according to Gal. 4:1-5; 5:3 and Luke 2:21, and the text quoted below, Jesus had to keep the whole law:

> Think not that I have come to abolish the law and the prophets; I have come not to abolish them but to fulfill them. For truly, I say to you, till heaven and earth pass away, not an iota, not a dot, will pass from the law until all is accomplished (Matt. 5:17,18).

If Christ had failed to observe the law in any particular, He could not have been our Savior. The Bible says:

> It is written, "Cursed be every one who does not abide by all things written in the book of the law, and do them" (Gal. 3:10). Christ redeemed us from the curse of the law, having become a curse for us (Gal. 3:13).

Therefore, if Christ had not kept the law perfectly, He would have been accursed himself (Ex. 12:15), and so could not redeem us from the curse of the law.

And the law said:

You must keep this ordinance at the appointed time year after year (Exo. 13:10).

The conclusion is that, if Christ kept the Passover, He must have kept it on the appointed day. Ellen White says:

> About forty days after the birth of Christ, Joseph and Mary took Him to Jerusalem, to present Him to the Lord, and to offer sacrifice. **This was according to the Jewish law, and as man's substitute Christ must conform to the law in every particular. He had already been subjected to the rite of circumcision, as a pledge of His obedience to the law**. {DA 50.1}

> The whole Sanhedrin, followed by the multitude, escorted Jesus to the judgment hall of Pilate, the Roman governor, to secure a confirmation of the sentence they had just pronounced. **The Jewish priests and rulers could not themselves enter Pilate's hall for fear of ceremonial**

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76. *Ibidem*.
77. Maimon. Kiddush Hachodesh, c. 2. sect. 7, 8. Quoted in *John Gill's Expositor* on John 18:28.
78. *The Story of Jesus*, p. 83.

**defilement, which would disqualify them for taking part in the paschal feast.** In order to condemn the spotless Son of God, they were compelled to appeal for judgment to one whose threshold they dared not cross for fear of defilement. Blinded by prejudice and cruelty, they could not discern that their passover festival was of no value, since they had defiled their souls by the rejection of Christ. The great salvation that he brought was typified by the deliverance of the children of Israel, which event was commemorated by the feast of the passover. The innocent lamb slain in Egypt, the blood of which sprinkled upon the door-posts caused the destroying angel to pass over the homes of Israel, prefigured the sinless Lamb of God, whose merits can alone avert the judgment and condemnation of fallen man. **The Saviour had been obedient to the Jewish law, and observed all its divinely appointed ordinances. He had just identified himself with the paschal lamb as its great antitype, by connecting the Lord's supper with the Passover**.[80] What a bitter mockery then was the ceremony about to be observed by the priestly persecutors of Jesus! {3SP 128.1}.

After considering all the previous evidences, we see that the following SDABC statement is not acceptable at all:

> It would seem more important that His death should synchronize with the death of the Passover lambs than that His eating of the Passover should synchronize with the official time for eating that meal.[81]

If Jesus observed the Passover correctly, on the appointed day, either

1. The Jews also kept it on the same day, correctly; in this case there is no doubt that Jesus died on a Nisan 15 and that His death did not synchronize with the day the Passover lamb was sacrificed; or

2. The Jews kept it, incorrectly, one day after. In this case, the death of Christ did not synchronize with the death of the Passover lamb either, because the correct day for killing the Passover lamb had, in reality, according to the united testimonies of Matthew, Mark and Luke, been the previous day.

## The order of events in the Synoptics

The sequence in which the events are narrated in the Synoptics should be studied carefully. This is what Mark says:

> It was now two days before the Passover and the feast of Unleavened Bread. And the chief priests and the scribes were seeking how to arrest him by stealth, and kill him; for they said, "Not during the feast, lest there be a tumult of the people" (14:1, 2).

> And on the first day of Unleavened Bread, when they sacrificed the Passover lamb, his disciples said to him, "Where will you have us go and prepare for you to eat the Passover?" (14:12).

Now the sequence in Matthew (using Young's Literal Translation):

> And it came to pass, when Jesus finished all these words, he said to his disciples, "Ye have known that after two days the Passover cometh, and the Son of Man is delivered up [paradidomi] to be crucified" (26:1, 2).

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79. *Ibid.*, 93-95.

And on the first day of unleavened food came the disciples near to Jesus, saying to him, "Where wilt thou that we may prepare for thee to eat the Passover?" (26:17).

Then cometh he unto his disciples, and saith to them, "Sleep on henceforth, and rest! lo, the hour hath come nigh, and the Son of Man is delivered up [paradidomi] to the hands of sinners" (26:45).

The sequence in Luke may be found in Luke 22:1-23. Read it in your Bible carefully, preferably in Greek. Pay special attention to verses 7, 14 and 15.

## Additional evidences that Thursday was Nisan 14

John 12:1, 2 says:

Six days before the Passover, Jesus arrived at Bethany, where Lazarus lived, whom Jesus had raised from the dead. Here a dinner was given in Jesus' honor. Martha served, while Lazarus was among those reclining at the table with him.

On which day did Jesus arrive?

If there were six days between the day of Jesus' arrival and the Passover, then His arrival must have occurred on Friday, otherwise He would have to travel on the sabbath day. Ellen White confirms that He arrived at Bethany on Friday:

The Saviour had reached Bethany only six days before the Passover, and according to His custom had sought rest at the home of Lazarus. The crowds of travelers who passed on the city spread the tidings that he was on His way to Jerusalem, and that He would rest over the Sabbath at Bethany.[82]

If He arrived on Friday, we have:

| APRIL, A.D. 31 (CIVIL) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | |
| THU | FRI | SAT | SUN | MON | TUE | WED | THU | FRI | SAT | SUN | |
| NISAN, A.D. 31 (RELIGIOUS) | | | | | | | | | | | |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| | FRI | SAB | SUN | MON | TUE | WED | THU | FRI | SAB | SUN | |
| DAYS | 6 | 5 | 4 | 3 | 2 | 1 | Passover | MORE LIKELY | | | |
| DAYS | | 6 | 5 | 4 | 3 | 2 | 1 | Passover | LESS LIKELY | | |

Six days beginning on Friday take us to the Passover day on Thursday.

Since the view held by the SDABC is that the Passover day fell on Friday, in an effort

80. *Spirit of Prophecy*, Vol. 3, 128.
81. SDABC, vol. 5, p. 536.

to harmonize this with the passage of John 12:1, it says:

> Six days before the Passover. The dinner probably took place the night of the Sabbath preceding the crucifixion (see on Matt. 21:1; 26:3), which would technically be on the first day of the week (see Vol. II, p. 101). This would be exactly six days, inclusive reckoning (see Vol. I, p. 182), before the Passover, which fell on Friday (see Additional Notes on Matt. 26, Note 1).[83]

The SDABC comment cannot be correct because the reference used by John is Jesus' arrival: His past, completed action of arriving (the verb translated as "arrived" is ἦλθεν, which is in the aorist), not the future supper that would take place later.

The time period has to be from Jesus' arrival till the Passover as described by Matthew, Mark and Luke, that is, Thursday.

Four days before the Passover lamb was sacrificed in Egypt, that is, on the tenth day of Abib/Nisan, the Passover lamb was separated from the flock, and kept until the fourteenth day. (Exodus 12:1-6). It is significant that Ellen White seems to be making an allusion to this when she says:

> Never before in His earthly life had Jesus permitted such a demonstration. He clearly foresaw the result. It would bring Him to the cross. But it was His purpose thus publicly to present Himself as the Redeemer. He desired to call attention to the sacrifice that was to crown His mission to a fallen world. While the people were assembling at Jerusalem to celebrate the Passover, He, the antitypical Lamb, by a voluntary act set Himself apart as an oblation. It would be needful for His church in all succeeding ages to make His death for the sins of the world a subject of deep thought and study. Every fact connected with it should be verified beyond a doubt. It was necessary, then, that the eyes of all people should now be directed to Him; the events which preceded His great sacrifice must be such as to call attention to the sacrifice itself. After such a demonstration as that attending His entry into Jerusalem, all eyes would follow His rapid progress to the final scene.[84]

And on which day of the week did the triumphal entry take place?

> It was on the first day of the week that Christ made His triumphal entry into Jerusalem. Multitudes who had flocked to see Him at Bethany now accompanied Him, eager to witness His reception. Many people were on their way to the city to keep the Passover, and these joined the multitude attending Jesus.[85]

The quotations above show that Jesus set Himself apart as the antitypical Lamb on the same day that the typical Passover lamb was chosen, the tenth day of Abib or Nisan, according to Exodus 12:3.

The lamb killed by the disciples on Thursday afternoon (Abib/Nisan 14) was eaten after sunset (Abib/Nisan 15), at night, in the beginning of the religious Friday. During the Passover meal, Jesus makes the transition from type to antitype.

In the *Desire of Ages*, page 652, Ellen White sayst that "Christ was standing at the point of transition between two economies and their two great festivals (1) and (2). He, the spotless Lamb of God, was about to present Himself as a sin offering, that He would thus bring to an end the system of types and ceremonies that for four thousand years had pointed to His death. As He ate the (1) Passover with His disciples, He instituted in its place the (2)

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82. E. G. White, *The Desire of Ages*, 557.
83. SDABC on John 12:1.

service that was to be the memorial of His great sacrifice. The (1) national festival of the Jews was to pass away forever. The (2) service which Christ established was to be observed by His followers in all lands and through all ages."

The numbers 1 and 2 in the quotation above were added to identify the two economies, namely, the Jewish Passover and the Supper instituted by Christ.

## Apparent discrepancies that must be solved.

John 18:28 says:

> Then the Jews led Jesus from Caiaphas to the palace of the Roman governor. By now it was early morning, and to avoid ceremonial uncleanness the Jews did not enter the palace; they wanted to be able to eat the Passover.

Does this statement by John about the behavior of the Jewish leaders this Friday morning prove that the Passover lamb was still to be killed later in the afternoon, thus making Friday a Nisan 14?

Should we say that John is correcting Matthew, Mark and Luke, or should we seek harmony?

Commenting on this, the SDABC says:

> According to John, the Jews celebrated the Passover supper on the night following the crucifixion.[86]

Contrary to what the SDABC says, John does not say that the Jews celebrated the Passover. First, John is using the second aorist of subjunctive of the verb to eat, which just indicates the intention of eating, not the real act of doing so. In the second place, can we guarantee that the meal that they intended to eat was the Passover Supper, or was it one of the meals eaten during the Passover week? The only thing we can guarantee is that John is not making a chronological statement related to the legal day for sacrificing the Passover lamb, as Luke does, he is only narrating an incidental occurrence, on Friday morning, related to the Jewish leaders who, as we must bear in mind, are regarded by Christ as transgressors of God's law and followers of their own tradition. John is not contradicting or denying what Matthew, Mark, and Luke have stated chronologically. Those who want to use these Jewish leaders' attitudes as a chronological reference should read John chapter 8, carefully.

John's emphasis is on the ceremonial behavior and intentions of the Jewish leaders, not on the date for killing the lamb, as is the case in Matthew, Mark and Luke.

John says that they were avoiding ceremonial uncleanness because they wanted to be able to eat the Passover.

Does the term "Passover" refer to the lamb that was killed on the fourteenth and eaten later, at night, or to the whole ceremony, including the meals eaten during the Passover season, week or feast, or feast of Unleavened Bread, which lasted until the twenty-first day?

Let us examine some passages which show the significance of the term "Passover":

1. In the Bible.

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84. E. G. White, *The Desire of Ages*, p. 571.
85. *Idem*, p. 569.

Your boasting is not good. Don't you know that a little yeast works through the whole batch of dough? Get rid of the old yeast that you may be a new batch without yeast - as you really are. For Christ, our Passover lamb, has been sacrificed. Therefore let us keep the Festival, not with the old yeast, the yeast of malice and wickedness, but with bread without yeast, the bread of sincerity and truth (1 Cor. 5: 6-8).

Now the Feast of Unleavened Bread, called the Passover, was approaching (Luke 22:1).

Now while he was in Jerusalem at the Passover Feast, many people saw the miraculous signs he was doing and believed in his name (John 2:23).

In the first month on the fourteenth day you are to observe the Passover, a feast lasting seven days, during which you shall eat bread made without yeast (Ezekiel 45:21).

Every year his parents went to Jerusalem for the Feast of the Passover. When he was twelve years old, they went up to the Feast, according to the custom. After the Feast was over (fulfilling the days), while his parents were returning home, the boy Jesus stayed behind in Jerusalem, but they were unaware of it (Luke 2:41-43).

When he saw that this pleased the Jews, he proceeded to seize Peter also. This happened during the Feast of Unleavened Bread. After arresting him, he put him in prison, handing him over to be guarded by four squads of four soldiers each. Herod intended to bring him out for public trial after the Passover (Acts 12:3-4).

2. In the Ellen G. White Writings.

The lamb was to be eaten with bitter herb, as pointing back to the bitterness of the bondage in Egypt. So when we feed upon Christ, it should be with contrition of heart, because of our sins. The use of unleavened bread also was significant. It was expressly enjoined in the law of the Passover, and as strictly observed by the Jews in their practice, that no leaven should be found in their houses during the feast.[87]

Again, if the trial and execution were not brought about at once, there would be a week's delay on account of the celebration of the Passover.[88]

Jesus had appointed to meet His disciples in Galilee; and soon after the Passover week was ended, they bent their steps thither. Their absence from Jerusalem during the feast would have been interpreted as disaffection and heresy, therefore they remained till its close; but this over, they gladly turned homeward to meet the Saviour as He had directed.[89]

After condemning Jesus, the council of the Sanhedrin had come to Pilate to have the sentence confirmed and executed. But these Jewish officials would not enter the Roman judgment hall. According to their ceremonial law they would be defiled thereby, and thus prevented from taking part in the feast of the Passover. In their blindness they did not see that murderous hatred had defiled their hearts. They did not see that Christ was the real Passover lamb, and that, since they had rejected Him, the great feast had for them lost its significance.[90]

As shown above, the term "Passover" (and consequently the expressions "eat the Passover" and "celebrate the Passover") was not restricted to the ceremony of eating the

86. SDABC, Vol. 5, 532, note 1.

Passover lamb, but to the whole festival of Unleavened Bread.

The Mishnah confirms this:

> 9:5 A. What is the difference between the Passover of Egypt and the Passover of succeeding generations?
>
> B. as to the Passover of Egypt - (1) [the lamb's] designation took place on the tenth of Nisan. (2) It required sprinkling of the blood of the lamb with a branch of hyssop on the lintel of the door and on the two doorposts. And (3) it was eaten in haste in a single night.
>
> C. But the Passover observed by succeeding generations applies [to leaven] for all seven days and not only for one night.[91]

What then does the expression "to eat the Passover" in John 18:28 mean? Let us see the opinion of some commentators:

> It is tempting here to understand to eat the Passover to refer, not to the Passover meal itself, but to the continuing Feast of Unleavened Bread, which continued for seven days. In particular, attention may be focused on the hagigah, the feast-offering offered on the morning of the first full paschal day (cf. Nu. 28:18-19). There is ample evidence that "the Passover" could refer to the combined feast of the paschal meal itself plus the ensuing Feast of Unleavened Bread (e.g. Lk. 22:1: "Now the Feast of Unleavened Bread, called the Passover, was approaching"). If then the Jewish authorities wanted to continue full participation in the entire feast, they would have to avoid all ritual contamination. Even if they contracted a form of defilement that could be washed away at sundown, it would preclude them from participating that day. True, the hagigah could be eaten later in the week, but the Jewish leaders, conscious of their public position, would be eager to avoid any uncleanness that would force them to withdraw from the feast, however temporarily. At this point, distinctions between defilement that lasts until sundown and defilement that lasts seven days become irrelevant.
>
> This interpretation becomes very convincing if our treatment of 19:31 (cf. notes) is correct. Morris (pp.778-779) concedes that "the Passover" can refer to the Passover plus the Feast of Unleavened Bread, but insists that "to eat the Passover" cannot refer to all or part of the Feast of Unleavened Bread apart from the Feast of Passover. The criticism has little weight: the interpretation here defended is not that "the Passover" refers to the Feast of Unleavened Bread apart from Passover, but to the entire Passover festival. The Jews wanted to continue to participate in the entire feast; they wanted to eat the Passover.[92]
>
> By the Passover here is meant the "Chagigah", or feast kept on the fifteenth day of the month, as it is sometimes called: in #De 16:2 it is said, "thou shalt therefore sacrifice the Passover unto the Lord thy God, of the flock and the herd": now the Passover of the herd, can never mean the Passover lamb, but the Passover "Chagigah"; and so the Jewish commentators explain it; "of the herd", says Jarchi, thou shalt sacrifice for the "Chagigah"; and says Aben Ezra, for the peace offerings; so Josiah the king is said to give for the Passovers three thousand bullocks, and the priests three hundred oxen, and the Levites five hundred oxen, #2Ch 35:7-9 which Jarchi interprets of the peace offerings of the "Chagigah", there called Passovers; and so in I Ezr 1:7-9 mention is made of three thousand calves, besides lambs, that Josias gave for the Passover; and three hundred by some other persons, and seven hundred by others: the passage in Deuteronomy, is explained of the "Chagigah", in both Talmuds {c}, and in other writings {d}; so besides the Passover lamb, we read of sacrifices slain, _____, "in

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87. *Patriarchs and Prophets*, 278.
88. *The Desire of Ages*, 703.

the name of" the Passover, or on account of it {e}; and particularly of the calf and the young bullock, slain for the sake of the Passover {f}: and now this is the Passover which these men were to eat that day, and therefore were careful not to defile themselves, that so they might not be unfit for it; otherwise had it been the Passover lamb in the evening, they might have washed themselves in the evening, according to the rules, _____, or "the daily washing", and been clean enough to have eaten it: besides, it may be observed, that all the seven days were called the Passover; and he that ate the unleavened bread, is said by eating that, to eat the Passover; and thus they invite their guests daily to eat the bread, saying {g},

everyone that is hungry, let him come and eat all that he needs, _____, "and keep the Passover."

{c} T. Hieros. Pesacb. fol. 33. 1. T. Bab. Pesachim, fol. 70. 2.

{d} Maimon. Korban Pesach. c. 10. sect. 12. Moses Kotsensis Mitzvot Tora, pr. neg. 349.

{e} Misn. Pesachim, c. 6. sect. 5.

{f} T. Bab. Menachot, fol. 3. 1.

{g} Haggadah Shel Pesach. p. 4. Ed. Rittangel.[93]

{But might eat the Passover} (|alla phagôsin to pascha|). Second aorist active subjunctive of the defective verb |esthiô|, to eat. This phrase may mean to eat the Passover meal as in #Mt 27:17 ( #Mr 14:12,14; Lu 22:11,15), but it does not have to mean that. In #2Ch 30:22 we read: "And they did eat the festival seven days" when the paschal festival is meant, not the paschal lamb or the paschal supper. There are eight other examples of |pascha| in John's Gospel and in all of them the feast is meant, not the supper. If we follow John's use of the word, it is the feast here, not the meal of #Joh 13:2 which was the regular Passover meal. This interpretation keeps John in harmony with the Synoptics.[94]

## Additional explanations

There are two expressions in the book of John that must be well understood.

The first is "preparation for the Passover" (παρασκευὴ του πάσχα):

Now it was the day of preparation for the Passover; it was about the sixth hour. And he said to the Jews, "Behold your King!"(John 19:14).

In relation to this expression, the SDABC makes the following statements:

The crucifixion took place on "the preparation [eve] of the Passover," that is, on Nisan 14 (John 19:14;....., Ex. 12:6; cf. GC 399).[95]

Nisan 14 was known as the "eve of the Passover," that is, the day on which preparations were to be made for it, even as Friday was called the "eve of the Sabbath," being the day on which preparations were to be made for the Sabbath. In this year the "eve of the Passover" coincided with the "eve of the Sabbath" (see Additional Notes on Matt. 26, Note 1).[96]

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89. *Ibid.*, 809.

90. *Idem*, 723.

91. Jacob Neusner, ed., *The Mishnah: A New Translation* (New Haven, Yale University Press,1988) 247, Pesahim 9:5.

I disagree with the previous statements in the SDABC. First, we can find no evidence that there was any particular day which was called "the preparation of the Passover". Second, in the Bible no other day is called "the preparation" except the day before the Sabbath, that is, Friday. Because it was in the Passover week, John calls it the preparation of the Passover.

The New International Version correctly translates this verse as follows:

> It was the day of Preparation of Passover Week, about the sixth hour. "Here is your king," Pilate said to the Jews (John 19:14).

Ellen White also refers to that day only as the preparation for the sabbath:

> At the setting of the sun on the evening of the preparation day the trumpet sounded, signifying that the Sabbath had begun.[97]

Let us see what commentators have to say about the subject.

Samuele Bacchiocchi, professor of Church History and Theology at Andrews University, states:

> The third mistaken assumption is that the term "Preparation" found in John 19:14, "It was the day of Preparation of the Passover" is used as a technical designation for the day before the Passover. … In the light of the above considerations, the expression "the day of Preparation of the Passover" (John 19:14), simply means, as most scholars acknowledge, "the Friday of the Passover Week."[98]

Other writers who share this same opinion:

> I have simply rendered the _Paraskeue tou Pasca_ by Friday in Passover-week. The evidence for regarding _Paraskeue_ in the Gospels, as the *terminus technicus* for Friday, has been often set forth. See Kirchner, D. jud. Passahf. pp. 447, &c.[99]

> Sometimes, too, the Modern Greek lexicon can illumine New Testament vocabulary. For example, the word PARASKEUE (John 19: 14, 31, 42) is the Modern Greek word for "Friday". This fact supports the interpretation that the expression the preparation (PARASKEUE) of the Passover means "Friday in Passover week," rather than "the day before Passover."[100]

> Fourth, the Thursday view is forced to make the expression "the day of preparation" παρασκευή refer to the preparations for the Passover rather than its normal usage referring to Friday, the day of preparation for the Sabbath. … But this is unacceptable on three grounds: (1) It necessitates the unnatural meaning of παρασκευή. Both the Scriptures (Matt. 27:62; Mark 15:42; Luke 23:54; John 19:14, 31, 42) and Josephus indicate the day of preparation is the day before the weekly Sabbaths, namely, Friday. Even Westcott, who holds to a Thursday crucifixion, concedes that the normal use of the phrase refers to Friday. (2) Mark 15:42 exclusively points to "the day of preparation" as being Friday when it states: "and when the evening had come, because it was the day of preparation, that is, the day before the Sabbath." In reading Mark, one sees that

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92. D. A. Carson, *The Gospel According to John* (Grand Rapids, MI: Eerdmans, 1991), on John 18:28.
93. *John Gill's Expositor* on John 18:28.

> he is speaking of the regular weekly Sabbath, and hence the παρασκευή refers to Friday. (3) The statement "the day of preparation for the Passover" in John 19:14 seems to have reference to the Friday in the Passover week rather than the day before the Passover. The reason for this is that there is no evidence that the day of preparation for the Passover is the day before the Passover; while there is evidence for παρασκεή as being Friday. This is also substantiated in the immediate context where it is specifically stated that the bodies should be taken off the cross on the day of preparation so that they would not remain on the cross on the Sabbath, and they put Jesus in the tomb on the "Jewish day of preparation" (John 19:31,42). Certainly in these two verses, παρασκεή is Friday, and the Sabbath refers to the weekly Sabbath."[101]

The second expression that must be understood is μεγάλη ἡ ἡμέρα ἐκείνου του σαββάτου (great the day of that sabbath).

The text says:

> The Jews therefore, because it was the preparation, and so that the bodies should not remain upon the cross on the Sabbath day (for that Sabbath day was a high day), besought Pilate that their legs might be broken and that they might be taken away (John 19:31, KJV).

Some understand this expression to mean that the ceremonial sabbath (Nisan 15) in that year fell on the weekly sabbath.

It could mean this. But this expression can equally mean that in that year there were two sabbaths, one after the other: the ceremonial sabbath, Nisan 15, followed by the weekly seventh-day Sabbath.

From this statement it seems that the two days have been observed for a long time, and this was doubtless the custom at the time of the advent of Christ. If this was so, then we can see how the second day of the Passover, at the time of Christ, would come on the same day of the week as the seventh-day Sabbath. The thought is that seventh-day Sabbaths that fell during appointed ceremonial feasts were known as "high Sabbath," or "great Sabbath." [102]

Another possible meaning for the expression "that sabbath day was a high day" is simply because that sabbath was special because it was the Sabbath of the Passover Week. Thus, the NIV translates John 19:31 in this way:

Now it was the day of Preparation, and the next day was to be a special Sabbath.

So, there are several possible interpretations for this expression.

And there is still a last thing to be considered.

Mark 15:33-38 informs us that Christ died at the ninth hour, that is, at about three in the afternoon.

Ellen G. White says that this was the hour of the evening sacrifice:

> When the loud cry, "It is finished," came from the lips of Christ, the priests were officiating in the temple. It was the hour of the evening sacrifice. The lamb representing Christ had been brought to be slain.[103]

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94. Archibald Thomas Robertson, *Word Pictures in the New Testament* (Grand Rapids, MI: Baker Book House), on John 18:28.

95. SDABC, Vol. 5, 533.

96. *Ibid.*, 232-233, Chart 8.

However, the Mishnah says the following:

> 5:1 A. The daily whole offering [of the afternoon] [generally] was slaughtered at half after the eighth hour [after dawn, about 2:30 P.M.] and offered up at half after the ninth hour [about 3:30 P.M.].
>
> B. On the eve of Passover, [the daily whole offering] was slaughtered at half after the seventh hour and offered up at half after the eighth hour.
>
> C. whether on an ordinary day or on the Sabbath.
>
> D. [If, however,] the eve of Passover coincided with the eve of the Sabbath [Friday], it was slaughtered at half after the sixth hour [12:30 P.M.] and offered up at half after the seventh hour [1:30 P.M.],
>
> E. and [then] the Passover offering [was slaughtered] after it.[104]

Consequently, if we take the Mishnah as trustworthy in this case, the Friday on which Christ died could not have been the eve of the Passover. Ellen G. White in *The Desire of Ages,* page 756, synchronizes the death of Christ with the hour of the evening sacrifice, not with the passover lamb sacrifice, by saying "When the loud cry, ´It is finished,´ came from the lips of Christ, the priests were officiating in the temple. It was the hour of the evening sacrifice. The lamb representing Christ had been brought to be slain".

## Should the death of Christ synchronize with the death of the Passover lambs?

From the statement of *The Desire of Ages*, page 756, just quoted above, it may be seen that the death of Christ on the cross coincided or synchronized with the hour of the evening sacrifice. It is the evening-sacrifice lamb that had been brought to be slain. Ellen G. White is not talking about the Passover lamb.

Besides, the end of sacrifices and the transition from the old to the new covenant, began at the paschal supper:

> While the disciples were contending for the highest place in the promised kingdom, Christ girded Himself, and performed the office of a servant, by washing the feet of those who had called Him Lord. He, the pure and spotless One, was about to offer Himself as a sin-offering for the world; and as He ate the Passover with His disciples, He put an end to the sacrifices which for four thousand years had been offered. In the place of the national festival which the Jewish people had observed, He instituted a memorial service, the ordinance of feet washing and the sacramental supper, to be observed through all time by His followers in every country. These should ever repeat Christ's act, that all may see that true service calls for unselfish

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97. *The Desire of Ages*, 774.

98. Samuele Bacchiocchi, *The Time of the Crucifixion and the Resurrection* (Biblical Perspectives), 42, 43.

99. Edersheim, *The Life and Times of Jesus the Messiah: The Cross and the Crown* (Grand Rapids, MI: Eerdmans, 1953), 581.

100. David Allan Black, *Linguistics for Students of New Testament Greek* (Grand Rapids, MI: Baker Book House, 1988).

ministry.[105]

And about the cross, Ellen White says:

> "In the midst of the week He shall cause the sacrifice and the oblation to cease." In A.D. 31, three and half years after His baptism, our Lord was crucified. With the great sacrifice offered upon Calvary, ended that system of offerings which for four thousand years had pointed forward to the Lamb of God. Type had met antitype, and all the sacrifices and oblations of the ceremonial system were there to cease.[106]

From the statement of Ellen G. White above from *The Signs of the Times*, it may be concluded that the symbolism of Christ as the paschal lamb that was fulfilled at the exact time was at the paschal supper. As Kenneth F. Doig says:

> Yet, Paul said, "For Christ our Passover also has been sacrificed" (1 Cor. 5:7). Jesus became "our Passover" in the evening of Nisan 14 through the Last Supper. "Then Jesus broke bread for the disciples, and said, 'Take, eat; this is My body.' And when He had taken a cup and given thanks, he gave it to them, saying, 'Drink from it, all of you; for this is My blood of the covenant, which is poured out for many for the forgiveness of sins'" (Matt. 26:26-28). Here Jesus symbolically and spiritually substituted Himself for the Passover lamb. This was the fulfillment of Jesus' claim that, "I am the bread of life," and "He who eats My flesh and drinks My blood has eternal life, and I will raise him up on the last day" (John 6:35, 54). In this act Christ is the Passover Lamb.[107]

Another aspect to be considered is the hour at which Christ died, which was the hour of the evening sacrifice.

The Bible says that Christ died at the ninth hour:

At the ninth hour Jesus cried out in a loud voice, ... With a loud cry, Jesus breathed his last" (Mark 15:34, 37).

This was the hour of the evening sacrifice, and also the hour of prayer and of the burning of incense at the temple. The hour Gabriel delivered the *dabar*. a Hebrew word that means " word, order, subject, message", that is the text in Daniel 9:24-27 that would supply information for understanding Daniel 8:14 (Read Daniel 9:21-27).

> He was chosen by lot, according to the custom of the priesthood, to go into the temple of the Lord and burn incense. And when the time for the burning of incense came, all the assembled worshipers were praying outside (Luke 1: 9, 10, NIV).
>
> May my prayer be set before you like incense; may the lifting up of my hands be like the evening sacrifice (Psalm 141:2).
>
> As the priests morning and evening entered the holy place at the time of incense, the daily sacrifice was ready to be offered upon the altar in the court without. This was a time of intense interest to the worshipers who assembled at the tabernacle. Before entering into the presence of God through the ministration of the priest, they were to engage in earnest searching of heart and confession of sin. They united in silent prayer, with their faces toward the holy place. Thus their petitions ascended with the cloud of incense, while faith laid hold upon the merits of the promised Saviour prefigured by the atoning sacrifice. The hours appointed for the morning and the evening sacrifice were regarded as sacred, and they came to be observed as the set time for

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101. Harold W. Hoehner, *Chronological Aspects of the Life of Christ* (Grand Rapids, MI: Zondervan Publishing House, 1977), 70, 71.

102. F. C. Gilbert, *Practical Lessons*, 510.

worship throughout the Jewish nation.[108]

The daily sacrifice and the burning of incense occurred at the same hour (Ex. 29:38,39; 30:8). This was also the hour of prayer. But at what time was it?

> Now Peter and John were going up to the temple at the hour of prayer, the ninth hour (Acts 3:1, RSV).

Josephus confirms that this was the time of the evening sacrifice:

> And anyone may hence learn how very great piety we exercise towards God, and the observance of his laws, since the priests were not at all hindered from their sacred ministrations, by their fear during this siege, but did still twice each day, in the morning and about the ninth hour, offer their sacrifices on the altar.[109]

It is important to keep in mind the following:

> Jesus is our surety. "Behold the Lamb of God, which taketh away the sin of the world." Christ, our Passover, has been sacrificed for us. Every drop of blood shed by the Jewish sacrifices pointed to the Lamb of God. All the typical offerings were fulfilled in him. Type met antitype when he died on the cross.[110]

So, Calvary "is the antitype of all the sacrifices of the OT."[111] As such, it fulfilled the sacrificial aspect of all of them, not only of the Passover. It fulfilled the sacrificial aspect of the Day of Atonement, for instance, but in order to accomplish this it was not necessary for it to fall on a Day of Atonement (See Heb. 7:27; 9:25). The same is true about the Passover. Besides, Ellen White states that Christ's death synchronized with the daily sacrifice, not with the Passover sacrifice.

It should also be remembered that the paschal lamb was not the only type of Christ during the Passover season; the unleavened bread was a type of Christ too, and the unleavened bread was connected with Nisan 15, not with Nisan 14 (Lev. 23:7), and in the Lord's Supper, the memorial Christ left us of His death, He chose the symbolism of the unleavened bread to represent His body:

> For Christ, our paschal lamb, has been sacrificed. Let us, therefore, celebrate the festival, not with the old leaven, the leaven of malice and evil, but with the unleavened bread of sincerity and truth (1 Cor. 5:7,8, RSV).

Furthermore, the deliverance or redemption of the people in Egypt occurred on the day after the Passover was killed, that is, on Nisan 15, which means that the day of redemption is associated with the 15th, not with the 14th, as may be seen in Numbers 33:3. In Gethsemane, Christ was the Firstborn. See Matthew 26:31, Zechariah 13:7; 12:10, Isaiah 53:4, Exodus 12:12. On the cross, Friday, Nisan 15, Christ was the Redeemer.

## The wave sheaf

The day the wave sheaf (First Fruits) was presented is liable to conflicting interpretations.

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103. *The Desire of Ages*, p. 756.

104. Jacob Neusner, ed., *The Mishnah: A New Translation* (New Haven and London, Yale University Press, 1988), Pesahim 5:1, p. 236.

Let's analyze the situation, paying attention to the following statement: "He knew that His hour was come; He himself was the true paschal lamb, and on the day the Passover was eaten He was to be sacrificed."[112]

If Christ was to be sacrificed on the day the Passover was eaten, and if the Passover lamb was eaten on the fifteenth, it is evident that Christ was to be sacrificed on the 15th of Nisan.

In view of this, the passage quoted below seems to be contradictory, because we are taught without any biblical evidence that the day the first fruits were waved before the Lord was always Nisan 16. However, the Bible does not attach the number 16 to this day. The day the first fruits were waived and the day of Pentecost have a relative position, not a month day number. Let's read the quotation:

> Christ arose from the dead as the first fruits of those that slept. He was the antitype of the wave sheaf, and His resurrection took place on the very day when the wave sheaf was to be presented before the Lord.[113]

In this text Ellen G. White does not say that this specific day on the crucifixion year is the 16th either. Here she could not contradict her statement that "on the day the Passover was eaten He was to be sacrificed", that is, sacrificed on the 15th.

The very day when the wave sheaf was to be presented before the Lord was the day after the Sabbath, that is, Sunday, the day Christ rose from the dead. This is all this Ellen G. White statement says. This day, Sunday, could be the 16th, the 17th, and so on, within the Passover week.

However the situation is not that simple if we read two other quotations from Ellen G. White:

> The Passover was followed by the seven day's feast of Unleavened Bread. The first and the seventh day were days of holy convocation, when no servile work was to be performed. On the second day of the feast, the first fruits of the year's harvest were presented before God.[114]

> The Passover was followed by the seven day's feast of Unleavened Bread. On the second day of the feast, the first fruits of the year's harvest, a sheaf of barley, was presented before the Lord.[115]

If Christ should be sacrificed on the day the Passover was eaten, this means that Friday was a Nisan 15; but if the day the wave sheaf was presented before the Lord (and on which He should rise from the dead) was the second day of the feast, namely Nisan 16, then He should have risen from the dead on the Sabbath, because Sunday was a Nisan 17.

Munson wrote to Ellen White about this seeming contradiction, and her secretary gave the following reply:

> When these questions come before Sister White, she often says that the Lord has given her the work of writing what she has written, but not of trying to explain every seemingly difficult pas-

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105. *The Signs of the Times*, May 16, 1900.

106. *The Great Controversy*, 327-328.

107. Excerpt from: Kenneth F. Doig, *New Testament Chronology,* (Lewiston, NY: Edwin Mellen Press, 1990), Chapter 20; reproduced at *http://www.doig.net/NTC20.htm*.

sage. If she were to take up the burden of harmonizing seemingly contradictory passages, she would not have time to do her regularly appointed work of writing out the words of instruction and admonition that she does write for the Church. She therefore appeals to her brethren to search the Scriptures, and to compare her writings with the Scriptures, and with other portions of her own writings, and thus seek to discover, if possible, the harmony that exists. You will readily understand the reason why she could not enter into all the queries that come to her; and your good judgment will tell you that it is well for us who study her writings, to seek to understand them in the light of other portions of her writings, and by the aid of the daily study of the Scriptures.[116]

In certain years the first fruits are really waved on the second day of the feast, the 16th, that is, in those years in which Nisan 14th coincides with Friday, Nisan 15th with the Sabbath and Nisan 16th with Sunday, the day after the weekly Sabbath. This was not the case in A.D. 31, as a careful analysis of the typological, legal, astronomical, and other Ellen G. White's statements show. Astronomically speaking, it could have been the case in A.D. 30 and 33, since a Friday = 14 fits well, astronomically, in these years, but even so we would have to be so bold as to disregard the chronological, typological, and legal statements in Matthew, Mark and Luke.

It may also be possible that Josephus and Philo, who were Pharisees of the Hillel school, as quoted below, had some influence on Ellen G. White's wording.

Whatever may be the case, the following statements by Ellen G. White herself must be borne in mind:

> We have many lessons to learn, and many, many to unlearn. God and heaven alone are infallible. Those who think that they will never have to give up a cherished view, never have occasion to change an opinion, will be disappointed. As long as we hold to our own ideas and opinions with determined persistency, we cannot have the unity for which Christ prayed.[117]

> In regard to infallibility, I never claimed it; God alone is infallible. His word is true, and in Him is no variableness, or shadow of turning.[118]

Ellen G. White did modify some of her wordings in *The Great Controversy*, 1888 edition, for the 1911 revision.

To support the Friday/14 and First Fruits/16 view, or vice-versa, the SDABC uses the following arguments:

> If, as this view assumes, the crucifixion fell on Nisan 15, the first day of Unleavened Bread, then the resurrection fell on Nisan 17, or the third day. But the offering of the first fruits, a type of the resurrection of our Lord, took place on the second day, or Nisan 16 (see Lev. 23:10-14; 1 Cor. 15:20, 23; cf. GC 399; DA 785, 786). According to this view, then, the resurrection did not occur at the time called for by the ceremonial type of the wave sheaf.[119]

However, the SDABC recognizes the following:

> The Boethusian Sadducees of Christ's day are known to have contended that the "sabbath" of Lev.

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108. Patriarchs and Prophets, 352-354.
109. Ant. 14.4.3. Emphasis mine.
110. Ellen G. White, *Review and Herald*, July 19, 1898.
111. *Issues in the Book of Hebrews* (Biblical Research Institute?), 80.

23:11 referred to a weekly Sabbath instead of a ceremonial sabbath.[120]

There was a dispute about this question between the Pharisees and the Sadducees, as this quotation shows:

> Pentecost (Hebrew Shavu'ot). Pentecost was the second of the pilgrimage festivals. The name Pentecost (Greek "fiftieth") stems from the fact that the Bible gave no set date for the festival, but rather described it as falling after the counting of seven weeks (the Hebrew name Shavu'ot means "weeks") following the bringing of the barley offering, with Pentecost on the fiftieth day (Lev. 23:15-20). The counting is to start on the "morrow of the sabbath, from the day that you brought the sheaf of the wave offering" (Lev 23:15). In the Second Temple period the ambiguity of this verse gave rise to a bitter disagreement between the Pharisees and the Sadducees as to the actual date of the beginning of the counting; the Pharisees began from the second day of Passover, whereas the Sadducees counted from the day following the intermediate Sabbath of Passover.[121]

Josephus and Philo say that the sheaf was waved on the second day of the feast, on the sixteenth:

> But on the second day of Unleavened Bread, which is on the sixteenth day of the month, they first partake of the fruits of the earth, for before that day they do not touch them. And while they suppose it proper to honor God, from whom they obtain this plentiful provision, in the first place, they offer the first fruits of their barley, and that in the manner following….[122]
>
> There is also a festival on the day of the paschal feast, which succeeds the first day, and this is named the sheaf, from what takes place on it.[123]

Josephus decided to join the Pharisees at the age of nineteen. Speaking about the time of the Maccabees, however, he says the following:

> And truly he did not speak falsely in saying so; for the festival, which we call Pentecost, did then fall out to be the next day to the Sabbath; nor is it lawful for us to journey, either on the Sabbath day, or on a festival day.[124]

"The next day to the sabbath" is a Sunday. He thus confirms that this had once been the usual practice.

Let us examine some opinions about this subject:

> On the day after the sabbath (vv. 11, 15, cf. v. 16) – the meaning of this phrase has been the subject of much controversy. Is the sabbath in question the ordinary sabbath, i.e., the first Saturday after the beginning of the festival of Unleavened Bread? Or is the sabbath the first day of Unleavened Bread when heavy work was forbidden? According to the first interpretation 'the day after the sabbath' means Sunday; according to the second it means the sixteenth day of the month. Orthodox Judaism and most modern commentators favor the second suggestion. Some Jewish sects, however, and a few modern writers favor the first suggestion. (Elliger. p. 315; Heinisch, p. 104; Bertholet, p. 80.). The exegetical arguments are finely balanced. It seems slightly more natural to equate 'the sabbath' with Saturday than with the first day of the feast. Furthermore, if one accepts that Leviticus is based on the Jubilees Calendar, it would seem more likely that the first sheaf was offered on Sunday (the day after the sabbath) than on Thursday (second day of the feast).[125]

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112. *The Desire of Ages*, 642
113. *Ibid.,* 785.

> In the festal calendar of Lev. 23 is found the phrase mohorat hassabbat, "morrow after the sabbath" (vv. 11. 15f.). This day is designated as the day for waving a sheaf as part of the Feast of Unleavened Bread. It is unclear whether sabbath in this phrase refers to one of the days of the feast (perhaps the first or last; see Lev. 23:8) or to a seventh-day sabbath within the festival period; but since "Sabbath" is not explicitly applied to the first or last day of the feast, the "morrow after the sabbath" most likely refers to the first day of the week following a seventh-day sabbath that fell within the week of the feast.[126]
>
> Shavu'ot is the only festival for which no specific date is given in the Bible. Instead, the people are instructed to count seven weeks "from the morrow of the day of rest [the Sabbath], from the day on which you brought the offering of the sheaf [Omer] of the waving" (Lev. 23:15). The cutting of the Omer of the new barley marked the beginning of the counting period; on the 50th day, the new-harvest festival was observed. For the rabbis, "the Sabbath" referred to the first day of Passover, and the 50th day was therefore always 6 Sivan. The SADDUCEES and later the KARAITES understood the term "Sabbath" in its literal sense, so that the counting began on the Sunday of Passover week; thus the date was variable but the holiday would always fall on a Sunday. This is also the tradition among the SAMARITANS.) It is possible that the controversy centered around the rabbinic view linking Shavu'ot to the great historical event of the Divine Revelation at Mount Sinai, for which there had to be a fixed date. The Sadducees, however, saw no warrant in the Scriptures for such an association and therefore for them Shavu'ot remained a purely agricultural celebration for which a movable date was entirely appropriate. Ethiopian Jews regarded the "morrow" of the day of rest as meaning the day after the Passover festival and thus observe Shavu'ot on 12 Sivan.[127]

The word found in Lev. 23: 15 literally means "sabbaths," as can be seen in the *Hebrew and English Lexicon of the Old Testament*.[128] The lexicon also brings the word "weeks", but with a question mark in front of it.

See also the *Analytical Hebrew and Chaldee Lexicon*, by Benjamin Davidson, pages 700 and 701, under the Hebrew word for "sabbath" and its plural form.

The King James Version translates the text in the following way: "And ye shall count unto you from the morrow after the sabbath, from the day that ye brought the sheaf of the wave offering; seven sabbaths shall be complete."

If we accept that the word "sabbath" means ceremonial sabbath, we come across a serious problem, because there is only one ceremonial sabbath, and not seven, between Nisan 15 and the fiftieth day (Pentecost), namely, Nisan 21. About this, the Karaites say:

> We are commanded in Lev 23,16 "Until the morrow after the seventh Sabbath shall you count fifty days". While the first day of Hag HaMatzot [Unleavened Bread] could theoretically be called a Sabbath, there is no way the 49th day of the Omer could be called a Sabbath, since (according to the Rabbanite theory) this day is neither a holiday nor a Sabbath. This being so, in the Rabbanite reckoning the 50th day of the Omer (=Shavuot) would NOT be on "the morrow after the seventh Sabbath" as commanded in Lev 23,16. Instead it would be on the morrow after the 7th Tuesday, Wednesday, or Thursday or whatever day it happened to fall out after (see chart). The only way for the 49th day of the Omer to be a Sabbath, thereby making

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114. *Patriarchs and Prophets*, 539.

115. *The Desire of Ages*, 77.

116. Letter of C. C. Crisler, secretary of Ellen G. White, to Elder R. W. Munson of the Australasian Union Conference, November 27, 1908.

the 50th day "the morrow after the Sabbath" as commanded in Lev 23,16, is if the 1st day of the Omer is on a Sunday.[129]

To avoid this, the Rabbinical Jews have to interpret the word "sabbath" in two different ways in the very same verse! They argue that the first sabbath mentioned is none other than the 15th of Nisan, and that here the word "sabbath" means holy day (ceremonial Sabbath). But, in their view, the meaning of "seven sabbaths," at the end of the verse is seven weeks, and the word "sabbath" in this context means seven days! So, in the same verse the word "sabbath" means "holy day" and "seven days". The Karaite Jews, however, argue that it is impossible to take a given word which appears twice in a single verse and interpret it in two different opposing manners without the Torah indicating this itself in a clear incontrovertible way. Besides, the Rabbanite Jews claim that the meaning of "seven weeks" (Deut. 16:9) is seven periods of seven days and that the Torah did not mean a week beginning on Sunday and ending on Saturday. This is in contradiction to the language of the Bible. The idea is foreign to Hebrew that any seven consecutive days comprise a week. A week was always "Sunday to Saturday." So the day after a "week" would always be a Sunday. When the Scripture wants to refer to a seven-day period it says "a week of days" (Shavuot Yamim – Eze. 45:6), meaning a span of any seven days. This term is in contrast to the term "week" (Shavua), which is a fixed week, beginning on Sunday and ending on the Sabbath Day. Besides, the word used here is not even shavua, as in Deut. 16:9, but shabbath.

The Karaites still point out that if the word "sabbath" is to be interpreted as a ceremonial sabbath, it makes more sense to interpret it as the last ceremonial sabbath of the Passover week, the seventh day of Assembly, and not the first ceremonial sabbath.

Another argument they present is, if Shavuot (Pentecost) is supposed to fall on a fixed calendar date (as the Rabbanites maintain) like all the other holidays, the Torah should have mentioned this date, as it indeed does for all the other holidays. However, if Shavuot is meant to always fall on a Sunday, as the Karaites maintain, the calendar date would change every year and this explains why the Torah did not mention a date for this holiday.[130]

The SDABC makes the following comment on Leviticus 23:16:

> Fifty days. This feast came on the 50th day after the presentation of the wave sheaf on the 16th of Abib, that is, on the **6th day of the third month** - late in May or early in June. It was known as the "feast of weeks," or "firstfruits" (Ex. 34:22). In NT times it was known as "Pentecost," from the Greek word meaning "fifty."

Thus, by stating that "Pentecost," a ceremonial sabbath, falls on the 6th day of the third month, a fixed day in the month, the SDABC would force the "seventh sabbath", the day preceding pentecost in Leviticus 23:16, to be a ceremonial sabbath too, because a weekly sabbath cannot be on a fixed day of the month. The only way to eliminate this inconsistency would be by giving a third meaning to the word "sabbath", that is, a period of seven days beginning on any day of the week.

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117. *Selected Messages*, book 1, p. 37.
118. *Ibidem.*
119. SDABC, Vol. 5, page 536.
120. Ibidem.

ADDED:

The following quotation from the Talmud shows the fallacy of the assumption in the SDABC about Pentecost having always fallen on the sixth day of the third month:

> "**Pentecost falls on the fifth, sixth, or seventh of Sivan**. How is this possible? In a year when the months of Nisan and Iyar have thirty days each, Pentecost falls on the fifth of Sivan; when they each have twenty-nine days, Pentecost falls on the seventh of Sivan; but when the one has twenty-nine days and the other has thirty days, Pentecost falls on the sixth of Sivan."

p.9
http://www.sacred-texts.com/jud/t02/ros03.htm

Another problem is that the length of the month varies from month to month, depending on the visibility of the moon. The same month may have 29 or 30 days, depending on visibility conditions every year. Therefore, it cannot be said that from the sixteenth of the first month to the sixth of the third month there are exactly fifty days; however, on the other hand, from a Sunday to a Sunday, inclusive, there are exactly 50 days, as Leviticus 23 requires.

The Mishnah says:

> HAGIGAH
>
> 2.4 III A. Pentecost which coincided with a Friday-
>
> B. The House of Shammai say, "The day of slaughtering [the whole offering brought in fulfillment of the requirement of appearing before the Lord] is on the day after the Sabbath."
>
> C. And the House of Hillel say, "The day of slaughtering [the whole offering] is not after the Sabbath."
>
> D. But they concur that if it coincided with the Sabbath, the day of slaughtering [the whole offering] is after the Sabbath.
>
> E. And the high priest does not put on his garments.
>
> F. And they are permitted to conduct a lamentation or to hold a fast,
>
> G. So as not to affirm the opinion of those who say, The date of Pentecost [must always fall] after the Sabbath [on Sunday].[131]

But it should be borne in mind that

> It is a matter of extreme difficulty to decide what historical value we should attach to any tradition recorded in the Mishnah. The lapse of time which may have served to obscure or distort memories of times so different; the political upheavals, changes, and confusions brought about by the Pharisean party (whose opinions the Mishnah records) which were not those of the Sadducean party (whose standards chiefly prevailed during the century before the destruction of Jerusalem) – these are factors which need to be given due weight in estimating the character of the Mishnah's statements.[132]

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121. Geoffrey Wigoder *et al*., *Almanac of the Bible* (Upper Saddle River, NJ: Prentice Hall, 1991), p. 327, entry "Pentecost".

122. Antiquities 3.10.5, (250)

123. *The Works of Philo* (Peabody, MA: Hendrickson Publishers, 1993), p. 162, "The Special Laws, II, XXIX".

124. Antiquities 13.8.4.

The fact that at the time of Christ the practice which prevailed in the Temple was regulated by the Sadduceans is confirmed by another author:

> In general, the Jewish calendar in NT times (at least before AD 70) followed the Sadducean reckoning, since it was by that reckoning that the Temple services were regulated. Thus the day of Pentecost was reckoned as the fiftieth day after the presentation of the first harvested sheaf of barley, i.e. the fiftieth day (inclusive) from the first Sunday after Passover (cf. Lv. 23:15f.); hence it always fell on a Sunday, as it does in the Christian calendar. The Pharisaic reckoning, which became standard after AD 70, interpreted "sabbath" in Lv. 23:15 as the festival day of Unleavened Bread and not the weekly sabbath; in that case Pentecost always fell on the same day of the month (an important consideration for those in whose eyes it marked the anniversary of the law-giving) but not on the same day of the week.[133]

> The historical background for this is the following: the Megillath Ta'anith, "Scroll of Fasting",[134] states that Nisan 8-22 are special commemorative days, marking the triumph of the Pharisees over the Sadducees in the famous controversy regarding the date of Pentecost.

> M. Schwab says: "It must be believed that for a certain time, under the Sadducees, the Feast of Pentecost had been celebrated in conformity with their teaching, that is to say on the morrow after the Sabbath." The Commentator [in the "Scroll of Fasting"] says that when the Pharisees came into power they changed this day to the fiftieth, counted from the second day of the Passover. In remembrance of their triumph they celebrated all fifteen days, from Nisan 8 to 22, during which the debates lasted. It is further stated by the Commentator that the discussion on the meaning of the Biblical expressions took place between R. Jochanan ben Zaccai, R. Eliezer, R. Ismail, and R. Juda [i.e., between 70 A.D. and 100 A.D.].[135]

Therefore, this means that the practice which prevailed before the Hillel-Pharisees' view triumphed, that is, before 70 A.D., was the practice of the Sadducees. The Shammai-Pharisees defended Sunday.

And additionally to everything that was said, it is interesting also to remember that Caiaphas was a Sadducee.[136]

Concluding, it could be said that it is really more natural to consider the word "sabbath," which occurs twice in Lev. 23:16, in its primary meaning of weekly Sabbath, than to consider that it has two different meanings in the same verse. Anyway, even if we interpret this verse according to the Hillel-Pharisees' view, in order to harmonize it with the statements of Ellen White in *Patriarchs and Prophets*, there is still a tension to be solved between these statements of Ellen White in *Patriarchs and Prophets* and her statement in *The Desire of Ages*, page 642: "He knew that His hour was come; He himself was the true paschal lamb, and on the day the Passover was eaten He was to be sacrificed."

And with Jesus´ words in Luke 22:15: "With fervent desire I have desired to eat this Passover with you *before* I suffer" (NKJV) [Emphasis mine].

## Conclusion

The conclusion about this chapter is that on the basis of the historical and astronomi-

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125. G. J. Wenham, *The New International Commentary on the Old Testament: The Book of Leviticus* (Grand Rapids, MI: Eerdmans, 1992), p. 304.

126. G. W. Bromiley, ed., *The International Standard Bible Encyclopedia* (Grand Rapids, MI: Eerdmans, 1994), p. 249.

127. *Idem*, p. 643, article "Shavu'ot (Weeks)".

128. Francis Brown et al. (Oxford: Clarendon Press, 1951), p. 992.

cal evidences alone it is not possible to decide if the date of Christ's death was in A.D. 30 or in A.D. 31. However, on the basis of the biblical chronological evidences, the historical evidences, and the astronomical evidence, it can be said that the Synoptics are very clear on the fact that Christ ate the Passover on the first day of Unleavened Bread, before He suffered, and so it would be easier to find an explanation for what John says than to explain away what the Synoptics say, because they make up three witnesses, which establish a fact, according to Mat. 18:16, II Cor. 13.1 and Jo. 8:17. Considering this, the conclusion that Christ died on a Nisan 15 seems inescapable. This would restrict the options to A.D. 31, the only year which admits a Nisan 15 for the death of Christ. And if the date April 26/27, 31 A.D. (Nisan 15), which constitutes the middle of the seventieth week, is fixed, the next thing to be done is to go back 69.5 weeks from this point to find and fix the initial date of the prophetic periods. In the Appendix there are more detailed information about the middle of the seventieth week. A detailed knowledge about the events surrounding the middle of the seventieth week is so important that Ellen G. White says the following in The Desire of Ages, page 571:

> Never before in His earthly life had Jesus permitted such a demonstration. He clearly foresaw the result. It would bring Him to the cross. But it was His purpose thus publicly to present Himself as the Redeemer. **He desired to call attention to the sacrifice that was to crown His mission to a fallen world.** While the people were assembling at Jerusalem to celebrate the Passover, He, the antitypical Lamb, by a voluntary act set Himself apart as an oblation. **It would be needful for His church in all succeeding ages to make His death for the sins of the world a subject of deep thought and study. Every fact connected with it should be verified beyond a doubt. It was necessary, then, that the eyes of all people should now be directed to Him; the events which preceded His great sacrifice must be such as to call attention to the sacrifice itself.** After such a demonstration as that attending His entry into Jerusalem, all eyes would follow His rapid progress to the final scene.

See the chronological emphases in Hebrews 9:8, 10, 15-18, 26.

Another very important statement by Ellen G. White is found in *The Great Controversy*, pages 347-349:

> The kingdom of grace was instituted immediately after the fall of man, when a plan was devised for the redemption of the guilty race. It then existed in the purpose and by the promise of God; and through faith, men could become its subjects. Yet it was not actually established until the death of Christ. Even after entering upon His earthly mission, the Saviour, wearied with the stubbornness and ingratitude of men, might have drawn back from the sacrifice of Calvary. In

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129. Article "Shavuot" in *www.karaite-korner.org*.

130. The arguments presented here can be found at *www.karaite-korner.org* , article "9 Classical Karaite Proofs on the Morrow After the Sabbath and the Feast of Shavuot by Hacham Mordecai Alfandari," in the section on Shavuot.

131. Jacob Neusner, ed., *The Mishnah: A New Translation* (New Haven and London: Yale University Press, 1988), p. 331.

132. Herbert Danby, D. D, *The Mishnah* (London: Oxford University Press, 1933), p. xiv, emphasis supplied.

133. *New Bible Dictionary,* 2nd ed. (Downers Grove, IL: Inter Varsity Press, 1988), p. 160, article "Calendar", emphasis supplied.

134. A list from the time of the Second Temple describing 36 days on which fasting is not permitted because of the joyous events that occurred on those days (nearly all of them are connected to victories or other national successes from that ancient period). The main text seems to be from the 1st century, while the commentary is post-Talmudic.

135. Schwab (1897, reported in Burnaby, 1931, p. 263), quoted in *http://www.abcog.org/shavuot.htm*.

136. See Acts 5:17; *The Desire of Ages*, p. 708.

Gethsemane the cup of woe trembled in His hand. He might even then have wiped the blood-sweat from His brow and have left the guilty race to perish in their iniquity. Had He done this, there could have been no redemption for fallen men. **But when the Saviour yielded up His life, and with His expiring breath cried out, "It is finished," then the fulfillment of the plan of redemption was assured.** The promise of salvation made to the sinful pair in Eden was ratified. The kingdom of grace, which had before existed by the promise of God, was then established.

Thus the death of Christ—the very event which the disciples had looked upon as the final destruction of their hope —was that which made it forever sure. While it had brought them a cruel disappointment, it was the climax of proof that their belief had been correct. The event that had filled them with mourning and despair was that which opened the door of hope to every child of Adam, and in which centered the future life and eternal happiness of all God's faithful ones in all the ages.

Purposes of infinite mercy were reaching their fulfillment, even though the disappointment of the disciples. While their hearts had been won by the divine grace and power of His teaching, who "spake as never man spake," yet intermingled with the pure gold of their love for Jesus, was the base alloy of worldly pride and selfish ambitions. Even in the Passover chamber, at that solemn hour when their Master was already entering the shadow of Gethsemane, there was "a strife among them, which of them should be accounted the greatest." Luke 22:24. Their vision was filled with the throne, the crown, and the glory, while just before them lay the shame and agony of the garden, the judgment hall, the cross of Calvary. It was their pride of heart, their thirst for worldly glory, that had led them to cling so tenaciously to the false teaching of their time, and to pass unheeded the Saviour's words showing the true nature of His kingdom, and pointing forward to His agony and death. And these errors resulted in the trial—sharp but needful—which was permitted for their correction. Though the disciples had mistaken the meaning of their message, and had failed to realize their expectations, yet they had preached the warning given them of God, and the Lord would reward their faith and honor their obedience. To them was to be entrusted the work of heralding to all nations the glorious gospel of their risen Lord. It was to prepare them for this work that the experience which seemed to them so bitter had been permitted.

After His resurrection Jesus appeared to His disciples on the way to Emmaus, and, "beginning at Moses and all the prophets, He expounded unto them in all the Scriptures the things concerning Himself." Luke 24:27. The hearts of the disciples were stirred. Faith was kindled. They were "begotten again into a lively hope" even before Jesus revealed Himself to them. It was His purpose to enlighten their understanding and to fasten their faith upon the "sure word of prophecy." He wished the truth to take firm root in their minds, not merely because it was supported by His personal testimony, but because of the unquestionable evidence presented by the symbols and shadows of the typical law, and by the prophecies of the Old Testament. It was needful for the followers of Christ to have an intelligent faith, not only in their own behalf, but that they might carry the knowledge of Christ to the world. And as the very first step in imparting this knowledge, Jesus directed the disciples to "Moses and all the prophets." Such was the testimony given by the risen Saviour to the value and importance of the Old Testament Scriptures.

# CHAPTER IV

# PROBLEMS RELATED TO

# THE END OF THE PROPHETIC PERIOD

The main problem related to the end of the prophetic period is the correspondence of Tishri 10 in 1844. Unfortunately, the correspondence defended today by the Seventh-day Adventist Church theologians in general is not the same defended by the Millerites in 1844, as will be shown. This divergence is mainly due to the way the subject was presented by Froom, whose works became a standard reference for many Seventh-day Adventist theologians.

## The Millerites and Karaites

On establishing the date for the end of the 2300-year prophetic period on the tenth day of the seventh month, in 1844, the Millerites adopted the Karaite method of keeping the calendar, taking a different position from the reckoning of the Rabbies. Instead of the term "Karaite method", on page 797 of *The Prophetic Faith of Our Fathers*, Volume IV, 1954, Froom uses the expression "early Karaite contention".

Karaism was a movement within Judaism which arose toward the end of the eighth century A.D., rejecting the Talmud and the teachings and traditions of the Rabbies in favor of strict adherence to the Bible as the single authoritative source of Jewish law and practice. Thus, one of their differences with the Rabbanite Jews is that they rejected the pre-calculated calendar of the Rabbies, who at the time of Hillel II placed their earliest or lowest Nisan 16 of the nineteen-year cycle on the spring equinox, and reverted to the original "moonsighting/barley" method of keeping the calendar.[1] In doing this, they sometimes kept their festivals one month later than the Rabbanite Jews.[2] However, a long time before 1844, owing to the difficulty in obtaining accurate information from Jerusalem, the Karaites far from Palestine had abandoned their moonsighting/barley method and were using Rabbanite reckoning. Thus, the documentation showing that Karaite Jews observed the Yom Kippur in September in 1844 does not prove that this was the right date; it just proves that the Karaites, in the region of the document provided (in the case, Crimea), were then using the Rabbanite reckoning. At some point prior to 1860, even the Karaites in Palestine seemed to have reverted

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1.This means that the Karaite Jews begin the month with the first sighting of the new crescent moon and that they begin the year with the ripeness of the Barley crop in Israel (called in the Bible "Abib"). They use the checking of the barley crops in Israel to determine if it is necessary or not to add an intercalary month before the first month, so that the barley is ripe enough for the sheaf to be waved during the Passover week (Lev. 23:10-14). More details about this can be found at http://www.karaite-korner.org.

to the Rabannite calendar, so we cannot be sure if in 1844 they were still using their special reckoning or not. Whatever the case may be, however, we must ascertain what would have been the correct date, biblically speaking, for the Yom Kippur in 1844.

The lowest date for Nisan 16 is approximately on the Spring Equinox. Nisan 16 was on March 19, in A.D. 360. The Spring Equinox in A.D. 360 was on March 19, 21h 25m UT. This makes the lowest Nisan 1 to be on March 04. This date is very low when compared with the lowest dates in Parker and Dubberstein and in Horn. It is about 20 days lower.

When the Millerites decided to choose a date a month later than the Rabbanites to begin the year, they seem to have based their conclusions on the fact that the "accounts of many travelers" confirmed that the barley was not ripe for Passover the way the Rabbanites calculated the beginning of the year, because "barley is not in the ear in Jerusalem till a month later."[3]

They also based their conclusions on the contemporary historical testimony of Mr. Calman, a converted Jewish Rabbi who at the time of writing (1836) was about to return to Jerusalem from Beirut where he was recovering his health. His article was published in the *American Biblical Repository*, April 1840, pp. 398ff. (See footnote 25 in *Prophetic Faith of Our Fathers*, Volume IV, page 797).

Here are some excerpts from this article:

> I will begin by stating one fact of great importance, of which I was totally ignorant before I came to this country [the Holy Land], which will prove that the seasons of the festivals, appointed by God for the Jewish nation, have been annulled and subverted by the oral law of the Scribes and Pharisees, which is now the ritual of the Jews.... But, at present, the Jews in the Holy Land have not the least regard to this season appointed and identified by Jehovah, but follow the rules prescribed in the oral law, namely, by adding a month to every second or third year, and thus making the lunar year correspond with the solar. And when the 15th day of Nisan (nisan), according to this computation, arrives, they begin to celebrate the above-mentioned feast, although the chedesh haabib may have passed, or not yet come. In general the proper season occurs after they have celebrated it a whole month, which is just reversing the command in the law, which directs that the chedesh haabib precede the festival, and not the festival the chedesh haabib. Nothing like ears of green corn have I seen around Jerusalem at the celebration of this feast. … The Caraite Jews observe it later than the Rabbinical, for they are guided by Abib (abib), and they charge the latter with eating leavened bread during that feast. I think, myself, that the charge is well founded. If this feast of unleavened bread is not celebrated in its season, every successive festival is dislocated from its appropriate period, since the month Abib (abib) is laid down in the law of God as the epoch from which every other is to follow. (Hebrew transliterated).[4]

So, on December 5, 1843, the Millerites were using Mr. Calman´s article written in April, 1840. They were informed that "in general" Rabbanite Jews around 1836 were keeping their feasts one month too early. This point and other details made a good case for starting to defend the death of Christ in the middle of the week, in A.D. 31 and later in defending

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2. This occurs because the Rabbies begin the year with the new moon nearest the vernal equinox, and this is sometimes so early that there is not enough time for the barley to be ripe on Nisan 16th. The Karaites begin the year with the new moon nearest the barley harvest in Palestine, which sometimes is one month later.

3. *The Midnight Cry,* Oct. 11, 1844, p. 117. For more details about the subject, see www.pikle-publishing.com, article "Karaite Reckoning vs. Rabbanite Reckoning: Was October 22 the Right Date, or Was It September 23?".

October instead of September as being the correct date for Yom Kippur in 1844. It can also be deduced from Mr. Calman's article that about 1836 the Karaite Jews were observing the feast later than the Rabbinical Jews. The Karaites of Palestine may have abandoned their form of reckoning by 1860. Thus, it is entirely possible that they were still paying attention to lunar visibility and barley ripeness in 1844.

The checking of the barley crops in Israel, which has been started again by modern Karaites, has shown that the date defended by Seventh-day Adventists for the Yom Kippur in 1844 is perfectly possible. Biblically, the month begins when the crescent moon becomes visible, which is generally at the first or second sunset after the astronomical new moon (apparent geocentric conjunction in longitude). Depending on the date of the conjunction, the beginning of the year, and therefore of all the holidays, will fall on the same date for both Karaite and Rabbinical Jews. This is specially true when the conjunction falls after the date of the equinox, because the later the date the greater the possibility of the barley to be ripe. But differences often occur if the conjunction falls before the equinox. In 1999 the situation was in some ways similar to that of 1844, because the conjunction occurred a little before the date of the equinox. In 1844, on March 19 (one day before the equinox, on March 20). In 1999, on March 17 (four days before the equinox, on March 21). The difference in relation to the equinox was just three days. Since in 1999 an additional month had to be intercalated because the barley was not sufficiently ripe, this shows that the intercalation of an additional month in 1844 was perfectly possible. Thus, the Yom Kippur in 1999 fell on October 20, a date very close to the date in 1844, and in both cases this was one month after the Yom Kippur of the Rabbinical Jews. In this way it is demonstrated that late October for Yom Kippur in 1844 was by all means a plausible date. However, it must be pointed out that cyclically 1999 does not correspond to 1844. It corresponds to 1847.

In the official Karaite web site, the following statement can be found:

> Most Karaites today have adopted the Rabbanite "19-year cycle". Instead of fixing the First Month according to the barley crops (Abib), the 19-year cycle arbitrarily sets every 2nd or 3rd year as a leap year. ... Yet actual observation of the barley crops has proven that the "19-year cycle" is often in error and does not always give the Month of the Abib as the month for Passover. In recent years a growing movement of Abib keepers has begun to investigate the state of the barley crops in Israel. In many of the years since we have begun checking the barley, the Rabbanites and most of those who call themselves "Karaites" celebrated the Biblical Holidays one month too early![5]

Speaking about the Yom Kippur of 1844, the Karaite leader Nehemiah Gordon wrote:

Subject: Yom Kippur 1844

Date: Fri, 27 Nov 1998 18:07:55 + 0200

From: The Karaite Korner karaite@netvision.net.il

Dear Sir,

In the past you have asked regarding the Karaite date of Yom Kippur 1844. I have recently re-

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4. Originally quoted in part by the Dec. 5, 1843, issue of *Signs* and the March 20, 1844, issue of *Advent Herald.* Quoted by Pickle in the article "Karaite Reckoning vs. Rabbanite Reckoning: Was October 22 the Right Date, or Was It September 23?".

ceived further inquiries in this matter and have done some investigation of this subject. Here are my preliminary results. In the Middle Ages the Karaites ardently maintained that the Biblical year begins with the ripeness of the Barley crop in Israel (called in the Bible "Abib"). The Rabbinic calendar had originally followed this practice but around the 4th century CE they adopted a 19 year cycle of intercalation (leap years) which approximates the Abib but which is far from accurate. This often caused a difference of a month between the Karaite and the Rabbanite calendars. However, already in the Middle Ages there were Karaite communities who slowly adopted the Rabbinic 19 year cycle. At first it was only Karaites in the distant lands of the Dispersion who followed the Rabbinic 19 year cycle. They claimed that it was difficult to receive reports of the state of the Barley crop in Israel from so far away. As late as the 15th century though the Karaites of the Holy Land continued to follow the Abib even though their compatriots in the Dispersion accepted the 19 year Rabbinic cycle....

Nevertheless, by the 19th century the Karaites universally followed the 19 year Rabbinic cycle both in the Diaspora and in Israel.... Clearly in the time of Shlomoh ben Efedah Hacohen (c. 1860) all Karaites everywhere had for many years been using the 19 year Rabbinic cycle. Therefore, Yom Kippur must have been celebrated by the Karaites in late September 1844 in accordance with the 19 year Rabbinic cycle and not in late October 1844. While late September may or may not have been the correct month in which to celebrate Yom Kippur (only a crop report from that year would decide that issue) it was undoubtedly the month actually observed by Karaites everywhere. …

That Yom Kippur 1844 was celebrated by the Karaites in September and not October is confirmed by a Karaite Tomb Stone inscription cited by Abraham Firkowitz in his book "*Avnei Zicharon*" (lit. 'Stones of Remembrance', published Vilna 1872). …

Thank you,

Nehemiah Gordon

Jerusalem, Israel.[6] (Emphasis supplied.)

Although, as he says, only a crop report from that year could decide if the correct month for Yom Kippur was September or October, in view of everything that was said above it is by far much more probable that the correct date was October. And although it cannot be known for sure if the Karaites from Jerusalem were still using their special reckoning in 1844, the importance of the Karaites for our history was that the correct calendar principles they defended (the moonsighting and the checking of the barley crop), and which had been totally abandoned by the rabbinical reckoning, were brought to the attention of the Millerites. These principles, whether the Karaites themselves were practicing them or not, helped the Millerites to arrive at the correct date, which, in reality, must and can be sustained by a careful analysis of calendrical and astronomical information from 605 B.C to A.D. 300. In my full study, I analyze and discuss this information.

When speaking about the date for ending the prophetic period, we should also have in mind the initial and the seventieth week dates, since the date in which the prophecy ends is ultimately a result of the date it begins and the dates for the seventieth week. When we examine the calendar in use at the beginning of the prophetic period, in Ezra's time, it is found that in

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5. http://www.karaite-korner.org/holidays_1999.shtml.

the calendar of the Elephantine Jews of that time (which shows a close harmony of dates with the Babylonian calendar[7]) the new year never began earlier than the vernal equinox. Though these are Elephantine dates, the Jews who settled there must have preserved the calendrical practices brought from Israel. Besides, they were in correspondence with their brethren in Palestine,[8] who returned from Babylon in the beginning of the reign of Cyrus, and must have wished to keep their calendar, as far as possible, in harmony with the calendar in Jerusalem; therefore, their calendar can give us a close idea of how the calendar in Jerusalem was like. Another factor that must be considered is that, since the ripening of barley is tied to the sun, and consequently to the vernal equinox, it is highly improbable that at that time, not affected by the global warming phenomenon of our days, the year could have started before the equinox. It seems the barley harvest in Palestine began in the middle or end of April.[9]

The Samaritan records also show that their method of determining the New Year was on the new moon subsequent to the equinox and not before it, although it appears that at some point in time they began to hold to a fixed 25 March equinox, which they still observe.

Dates from the time of Daniel to the time of Jesus are analyzed in the chapter EZEKIEL.

## Tishri 10 for the Millerites

As the following quotations show, the Millerites were well aware that in 1844 Tishri 1 for the orthodox Jews was on September 14 and that their Yom Kippur was on September 23 that year:

> They commence their year in the Fall and reckon this year, commencing with the new moon, Sept. 14, to be the year, 5605, from creation, and their next Jubilee would not occur till their year 5628.[10]

> We have told our readers that the Jews in this city commenced their seventh month, sacred time, or first month, civil time, with the 14th or 15th of September."[11]

> In this city, the Jews observed Monday, Sept. 23d, as the tenth day of the seventh month, but in this, of course, they follow the reckoning of the rabbinical Jews, and they are probably one month too early.[12]

*The Signs of the Times*, December 5, 1843, page 134, brings a Table based on the Rabbinical Calendar.

The position of the Millerites, however, was that the seventh month began at the sunset of October 13, as can be seen from the periodicals of the time:

> The Jewish sacred year commences with a new moon in the Spring. According to the common Jewish calendar, the present sacred year began March 19, or 20, and the Passover was April 4th; but if this was too early for the barley harvest in Judea, then the year must have commenced one month later, that is, about the 18th of April. We shall make a list of the most important Jewish festivals, on this view, reckoning each month to begin about a day after the change of the moon.

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6. In the letter he still quotes the record of this tombstone from Crimea, which shows that the Karaites in that region had their month of Tishri in September. As he makes clear, *this was because they had adopted the Rabbanite calendar.* The whole text of the letter can be found at http://www.truthorfables.com/Day_of_Atonement_of_the_Karaite.htm .

7. *The Chronology of Ezra 7,* 155.

| | |
|---|---|
| 1st month, Abib or Nisan, begins | April 18 |
| The Passover | May 2 |
| Waving of the first fruits, | May 4 |
| Pentecost | June 23 |
| 7th month begins (Blowing of Trumpets) | Oct. 13 |
| 10th day of the month | Oct. 23 |
| 15th day (Feast of Tabernacles) | Oct. 28 |

As the moon changes in the evening of October 11th, it will not be visible till the 13th, and that is the most probable time for the commencement of the 7th month.[13]

They considered time at Jerusalem:

TIME AT JERUSALEM. – If that is to be the standard, we may not see the tenth day till Oct. 23d, for the new moon was not till the morning of Oct. 12th at Jerusalem, and if it did not appear till the evening of the 13th, then the first day of the seventh month might, even, be as late as the 14th, and the tenth day might therefore be on the 24th. Let us, therefore, not cast away our confidence, if the Lord should not come on the 23d of this month. But let none presume upon the continuance of time beyond the 22d.[14]

According to the U.S. Naval Observatory and many other good astronomical computer programs, the astronomical New Moon was on October 11, 23h 25m Universal Time, in 1844. The time at Jerusalem would be October 12, 1h 25m. They correctly reasoned that the moon would not be visible in so short a time as the first sunset after conjunction, but that it would certainly be seen at the second sunset, which was nearly "one day and 17 hours" later than conjunction.

On the basis that Tishri 1 was October 13/14, they fixed Tishri 10 on October 22/23, sunset to sunset, at Jerusalem. But, owing to the difference in time zone, this would be from Oct 22 about 10:15 A.M. to Oct 23 about 10:15 A.M., Boston time.

Though I am arguing in terms of time zones, it is important to remember that time zones were proposed in 1878 and accepted worldwide after 1884:

Prior to the introduction of **standard time**, every municipality set their clock, if they had one, by the local position of the sun. This served well until the introduction of the train, when it became possible to travel fast enough to require almost constant re-setting of clocks. After missing a train for just this reason in 1878, Sir Sandford Fleming invented standard time to fix the problem.

Standard time divides the world into 24 "timezones", each one covering, in theory at least, 15 degrees. All clocks within each of these zones would be set to the same time. The local time at the Royal Greenwich Observatory in Greenwich, England was chosen as standard, leading to the widespread use of Greenwich Mean Time in order to set local clocks. The standard time system used today, called **Universal Standard Time**, is standard time based on Universal Time.

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8. SDABC, Vol. 2, 121.
9. *Ibid.*, 109-110; *The Chronology of Ezra 7*, 61. (See also notes 17 through 19).
10. *The Midnight Cry*, October 3, 1844, 100-101.
11. *Ibid.,* October 31, 1844, 142.
12. *Ibid.*, October 3, 1844*,* 101.

http://www.worldhistory.com/wiki/U/Universal-Time.htm

That this was close to their reasoning can be demonstrated by the following statement:

> In New York, Philadelphia, Baltimore, and other places, the wicked manifested the same feeling, and on Sunday the 13th inst the Advent meetings in many places were broken up by them. This movement on their part was so sudden, simultaneous and extensive, with its manifestation on the first day of the Jewish seventh month - the new moon being probably seen in Judea on the second evening from its change when it would be one day and 17 hours old, and which corresponded with 11 A. M., in Boston - strengthened us in our opinion that this must be the month.[15]

We should notice that Joshua V. Himes, speaking on the subject in a letter written from Boston, dated October 14, 1844, implies that the day did not correspond exactly to the 22nd (that is, from midnight to midnight):

> Our present position – the expectation that the second coming of the Lord is to take place on the 10th day of the seventh Jewish month, which coincides nearly with October 22nd, has produced an unexpected sensation.[16]

Also, statements made in the periodicals seem to indicate that the date for the termination of the prophetic period involved parts of both days – the 22nd and the 23d:

> Behold, He cometh, on the tenth day of the seventh month, which answers to the 22d or 23d of October.[17]

> "He that shall come, will come, and will not tarry" beyond the first [day of the ecclesiastical year] of the seventh month, i.e., beyond the tenth day of the seventh month, or Oct. 22 or 23.[18]

As M. L. Andreasen so aptly puts it,

> A valid argument, which can bear all criticism, can be made for Oct. 22/23 in Jerusalem. Although in Jerusalem Tishri 10 was mostly on the calendar date of Oct. 23, the same period of time fell mostly on Oct. 22 in America.
>
> When the 10th day began at Jerusalem, at sunset, the clocks in Boston registered 10:15 A.M. on Oct. 22; in Cincinnati the time was 9:22, and in Chicago, 9:08 A.M. It was then time to look for the event expected to occur at the end of the 2300 years.
>
> That is reason enough to justify the Adventists' looking for the expected event on Oct. 22. They could not consistently do otherwise….
>
> The 2300-year period began with an event in Palestine, on a day bounded by two sunsets there, not by two sunsets in America. The midst of the 70th week, when sacrifice and oblation was made to cease, was a day which accordingly began with a sunset at Jerusalem, not a sunset in unknown

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13. *The Midnight Cry*, October 12, 1844, p. 117. Notice that when they say "1st month… begins" and "7th month begins" they are referring specifically to the sunset when the day began, so they mean April 18/19 and Oct. 13/14. As to the other dates, they are referring to the day as a whole, although it had began at the sunset of the previous day. So, when they say that the Passover was on May 2, they mean May 1/2, and when they say Oct. 23, they mean Oct. 22/23. For a table with Rabbinical calendar dates, see the *Signs of the Times*, December 5, 1843, pages 132-136.

14. *Idem*, October 19, 1844, p. 132 (emphasis supplied). When they say "on the 24th" and "on the 23d," they are probably referring to Jerusalem, and when they say "the 22d" they are probably referring to the United States.

> Boston. Likewise, the end of the 2300 years was necessarily on a day beginning with a sunset at Jerusalem. It could not end before that sunset, or 10:15 A.M. at Boston on Oct. 23.[19]

In spite of this, L. E. Froom, in his book *The Prophetic Faith of Our Fathers*, vol. 4, pages 790 and 792, holds that Tishri 10 for the Millerites began with the sunset of October 21 and ended with the sunset of October 22 in Boston.

This is Froom's position regarding the date for Tishri 10 in 1844:

*The Prophetic Faith of Our Fathers*, Vol. IV, p. 792

As can be seen from Exhibit F, above, he holds that the visible crescent occurred at the sunset of October 12, so Tishri 1 would have been, according to him, from the sunset of October 12 to the sunset of October 13. Consequently, Tishri 10 would have fallen from the sunset of October 21 to the sunset of October 22.

The position he holds is astronomically untenable.

The altitude of the moon on October 12, 1844, at 05:07 P.M. (sunset time), in Boston, was 01°05'54" above the horizon, as can be seen by the following screen image:

By way of comparison,

> the youngest crescent ever observed in a well-documented sighting was 13.5 hours from new, seen by Robert C. Victor using tripod-mounted 11X80 binoculars in Michigan on May, 1989 (S&T: September 1989, page 322). Doggett and Schaefer say this record is unlikely ever to be significantly bettered.[20]

In the crescent observed by Victor with binoculars, the moon was 7°10'17" above the horizon. If in the record sighting with optical aid (binoculars), the moon was 7° above horizon, how could the crescent moon possibly be visible being just 1° above horizon (which is the position defended by Froom)? This is definitely impossible. In the following visibility chart, we can see that on October 12, 1844, someone would stand a chance to see the crescent only if he was in South Africa or in South or Central America. In the rest of the world there was no chance it could have been visible on this date:

Available at www.starlight.demon.co.uk/mooncalc and www.moonsighting.com

And in the chart below we can see that in Boston, on October 12, 1844, at apparent sunset, the item "New Moon Visibility" brings the words: "Not visible".

So, we can see that Tishri 1 could not have fallen on October 12 in 1844, as he defends, even if Boston could be used as a reference instead of Jerusalem, which is not the case.

It is probable that Froom got his views from Loughborough, as can be seen by this quotation:

> The tenth day of the seventh month, Jewish time (Oct. 22, 1844), at last came. It found thousands upon thousands who were looking to that point for the consummation of their hopes. …Thus, in almost breathless anxiety, they assembled at their

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15. *The Advent Herald and Signs of the Times Reporter*, October 30, 1844, 93, and *The Midnight Cry*, October 31, 1844, 141; quoted in the *Committee Papers*, 45. [Emphasis mine].

16. *Advent Herald,* October 30, 1844, 94.

> places of worship, expecting, momentarily, to hear "the voice of the archangel and the trump of God," and to see the heavens ablaze with the glory of their coming King. The hours passed slowly by, and when at last the sun sank below the western horizon, the Jewish tenth day of the seventh month was ended. The shades of night once more spread their gloomy pall over the world; but with that darkness came a pang of sadness to the hearts of the advent believers, such in kind as can only find a parallel in the sorrow of the disciples of our Lord, as they solemnly wended their way to their homes on the night following the crucifixion and burial of him whom but a little while before they had triumphantly escorted into Jerusalem as their King.[21]

Although this is the position of Loughborough, this seems to be a personal conclusion of his, since no historical evidence whatsoever can be found that someone was considering the day from sunset to sunset in America. The information found in the Adventist periodicals of the time is completely different from what Loughborough or Froom say. Clearly nobody was waiting for the coming of Christ from the sunset of the 21st (the date of 21st is never once mentioned in the publications). And it is clear that the sunset of the 22nd meant nothing to them, since most Adventists seem to have waited till midnight. This can be verified by the account of Hiram Edson:

> Our expectations were raised high, and thus we looked for our coming Lord until the clock tolled twelve at midnight. The day had then passed, and our disappointment had become a certainty. Our fondest hopes and expectations were blasted, and such spirit of weeping came over us as I never experienced before. It seemed that the loss of all earthly friends would have been no comparison. We wept and wept, till the day dawn.[22]

Although Loughborough mentions in the introduction to his book that he was familiar with the movement in 1843 and 1844, he was only 12 years old at the time of the disappointment and so cannot be considered a dependable eyewitness as to the chronological details of what happened. He formally joined the Seventh-day Adventists only in 1849.

P. Gerard Damsteegt, Dr. Theol., in his book *Foundations of the Seventh-day Adventist Message and Mission*, published by William B. Eerdmans Publishing Company, Grand Rapids, Michigan, 1977, page 97, footnote 116 says:

> In the last issue before the expected event Oct. 22 was favored.

Since this statement is so short, I can only suppose that Dr. Damsteegt is overlooking the fact that Tishri 10 in Jerusalem was from the sunset of Oct. 22 to the sunset of Oct. 23. The Mil-

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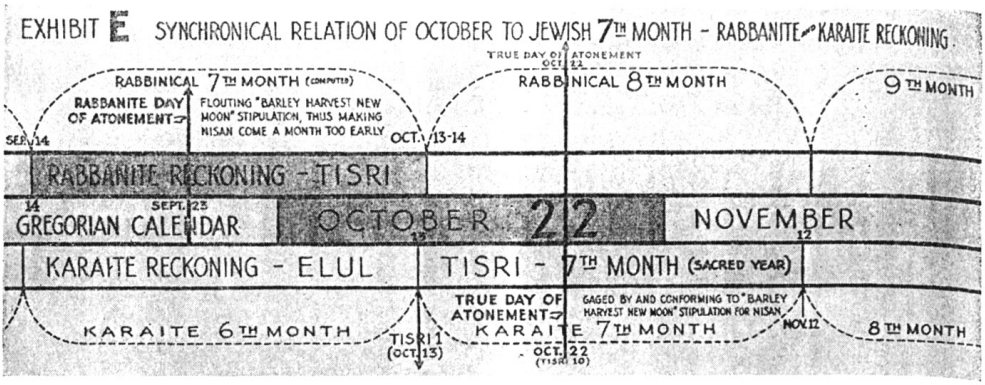
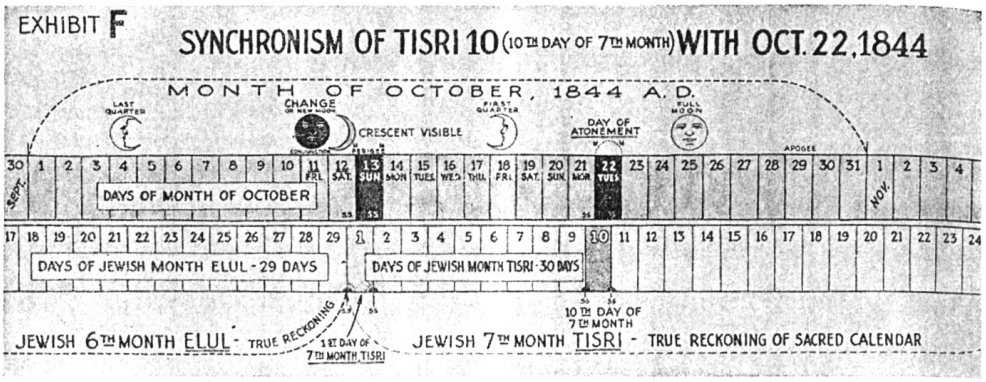
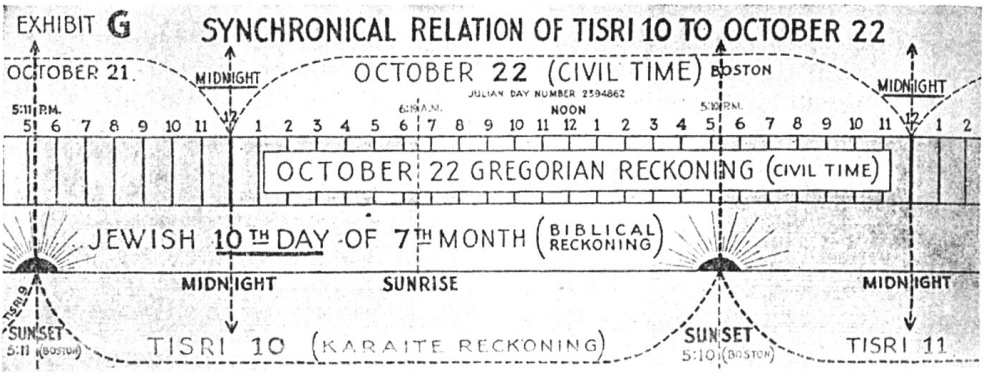
17. *The Midnight Cry*, October 19, 1844, 134.

18. George Storrs, in an article in *The Midnight Cry*, Oct. 3, 1844, 102. We are more than 150 years removed from the event, and it is difficult to reconstruct the situation, but the dates of Oct. 22 and 23 are mentioned together. This may be due to the fact that: 1) the date extended till the morning of the 23d (owing to the difference in the time zone) in America; 2) they allowed for the possibility that the moon was not seen in Judea on the second day after the conjunction (the 13th), so the date could be the 22nd or the 23d in America; or 3) they were referring to the date of 22/23, sunset to sunset, in Jerusalem. Whatever the case, one thing is clear: the reckoning of the time was in relation to Jerusalem, therefore there was a consensus that the beginning of the date in America corresponded to the *morning* of the 22nd.

19. M. L. Andreasen, "The 2300 Prophetic Days of Dan. 8:14", p. 2. From the account of H. Edson, it is clear that many, perhaps most of the Millerites, waited just till midnight. This may have happened because the fact that the date extended till the morning of the 23d was just implied by the leaders of the movement and not clearly stated in the publications.




lerites did not have to favor Oct 22. Their degree of accuracy and precision is expressed in the following statement: "This movement on their part was so sudden, simultaneous and extensive, with its manifestation on the first day of the Jewish seventh month - the new moon being probably seen in Judea on the second evening from its change when it would be <u>one day and 17 hours old</u>, and which corresponded with 11 A. M., in Boston - strengthened us in our opinion that this must be the month."

# SOME OBSERVATIONS ABOUT THE ARTICLES "DAY OF ATONEMENT AND OCTOBER 22, 1844" AND "PRAGMATIC TEST OF HISTORICAL FULFILLMENT"

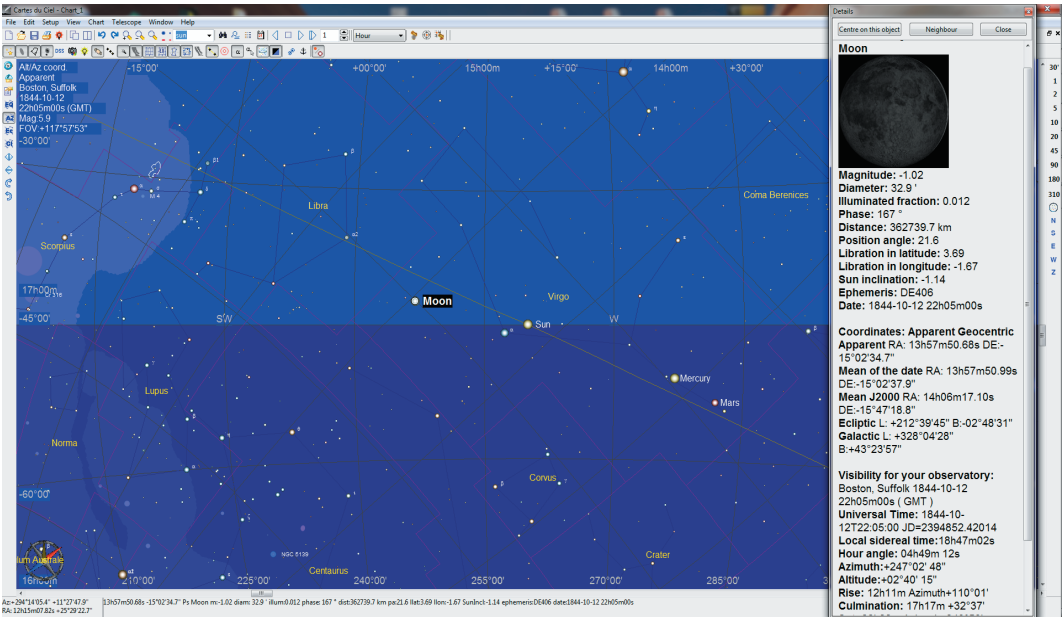
## BY WILLIAM A. SHEA

In the article "Day of Atonement and October 22, 1844" Shea is trying to prove that "October 22 was the correct Gregorian calendar equivalent for the Day of Atonement on 10 Tishri (10th day of the 7th month in the ancient Jewish calendar) in 1844."[23]

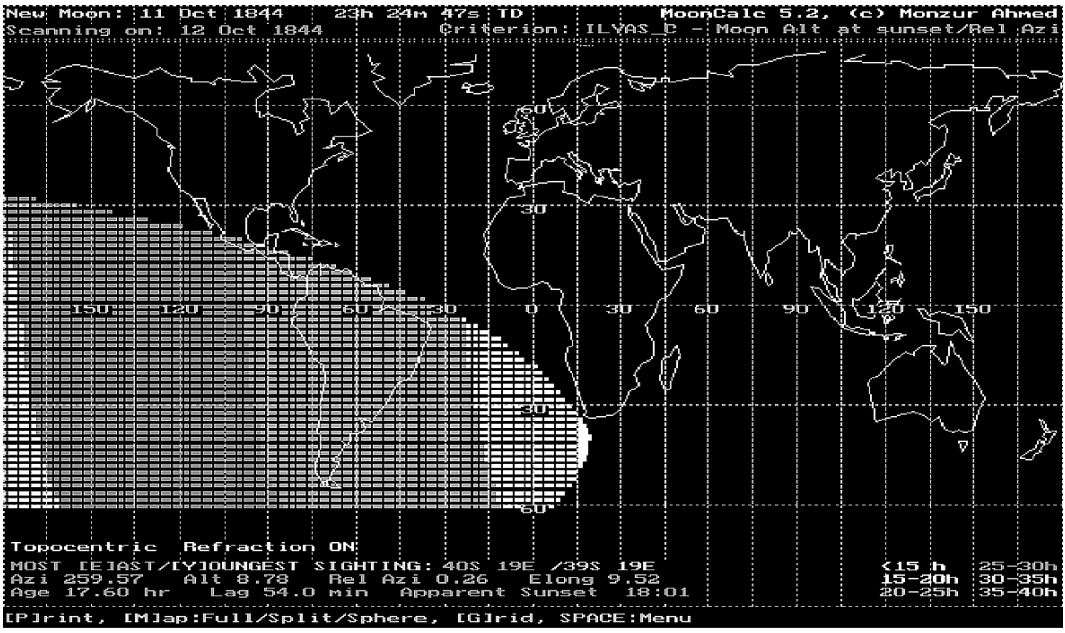
Shea accepts Froom's scheme of Tishri 10 as October 21/22, sunset to sunset (even though it does not represent the real position in 1844, as the documents show) and tries to demonstrate its correction.

He mentions two approaches of "calculations to ascertain the modern equivalent for an ancient date like this"[24], that is, Tishri 10. One of them is the survival of the ancient calendrical practice through its continual use by a perpetuated community of persons (in this case, the Karaite community). This was the approach used by the Millerites.

The other is the projection of that date forward into modern times through mathematical computations. This is the approach chosen by Shea. The approach *per se* is correct, but Shea´s approach presents a serious difficulty. The dates he wants to project forward, which are the dates proposed by Parker and Dubberstein and by Horn for the years concerned, that is, 459 B.C. through 456 B.C., are tentative reconstructions and not documented dates. Besides, these are Babylonian and Elephantine dates, not Jewish dates used by Jews living in Jerusalem in Ezra's time. The table in Horn gives Tishri 1 = September 19/20 and the table in PDBC gives Tishri 1 = September 20/21, in 457 B.C. But if Tishri 10 corresponded

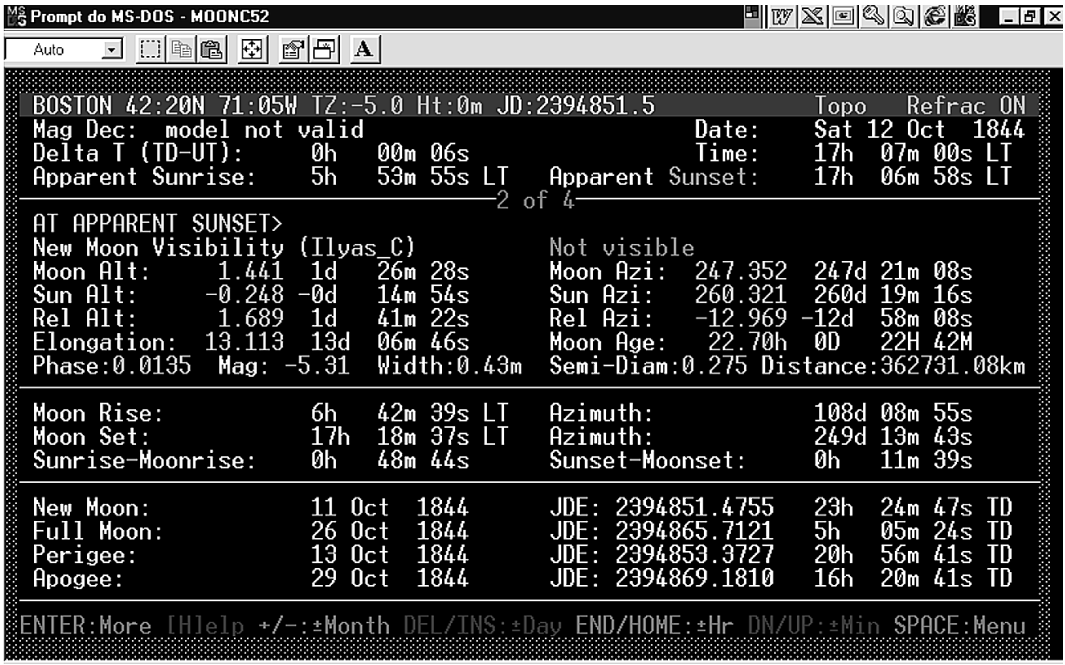


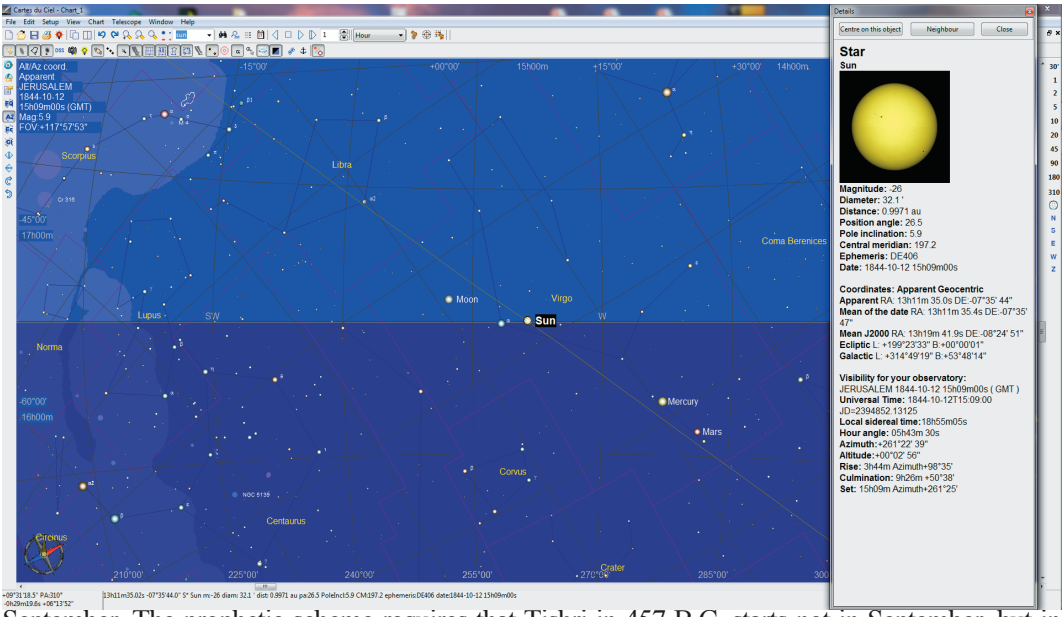

20. *Sky & Telescope*, July 1994, 14.



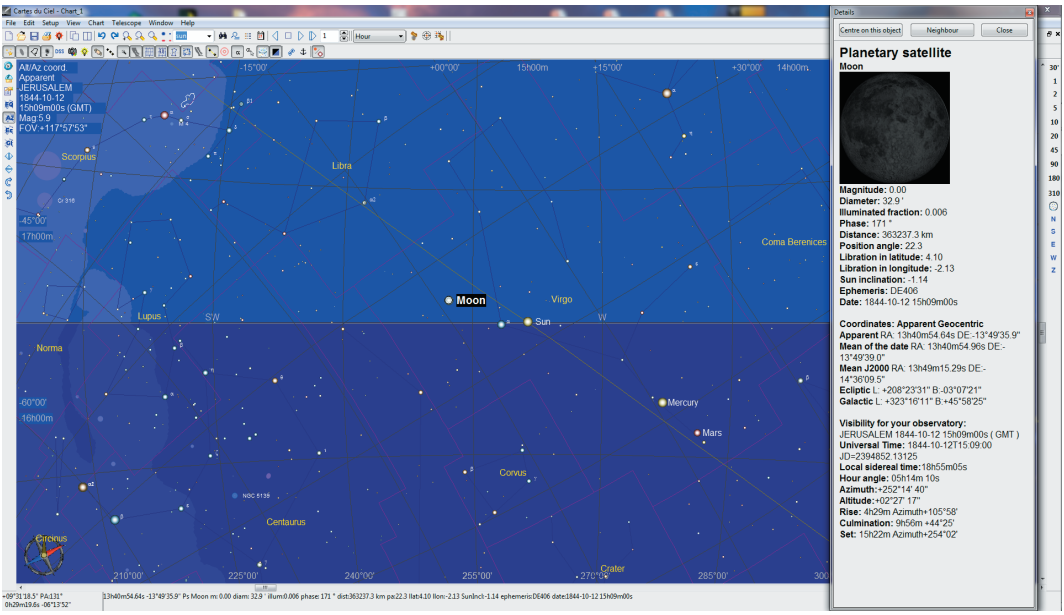

to September 28/29 or 29/30 in 457 B.C., the Rabbies were correct in 1844 when they fixed Tishri 10 on September 23. This is what we find if we advance 2300 solar years from September 29 or 30 in 457 B.C., or if we project the Rabbinic calendar back.

As already shown, there are documented dates in which Tishri fell in October in years corresponding cyclically to 457 B.C., both in the Babylonian calendar and in the Elephantine calendar. So, according to the pattern of the calendars related to the Jewish people in the fifth century B.C., October is as much a possibility as September for Tishri in the year 457 B.C. And since 457 B.C. is not a documented date, it cannot be either affirmed or taken for granted that Tishri 1 occurred in






September. The prophetic scheme requires that Tishri in 457 B.C. starts not in September, but in October. However, until a local and contemporary document from Jerusalem in the time of Ezra is found, nobody can "prove" or "disprove" October in A.D. 1844, by reckoning from the starting date. This does not mean that I do not accept October. I accept October because of other reasons: the month of Nisan corresponding to April in A.D. 31[25] necessarily requires that we start the 2300 years in October and end it in October. From April, 31 A.D., up to the starting point, there are 486.5




21. J. N. Loughborough, *The Great Second Advent Movement* (Mountain View, CA:Pacific Press, 1905), 183. (Emphasis supplied).

22. Paul A. Gordon, *The Sanctuary, 1844 and the Pioneers* (Washington, D.C.: Review and Herald, 1983), 24, 25.

solar years, and from April, 31 A.D., up to the finishing date, there are 1813.5 solar years. Since 0.5 solar year is six months, then six months from April, forward and backward, will lead to a month of October, both at the beginning and at the end of the prophetic period. This shows the importance of studying the year A.D. 31 carefully in order to determine precisely that this is the year in which Christ died. However, Shea believes that "the chronological data available is not yet sufficiently precise to determine" if A.D. 30 or A.D. 31 should be preferred for the death of Christ.[26] If he cannot choose between the year A.D. 30 and A.D. 31, he cannot choose between 458 B.C. and 457 B.C. and between A.D. 1843 and 1844, because these dates are interdependent. As already seen, the date of 457 B.C. cannot be conclusively proved. It is the date of A.D. 31, the middle of the 70th week, that fixes the beginning and the end of the 2300 prophetic days.

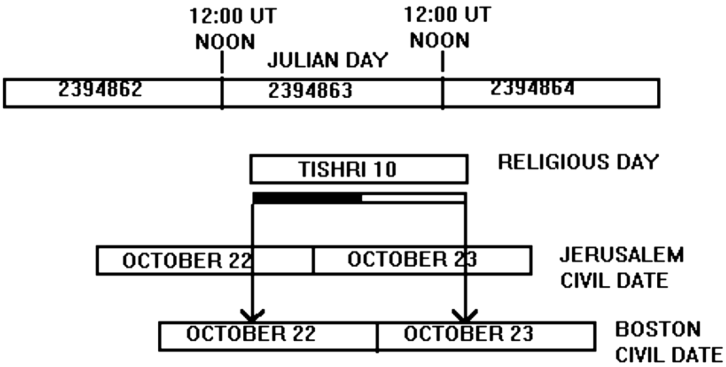
Another thing that needs to be considered is that Shea, in making his computations, says on page 134 that

> the adjustment required by the Gregorian calendar necessitated a renumbering of the days involved; but it did not affect the total number of calendar years elapsed. In the case of the calculations offered below, this difference may be ignored.

Contrary to what Shea affirms, the total number of calendar years is affected and this difference must not be ignored.

In 1582 and in 1844 we have the following correspondences which illustrate the point:

| 1582 | 1844 |
|---|---|
| October \|05\| (Julian) | October \|10\| (Julian) |
| October \|15\| (Gregorian) | October \|22\| (Gregorian) |




Unfortunately Shea ignored this difference on page 136, because he relates October 10, 456 B.C. (a Julian date), to a projected October 10 for 1844 in the Gregorian calendar, without considering the corresponding twelve-day difference.

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23. *Daniel and Revelation Committee Series, vol. 1: Selected Studies on Prophetic Interpretation*, 132.
24. *Ibid.,*

And on page 135, speaking of the Metonic cycle (2300 years contain 121 Metonic cycles + 1 year), he says that "at this point we are helped by the fact that 235 lunar months have almost exactly the same number of days as 19 solar years." But this "almost exactly" amounts to 0.0868 days in 19 solar years, and to 10.5 days in 2299 solar years. Thus:

In one Metonic cycle (19 solar years is approximately equal to 235 lunations):
19 solar years x 365.2422 (days of the solar year) = 6939.6018 days
235 lunations x 29.53059 (days of the synodic month) = 6939.6886 days
Difference = 0.0868 days

In one hundred twenty one Metonic cycles:
28435 lunations (235 x 121) x 29.53059 = 839702.32 days
2299 years (19 x 121) x 365.2422 = 839691.81 days
Difference = 10.51 days

Of course this difference of 10.51 days must be taken into consideration. Shea also says on pages 134 and 135 that "Daniel's 70 weeks began in the year that extended from the fall of 458 B.C. to the fall of 457 B.C." or "from Tishri 1 = October 02 to Tishri 1 = September 21" or "in the seventh year of Artaxerxes".

A careful analysis will reveal that Daniel's 70 weeks begin in the year that extends from the fall of 457 B.C. to the fall of 456 B.C., or from 10 days within Artaxerxes' 8th year, to be more specific, from Tishri 10 = October 28/29, 457 B.C.

Therefore, it must be taken into account that the reckoning of the 2300 days involves Julian calendar dates, Gregorian calendar dates and lunisolar years, and the fact that Froom misplaced the date for the Day of Atonement.

## Conclusion

Concluding this chapter, we would say that it cannot be stated with absolute certainty that the conjunction of March 19, used by the Rabbanite Jews as a basis for setting the beginning of the year at March 21 (Nisan 1) in 1844, would have been the wrong date. The new moon was very near the date of the vernal equinox (March 20), so there is no means of knowing for sure, without an 1844 crop report or Karaite calendar from Palestine, if the barley was ripe or not and, consequently, if an extra month would have to be inserted or not, making the year to start with the new moon of April 18, and thus moving Tishri to October instead of September. However, there are strong indications that the date of March 21 would indeed have been too early to meet the requirement of the barley harvest. A similar situation occurred in the beginning of the prophetic period in 457 B.C. The conjunction was on March 26, coinciding with the date of the equinox, so it cannot be known for sure if this conjunction or the conjunction of April 25 was the correct one for the beginning of the year, since it is not possible to know if the barley had reached the stage of abib by March 25 or not.

But if there are no conclusive proofs, then how is it possible to know that October should be

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25. The month of Nisan falls in April in all the years cyclicly corresponding to 31 A.D. in the Babylonian calendar, from 600 B.C. till the time of Christ (B.C. 597, 578, 559, 540, 521…46, 27, 8; A.D. 12, 31, etc.); it also falls always in April in the Elephantine calendar of the fifth century B.C.

26. See pp. 84 and 85 of the book *Daniel and Revelation Committee Series, vol. 1: Selected Studies on Prophetic Interpretation*.

preferred over September for the beginning and for the end of the prophetic period? As we have seen, it is the middle of the 70th week that fixes the initial and the final dates of the prophecy, and the month of April in 31 A.D. will require the month of October at the beginning and at the end of the prophetic period.

Another thing that should be kept in mind is that, although in Jerusalem Tishri 10 in 1844 was mostly on the calendar date of October 23, the same period of time fell mostly on October 22 in Boston, due to the time zone difference of 7 hours. That is why the date is popularly referred to as October 22.

However, it should be remembered that, since the end of the prophetic period in reality was in Jerusalem, and the religious day is from sunset to sunset (Lev 23:32), the correct thing is to refer to the date for the termination of the prophetic period not as October 22, but as October 22/23. This has not been done correctly, owing to the influence of Froom, who is widely accepted in our ranks but who made a mistake on describing this event, promoting the idea that the Millerites considered the Day of Atonement in 1844 as October 21/22, sunset to sunset, in Boston, when in reality the leaders of the movement considered the date as October 22/23, sunset to sunset, in Jerusalem, as the contemporary publications clearly show. And even if Boston could have been taken as a basis instead of Jerusalem (which it could not), the date proposed by Froom would be wrong, because the moon could not be visible in Boston at the sunset of the 12th, as he states, but just at the sunset of the 13th. Besides, we are not speaking here of the observance of the Sabbath day which has to be kept from sunset to sunset wherever the person is; we are speaking of the Day of Atonement which required all people to go to Jerusalem, and the establishment of a date for the end of the prophecy on this Day of Atonement, which is a completely different situation. Since the initial date of the prophecy occurred in Jerusalem, the date for its end could only be set on the basis of Jerusalem time. This date in Jerusalem would then have to be translated to other time zones.

The only reference of Ellen White to the date of October 22 is in *The Great Controversy*, page 400, where she is narrating the historical fact which happened in the United States. She usually prefers to use the expression "the autumn" instead of referring to the date. Another interesting thing that is worth mentioning has to do with the experience of Hiram Edson:

> Our expectations were raised high, and thus we looked for our coming Lord until the clock tolled twelve at midnight. The day had then passed, and our disappointment had become a certainty. Our fondest hopes and expectations were blasted, and such spirit of weeping came over us as I never experienced before. It seemed that the loss of all earthly friends would have been no comparison. We wept and wept, till the day dawn....
>
> I began to feel there might be light and help for us in our distress. I said to some of the brethren: "Let us go to the barn." We entered the granary, shut the doors about us, and bowed before the Lord. We prayed earnestly, for we felt our necessity. **We continued in earnest prayer until the witness of the Spirit was given that our prayers were accepted, and that light should be given - our disappointment explained, made clear and satisfactory.**
>
> After breakfast I said to one of my brethren, "Let us go and see and encourage some of our brethren." We started, and while passing through a large field, **I was stopped** about midway of the field. **Heaven seemed open to my view, and I saw distinctly and clearly** that instead of our **High Priest** coming out of the most holy place of the heavenly sanctuary to this earth on the tenth day of the seventh month, at the end of the 2300 days, He, for the first time, entered on that day into the second apartment of that sanctuary, and that He had a work to perform in the most

holy place before coming to the earth; that He came to the marriage, or in other words, to the **Ancient of Days**, to receive a kingdom, dominion, and glory; and that we must wait for His return from the wedding.[27]

At what time did Hiram Edson have this experience, in the morning of October 23? Could it be that he understood this truth at the very moment Jesus was entering the second apartment in the heavenly sanctuary? We don't know with precision. But what could be said is that about 7:00 A.M., in Port Gibson, where Edson lived or about 8:00 A.M. in Boston, the Advent center, would be equivalent to about 3 P.M.,the hour of the evening sacrifice, in Jerusalem, and that about 10:00 A.M. in Boston would be equivalent to the sunset time in Jerusalem.

Hiram Edson´s experience synchronized with the time of the evening sacrifice on Tishri 10 = October 22/23, in Jerusalem. His experience was similar to what happened to Jesus in the beginning of the seventieth week, when He was baptized, in middle of the seventieth week, in Gethsemane, on the cross, in the resurrection, at the Pentecost (Inauguration of the Heavenly Sanctuary), and in the end of the seventieth week when Stephen was stoned to death.

In all these events during the seventieth week, we may see clearly the participation of the Three Persons of the Godhead in the New Covenant, as described in Hebrews 2:1-4. 6:4-6, 9:14-15, 10:26-31; Acts 10:34-48.

The high points of the seventieth week, namely, baptism, death, resurrection, pentecost, gospel to the gentiles, judgement, are outlined in Acts 8:10:34-48.

So we have precedents and synchronisms to justify the acceptance of the report of Hiram Edson as true, in agreement with the words of the angel in Daniel 8:26.

ADDED:

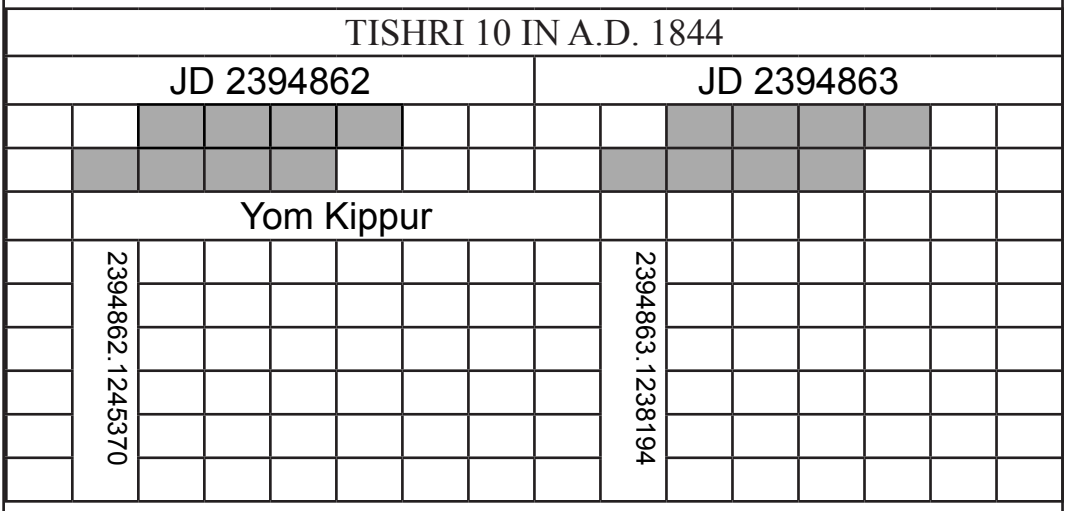
Both the prophecy of Daniel 8:14, "Unto two thousand and three hundred days; then shall the sanctuary be cleansed," and the first angel's message, "Fear God, and give glory to Him; for the hour of His judgment is come," pointed to Christ's ministration in the most holy place, to the investigative judgment, and not to the coming of Christ for the redemption of His people and the destruction of the wicked. The mistake had not been in the reckoning of the prophetic periods, but in the *event* to take place at the end of the 2300 days. Through this error the believers had suffered disappointment, yet all that was foretold by the prophecy, and all that they had any Scripture warrant to expect, had been accomplished. **At the very time when they were lamenting the failure of their hopes, the event had taken place which was foretold by the message,** and which must be fulfilled before the Lord could appear to give reward to His servants. The Great Controversy, page 424.

The same scorn and hatred that was manifested against Christ may be seen now to exist against those whom he has evidently chosen to be his co-workers. Those whose spirits rise up against the doctrines of truth make hard work for the servants of Christ. But God will make their wrath to praise him; they accomplish his purpose by stirring up minds to investigate the truth. God may allow men to follow their own wicked inclinations for a time, in opposing him; but when he sees it is for his glory, and the good of his people, he will arrest the scorners, expose their

presumptive course, and give triumph to his truth. {7Red 10.2}[1]

ADDED

And the eighth phase was, of course, the great and bitter Disappointment, and its aftermath of frustrated hopes and anticipations, which led to a restudy of the whole field of evidence, in order to ascertain the nature of the mistake and to reconstruct plans for the future. This developed into two distinct major divisions, or groups, of Adventists, which have continued their separate ways unto this day—the majority group at the outset slowly shrinking, and with the other slowly, then rapidly spreading, and finally expanding until it belts the globe. **The development of this latter group, now leaving the Millerite movement behind, began on the morning of October 23, 1844, the very day succeeding the fateful day of disappointment, continuing into the rebirth and reconstruction of the great Second Advent Movement assuming world proportions.** {1954 LEF, PFF4 449.3} ???




1 Redemption; or The Ministry of Peter and the Conversion of Saul. Seventh-day Adventist Publishing Association, 1877; 2002, S. 10

27. Paul A. Gordon, *The Sanctuary, 1844, and the Pioneers* (Washington, D.C.: Review and Herald, 1983), 24-25.

# CHAPTER V

# GENERAL SUMMARY AND CONCLUSIONS

The doctrine of the sanctuary and of the investigative judgment has been one of the most attacked doctrines of the Seventh-day Adventist Church. These attacks have been both internal and external. Therefore, the dates related to the prophetic fulfillments of the prophecies of the 2300 days and of the 70 weeks must be well established and well grounded (G.C. pp 457, 345, 351 and 411), so that Seventh-day Adventists can convincingly give the reason of their hope in this respect. This study had the objective of contributing to the achievement of the purpose stated in I Peter 3:15:

"But in your hearts set apart Christ as Lord. Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have . But do this with gentleness and respect."

## Summary

In the introduction to our present study, we defined the problems and outlined our purposes and scope, mainly aiming at the correction of the chronological deviations in relation to the Redemption Plan and the Doctrine of the Sanctuary, which are the main pillars of the SDA Church.

Chapter II deals with the beginning date of the prophetic period, that is, 457 B.C. It considers the problem that, at present, it is not possible to prove conclusively that Ezra was using the Babylonian/Persian system of dating (in which case his trip would have been in 458 B.C.) or if he was using the Jewish Tishri-Tishri dating (in which case his trip would have been in 457 B.C.).

Additionally, as Horn himself admits, there remain some uncertainties, owing to lack of detailed information for the Xerxes - Artaxerxes I transition, which make it impossible to determine whether Artaxerxes ascended the throne before Tishri 1 or after Tishri 1, in 465 B.C., a fundamental fact to determine, in the Jewish Tishri-Tishri system, if his seventh year, and Ezra's trip, fell in 458 B.C. or in 457 B.C.

Therefore, to stake everything on the "absolute certainty" of the year 457, having as support *The Chronology of Ezra 7, Second Edition*, is not a wise procedure. Ezra's trip in 457 is very likely, but not definitely proved by contemporary documents.

The second problem analyzed in this chapter is the placement of the seventh month (Tishri) in September instead of October, on the basis of the chronological tables given in Parker and Dubberstein , in Horn.´s book or in the SDABC. However, these tables are just a tentative

reconstruction; besides, the year 457 B.C. is not documented, and October is as much a possibility as September. Tishri cannot begin in September in 457 B.C. because, if this was the case, the middle of the seventieth week would fall in April and the 2300-year prophecy would end in September in 1844 A.D.

Chapter III deals with the problems related to the middle of the seventieth week. In view of the uncertainties which still remain about the date of 457 B.C., it is in the fulfillment in the middle of the seventieth week of Daniel 9:24-27 that it will be possible to obtain fine chronological information, such as month, day of the month, day of the week and even hour, which will help to determine with precision the exact starting date for the prophetic periods, which must be 69.5 weeks before.

With such information, this chapter carries on a detailed , biblical, typological, historical, astronomical, mathematical and chronological analysis to establish Christ's death year as A.D. 31, which, in turn, will help to confirm or fix the beginning of the seventy weeks in 457 B.C.

This is the position taken by Ellen G. White in the book *The Great Controversy*, pages 326-328, 398-400, 410-411; a position that is thoroughly sound.

> Thus far every specification of the prophecies is strikingly fulfilled, and the beginning of the seventy weeks is fixed beyond question in 457 B.C, and their expiration in A.D. 34. From this data there is no difficulty in finding the termination of the 2300 days.[1]

In establishing the year 31 A.D. for the death of Christ, it becomes clear that, astronomically, Friday, April 27, can not be a Nisan 14, but only a Nisan 15. On the basis of the record of the Synoptics, this conclusion is confirmed, but there are some problematic statements in John. These statements are dealt with in this chapter, making evident that it is necessary to seek harmony between the Synoptics and John, and that, when this is done, the existing problems can be satisfactorily solved.

Chapter IV deals with the problems related to the end of the prophetic period. The correspondence of Tishri 10 in 1844 defended by the Millerites is not the same that is being defended today by the Seventh-day Adventist Church theologians. The reason for this is the way the subject was presented in the 1950's by Froom, whose works became a standard reference within the Seventh-day Adventist Church. Thus, to say that October 21/22, Boston time, is the date on which the prophetic period ended is not correct, since the date in Jerusalem, which is the reference point for the prophetic period, was October 22/23. Therefore, the suggestion is made for the Seventh-day Adventist Church to discard or abandon Froom's exhibits and use the expression Tishri 10 = October 22/23, Jerusalem time, which will reflect more accurately the truth and will avoid some attacks which are being made against this date by critics who are acquainted and not so acquainted with the facts. Or, to use Froom´s own words on page 798 of his book *The Prophetic Faith of Our Fathers,* Volume IV, it must be "abandoned because of the obvious error". If someone thinks that this is not reason enough to abandon Froom´s Exhibits, I ask such a person to examine carefully another mistake of Froom in the Exhibit C, on page 790, where Froom says April 1, 1843. The *Signs of the Times* of 1843, says the following: "The Jewish year of 1843 A D, as the Caraites reckon it in accordance with the Mosaic law, therefore commenced this year

1. *The Great Controversy*, 327, 328.

with the new moon on the 29th of April, and the Jewish year 1844, will commence with the new moon in next April, when 1843 and the 2300 days, according to their computation, will expire. But according to the Rabbinical Jews, it began with the new moon the first of last April, and will expire with the new moon in the month of March next. (*Signs of the Times*; June 21, 1843; p. 123)".

Another problem which is dealt with in this chapter has to do with the month of October. Since not only the Rabbanite Jews celebrated their Yom Kippur in September in 1844, but most, if not all, Karaite Jews have done the same, it is important to understand why this happened, how the Karaite calendar (which is the Biblical calendar) works, how it has influenced the Millerites, and what was the correct date for Yom Kippur in 1844, regardless of what date the Karaite Jews may have observed in that specific year. All this was dealt with briefly in this chapter. For a full coverage of the problems, it is necessary to examine other specific files .

## Conclusions

In recent years there has been a tendency in our church to opt for not setting any precise date for the beginning of the 2300-year prophecy. There are even those who blame the Millerites for setting the date October 22/23 as the tenth day of the seventh month, and try to excuse the Seventh-day Adventist Church. However, since Ezra arrived in Jerusalem in the 5th month of the 7th year of Artaxerxes, some of our theologians inadvertently are saying that the prophecy probably began to be reckoned from this month. But the fifth month is in the summer, and Ellen White says specifically that the decree went into effect in the autumn (*The Great Controversy,* page 327), and that, to have perfect harmony (*The Great Controversy*, page 410), the prophetic period has to start in the autumn of 457 B.C.

If we assume the prophecy doesn't have a specific date to begin, it should not have a specific date to end. But if we as a Church set a specific date for the end of the prophecy (Tishri 10, 1844 A.D.), this means the prophecy must have a specific date to begin (Tishri 10, 457 B.C.), otherwise we would not have an exact period of 2300 lunisolar years.

By means of the astronomical Julian day scale the chronological aspects of the prophetic period can be demonstrated.

One example, using the beginning of the prophetic periods, that is, October 29, 457 B.C (-456), 15:00:00 (3 PM), Jerusalem time, is shown in a chart showing the mathematical, astronomical and typological relationships between the beginning (Tishri 10), middle (Nisan 14/15) and end (Tishri 10) of the prophetic periods, in the Appendix. Remember that you must enter 13:00:00 UT, on account of the time zone difference of 2 hours between Jerusalem and London, (Local Time and Greenwich Mean Time or UT).

The following Web Sites may be used for the purpose of checking the Julian Dates and Calendar Dates: http://www.onlineconversion.com/julian_date.htm, and http://www.imcce.fr/ephemeride_eng.html

By using these sites and other astronomy programs, it is possible to demonstrate that the prophetic period began on Tishri 10, October 28/29, 457 B.C., and ended on Tishri 10, October 22/23, 1844 A.D. (of course all the dates involved here are dates at Jerusalem, which is the reference point, the appointed place or *moed* (Deut 16:16, Ps 76:1-2, Luke 9:30-31; 13:33.).

Owing to the difference in time zone, this date fell mostly on October 22 in the USA.

Both the beginning and the end date of the prophecy cannot be conclusively demonstrated for lack of documentation from the times they occurred, so what really fixes the prophetic period is the middle of the 70th week, that is, the date of April 26/27 (Nisan 14/15), A.D. 31. It is this date that permits to confirm that the prophetic period began in the year 457 B.C., and not in 458 B.C., in October, and not in September; and that it ended in the year A.D 1844, again in October, and not in September.

The dates are thus firmly established, and we must agree with what Ellen White says:

> The preaching of a definite time for the judgment, in the giving of the first message, was ordered of God. The computation of the prophetic periods on which that message was based, placing the close of the 2300 days in the autumn of 1844, stands without impeachment. The repeated efforts to find new dates for the beginning and close of the prophetic periods, and the unsound reasoning necessary to sustain these positions, not only lead minds away from the present truth, but throw contempt upon all efforts to explain the prophecies.[2]

On June 5, 1845, in the *Jubilee Standard*, Samuel Sheffield Snow wrote in a long article called Prophetic Chronology, where he points out the chronological points for the beginning, middle and end of the prophetic periods:

> Thus, by clear and convincing proofs, entirely independent of each other, we have established the correctness of those several dates, viz, B. C. 457, for 'the going forth of the commandment,' A. D. 27, for the beginning of our Lord's public preaching. A. D. 31 for the crucifixion, and A. D. 34 for the commencement of the ministry of Paul. These proofs stand forth like so many independent witnesses in court, and, perfectly agreeing in their testimony, confirm us, so that a doubt is criminal, that we have the right chronology. The 70 weeks, therefore, began on the 10th day of the 7th month B. C. 457. From that point, 69 weeks, or 483 years, ended in the 7th month A. D. 27. when Jesus began the proclamation of the gospel of the kingdom of God, saying 'THE TIME IS FULFILLED.' Then $3^1/_2$ years after that, on the 10th day of the first month A. D. 31, he rode into Jerusalem as King, and caused the temple worship, or 'sacrifice and oblation', to cease. From that point $3^1/_2$ years, the last half of the week, extended to the 10th day of the 7th month A. D. 34, when of course the 70 weeks ended. Thus 490 years of the 2300 were fulfilled, and 1810 remained to be fulfilled. Where would they end? On the 10th day of the seventh month, A. D. 1844.
>
> Yes, glory be to God in the highest![3]

*An appeal to heart:*

John 20:27-31

27 - Then he said to Thomas, "Put your finger here; see my hands. Reach out your hand and put it into my side. Stop doubting and believe."

28 - Thomas said to him, "My Lord and my God!"

29 - Then Jesus told him, "Because you have seen me, you have believed; blessed are those who have not seen and yet have believed."

30 - Jesus did many other miraculous signs in the presence of his disciples, which are not recorded in this book.

31 - But these are written that you may believe that Jesus is the Christ, the Son of God, and

---

2. *The Great Controversy*, 457.

that by believing you may have life in his name.

*An appeal to reason:*
Luke 1:1-4
1 -Many have undertaken to draw up an account of the things that have been fulfilled among us,
2 -just as they were handed down to us by those who from the first were eyewitnesses and servants of the word.
3 -Therefore, since I myself have carefully investigated everything from the beginning, it seemed good also to me to write an orderly account for you, most excellent Theophilus,
4 -so that you may know the certainty of the things you have been taught.
(NIV)

Now, read *The Great Controversy*, pages 430-432, and make your own decision.

It is those who by faith follow Jesus in the great work of the atonement who receive the benefits of His mediation in their behalf, while those who reject the light which brings to view this work of ministration are not benefited thereby. The Jews who rejected the light given at Christ's first advent, and refused to believe on Him as the Saviour of the world, could not receive pardon through Him. When Jesus at His ascension entered by His own blood into the heavenly sanctuary to shed upon His disciples the blessings of His mediation, the Jews were left in total darkness to continue their useless sacrifices and offerings. The ministration of types and shadows had ceased. That door by which men had formerly found access to God was no longer open. The Jews had refused to seek Him in the only way whereby He could then be found, through the ministration in the sanctuary in heaven. Therefore they found no communion with God. To them the door was shut. They had no knowledge of Christ as the true sacrifice and the only mediator before God; hence they could not receive the benefits of His mediation.

The condition of the unbelieving Jews illustrates the condition of the careless and unbelieving among professed Christians, who are willingly ignorant of the work of our merciful High Priest. In the typical service, when the high priest entered the most holy place, all Israel were required to gather about the sanctuary and in the most solemn manner humble their souls before God, that they might receive the pardon of their sins and not be cut off from the congregation. How much more essential in this antitypical Day of Atonement that we understand the work of our High Priest and know what duties are required of us.

Men cannot with impunity reject the warning which God in mercy sends them. A message was sent from heaven to the world in Noah's day, and their salvation depended upon the manner in which they treated that message. Because they rejected the warning, the Spirit of God was withdrawn from the sinful race, and they perished in the waters of the Flood. In the time of Abraham, mercy ceased to plead with the guilty inhabitants of Sodom, and all but Lot with his wife and two daughters were consumed by the fire sent down from heaven. So in the days of Christ. The Son of God declared to the unbelieving Jews of that generation: "Your house is left unto you desolate." Matthew 23:38. Looking down to the last days, the same Infinite Power declares, concerning those who "received not the love of the truth, that they might be saved": "For this cause God shall send them strong delusion, that they should believe a lie: that they all might be damned who believed not the truth, but had pleasure in unrighteousness." 2 Thessalonians 2:10-12. As they reject the teachings of His word, God withdraws His Spirit and leaves them to the deceptions which they love.

But Christ still intercedes in man's behalf, and light will be given to those who seek it. Though

3. Jubilee Standard, June 5, 1845, p. 100. [Emphasis mine].

this was not at first understood by Adventists, it was afterward made plain as the Scriptures which define their true position began to open before them.

The passing of the time in 1844 was followed by a period of great trial to those who still held the advent faith. Their only relief, so far as ascertaining their true position was concerned, was the light which directed their minds to the sanctuary above. Some renounced their faith in their former reckoning of the prophetic periods and ascribed to human or satanic agencies the powerful influence of the Holy Spirit which had attended the advent movement. Another class firmly held that the Lord had led them in their past experience; and as they waited and watched and prayed to know the will of God they saw that their great High Priest had entered upon another work of ministration, and, following Him by faith, they were led to see also the closing work of the church. They had a clearer understanding of the first and second angels' messages, and were prepared to receive and give to the world the solemn warning of the third angel of Revelation 14.

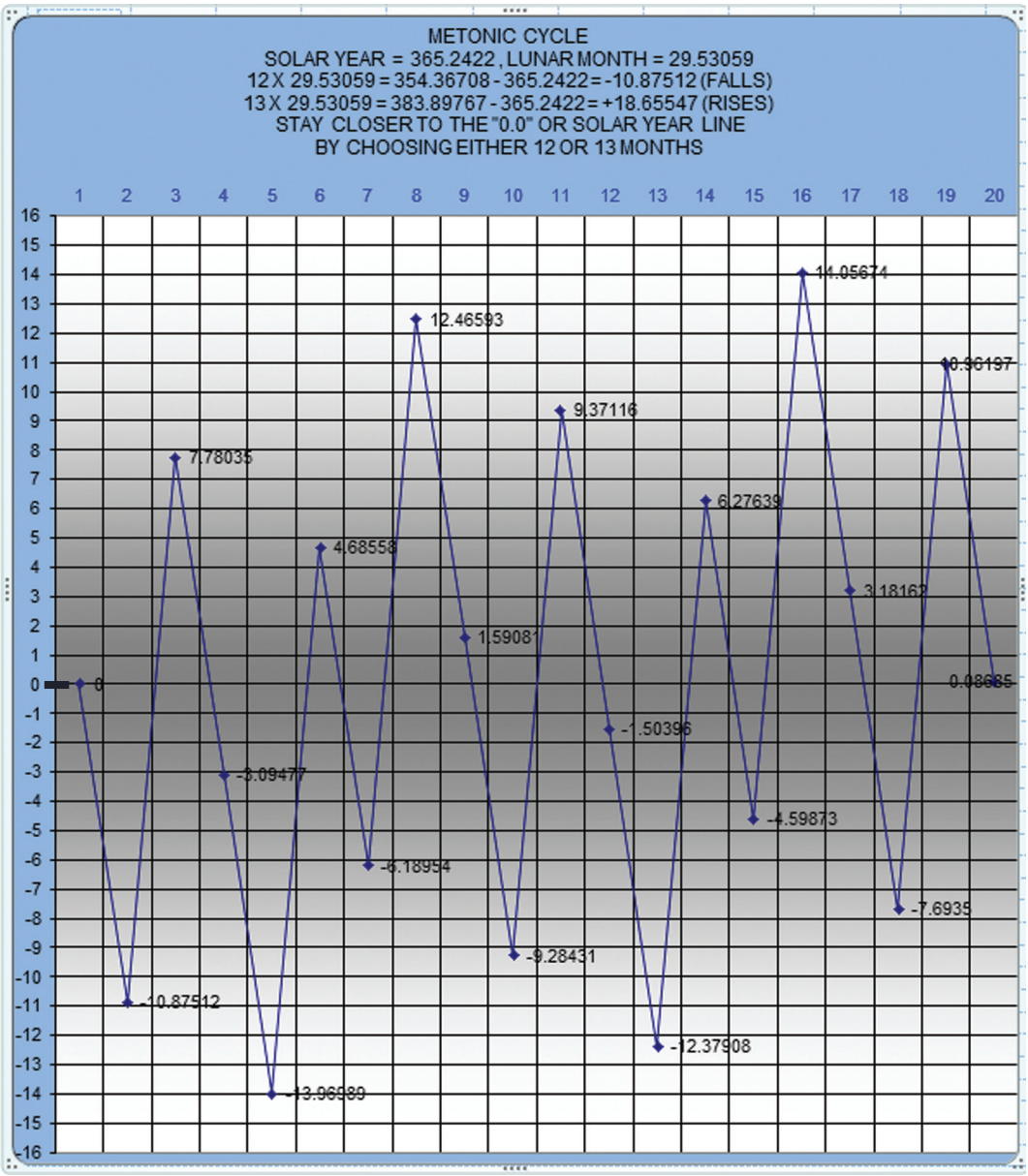
Read Luke 24:13-53 and Acts 28:23-31.

WE MUST GROW IN GRACE AND KNOWLEDGE,
JOINING HEART AND REASON,
TO MAKE A WISE DECISION.

ADDED:

Christ coming at the **time and in the manner** which he did was a direct and complete fulfillment of prophecy. The evidence of this, given to the world through the testimony of the apostles and that of their contemporaries, is among the strongest proofs of the Christian faith. We were not eye-witnesses of the miracles of Jesus, which attest his divinity; but we have the statements of his disciples who were eye-witnesses of them, and we see by faith through their eyes, and hear through their ears; and our faith with theirs grasps the evidence given. {6Red 8.1}

The apostles accepted Jesus upon the testimony of prophets and righteous men, stretching over a period of many centuries. **The Christian world have a full and complete chain of evidence running through both the Old and the New Testament**; in the one pointing to a Saviour to come, and in the other fulfilling the conditions of that prophecy. All this is sufficient to establish the faith of those who are willing to believe. The design of God was to leave the race a fair opportunity to develop faith in the power of God, and of his Son, and in the work of the Holy Spirit. {6Red 8.2}




The Jews must have had a system of intercalation by which the lunar calendar was brought into harmony with the natural solar year. This is implied in the law dating the Passover feast unchangeably in the middle of the first month (Lev. 23:5) but also requiring the offering of a sheaf of the first fruits of grain (Lev. 23:10, 11). Thus the calendar was probably corrected by the insertion of embolismic months whenever needed to let the Passover occur at the beginning of barley harvest. This would automatically result in an average of seven embolismic months in nineteen years.
Horn in *The Chronology of Ezra 7*, page 54.

The barley-harvest law, when applied to a continuous series of years, is the same in its performance as the law of the 19-year cycle. The lunar dates themselves follow the same law, and periodically, in harmony with the 19-year cycle principle, the extra moons are interpolated that bring the lunar year into harmony with the solar year. Every 19 years, the barley-harvest-moon dates repeat within a day.
Grace Amadon in *Ancient Jewish Calendation*, pages 242, 243.

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DE421                                          DE421

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Mercury     15 44 17.48   + 3  0 18.65    0.67685585    14.34  -10.27
Venus      313 59 16.16   + 0 23 49.24    0.74894524   152.13  -14.09
Mars        59  5  2.19   + 1 23 33.95    1.92559171    87.81    0.07
Jupiter    353 26 18.87   - 1 11 34.41    5.98647320    35.67   -0.01
Saturn     247 47 55.44   + 1 19 19.25    9.70123261    -0.87    0.13
Uranus     204 56 15.58   + 0 30 20.31   17.84725437    -5.47    0.01
Neptune    304 45 41.71   - 0 36 55.69   30.55303870     3.68   -0.07
Pluto      257 36 13.62   + 0 27  1.66   33.32264691    -0.12   -0.20
Moon        11 16  9.75   - 5  0 19.82    0.39872671Gm   0.51   -0.00°/h
Ceres      338 41  1.25   - 7 40  6.17    3.70404708    61.33   -3.00
Pallas     324 33 57.96   +15 35  4.19    4.27231519    43.79   -1.87
Vesta      348 11 39.28   - 4 46  9.40    3.50581813    66.65   -1.66
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Key    Action        Status
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 O     Orthogonal      Off
 H     Heliocentric    Off
 T     Topocentric     Off
 C     Plan.Centric    Off
 E     Ecliptic        On
 Z     Horizontal      Off
 R     Ref.Equinox     Date
 P     Precession      On
 N     Nutation        On
 A     Aberration      On
 L     Light-time      On
 D     Delta-T         Off
 B     Back-step       Off
 M     Decim. Units    Off
 X     Osc.Elements    Off
 V     Adap.Stepsize   Off
 /     Hide Planets    Off
 !     Extra Options
 U     Time Unit       day
 S     Step Scaling    1.00
 F     File Output
 G     Geogr. Coord.
 J     Jump to Date
 Y     Cl.Approaches
 I     MinMaxZer Lat
 +     Add Asteroids
 *     Add Comet
Esc    Main Menu

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Terrestrial Time 09:24:54 and Universal Time 04:51:03 of the beginning of Spring in 457 B.C.

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DE421                                          DE421  DeltaT =    16431.4 s

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Mercury     15 44 17.48   + 3  0 18.65    0.67685585    14.34  -10.27
Venus      313 59 16.16   + 0 23 49.24    0.74894524   152.13  -14.09
Mars        59  5  2.19   + 1 23 33.95    1.92559171    87.81    0.07
Jupiter    353 26 18.87   - 1 11 34.41    5.98647320    35.67   -0.01
Saturn     247 47 55.44   + 1 19 19.25    9.70123261    -0.87    0.13
Uranus     204 56 15.58   + 0 30 20.31   17.84725437    -5.47    0.01
Neptune    304 45 41.71   - 0 36 55.69   30.55303870     3.68   -0.07
Pluto      257 36 13.62   + 0 27  1.66   33.32264691    -0.12   -0.20
Moon        11 16  9.75   - 5  0 19.82    0.39872671Gm   0.51   -0.00°/h
Ceres      338 41  1.25   - 7 40  6.17    3.70404708    61.33   -3.00
Pallas     324 33 57.96   +15 35  4.19    4.27231519    43.79   -1.87
Vesta      348 11 39.28   - 4 46  9.40    3.50581813    66.65   -1.66
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Key    Action        Status
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 H     Heliocentric    Off
 T     Topocentric     Off
 C     Plan.Centric    Off
 E     Ecliptic        On
 Z     Horizontal      Off
 R     Ref.Equinox     Date
 P     Precession      On
 N     Nutation        On
 A     Aberration      On
 L     Light-time      On
 D     Delta-T         Aut
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 !     Extra Options
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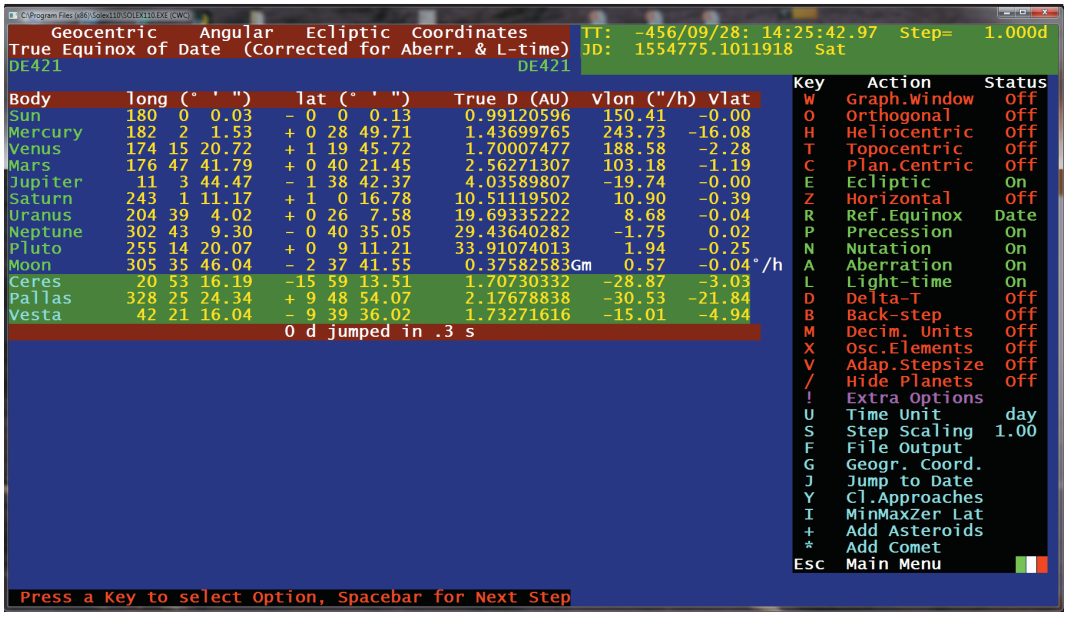


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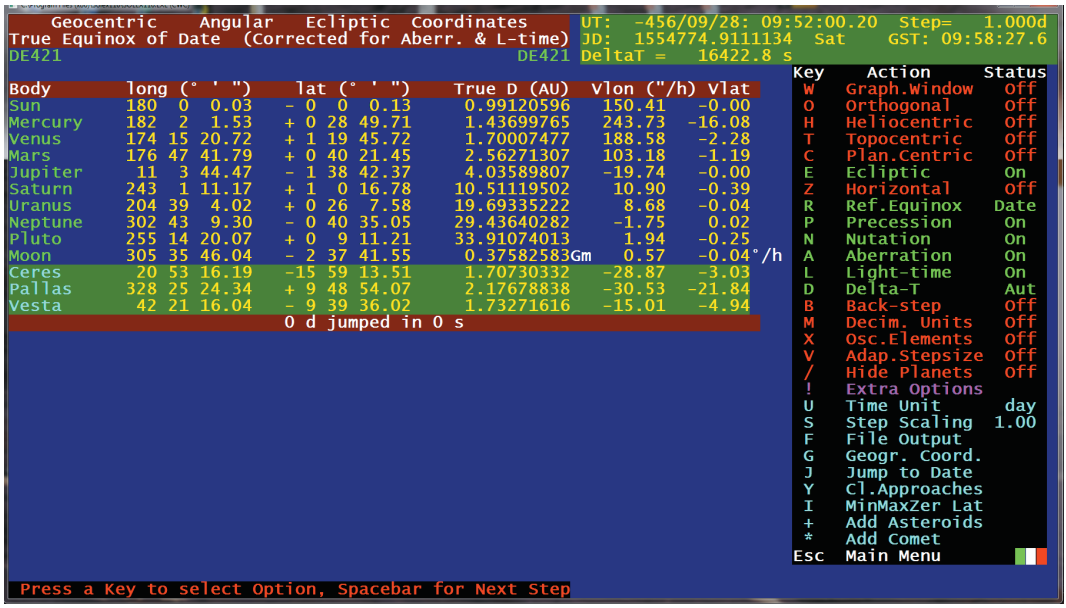

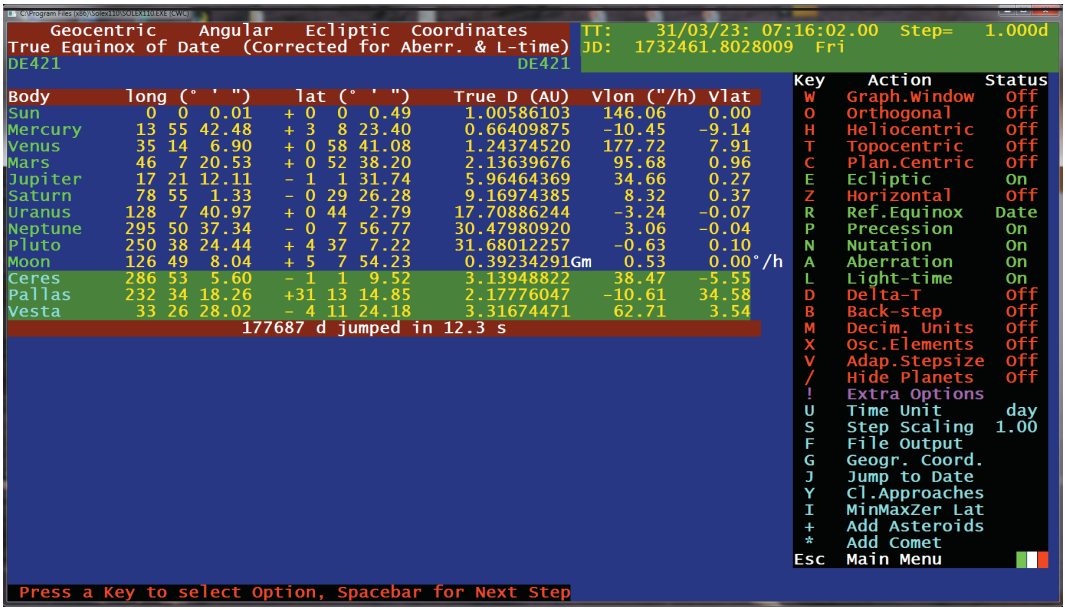


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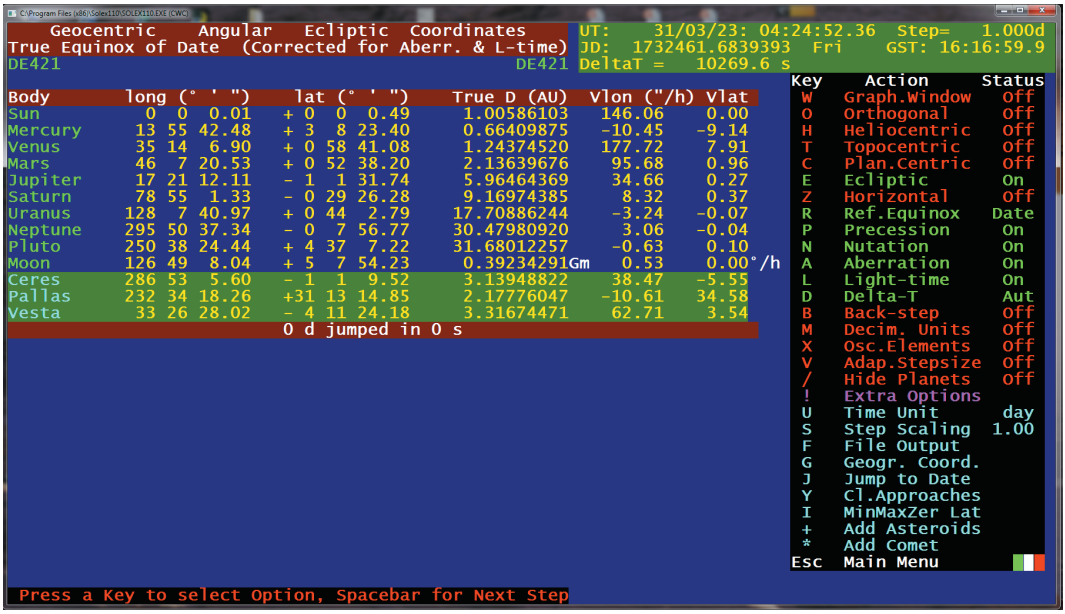

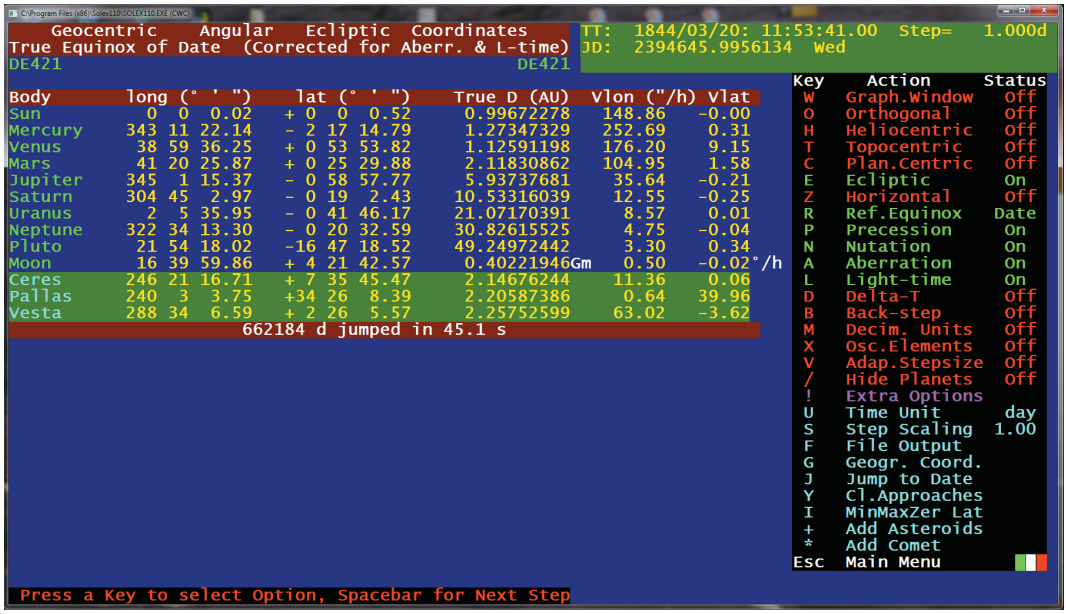


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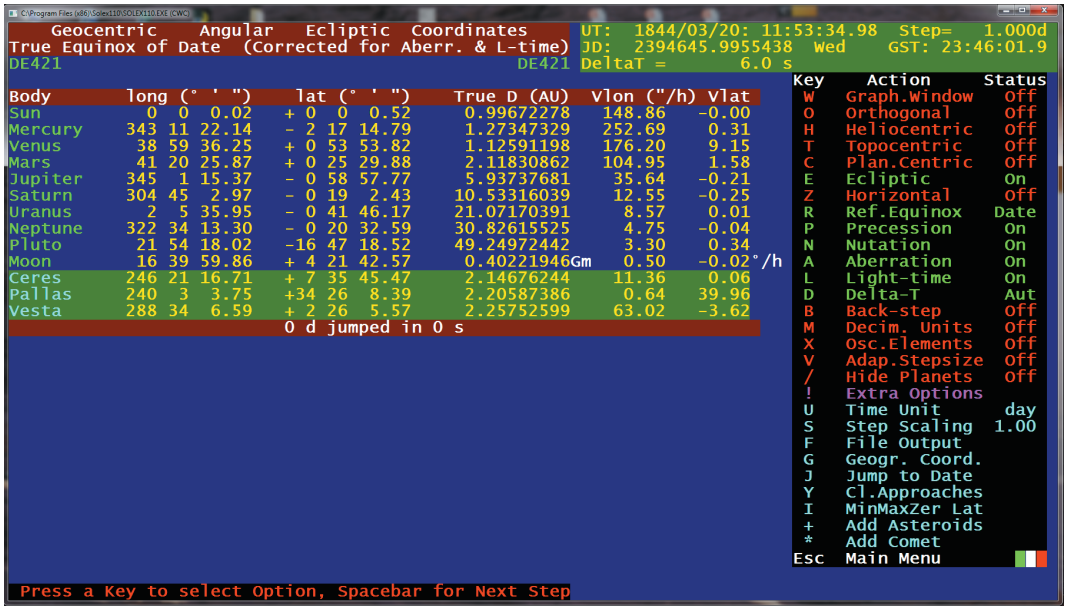

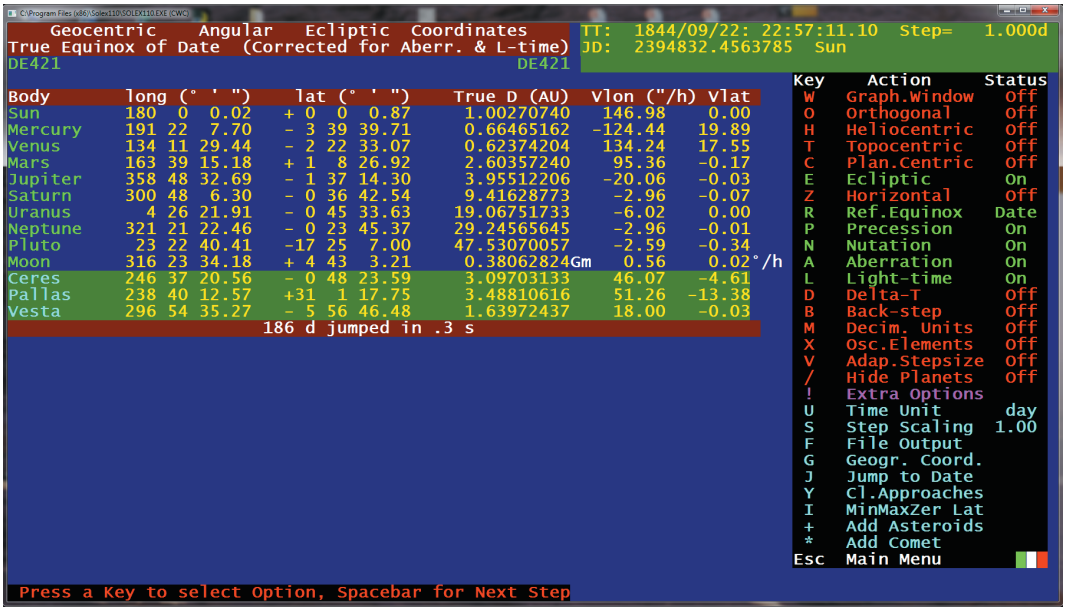


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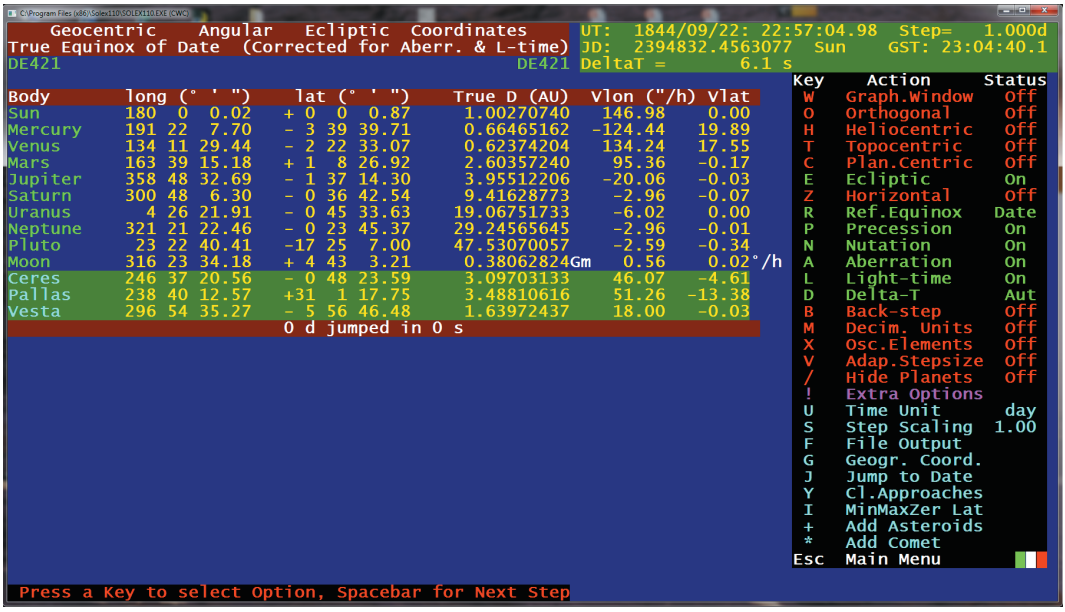
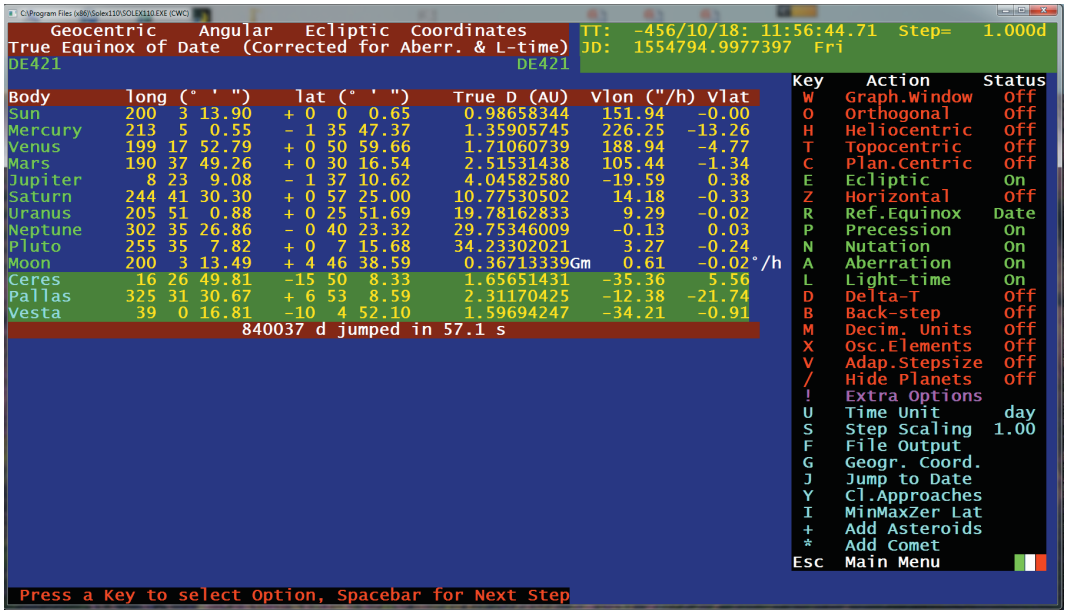
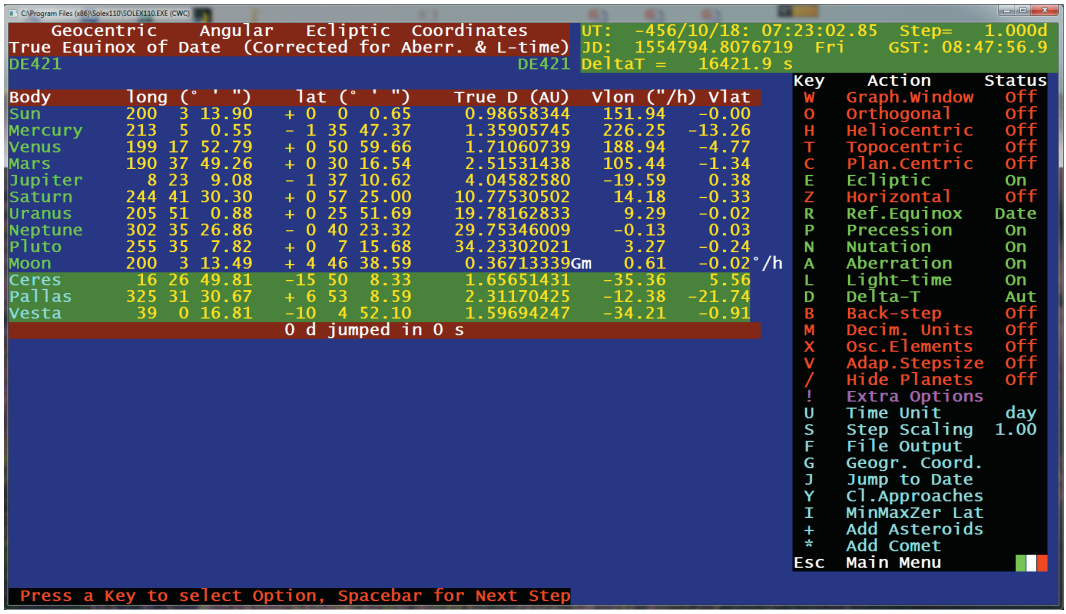
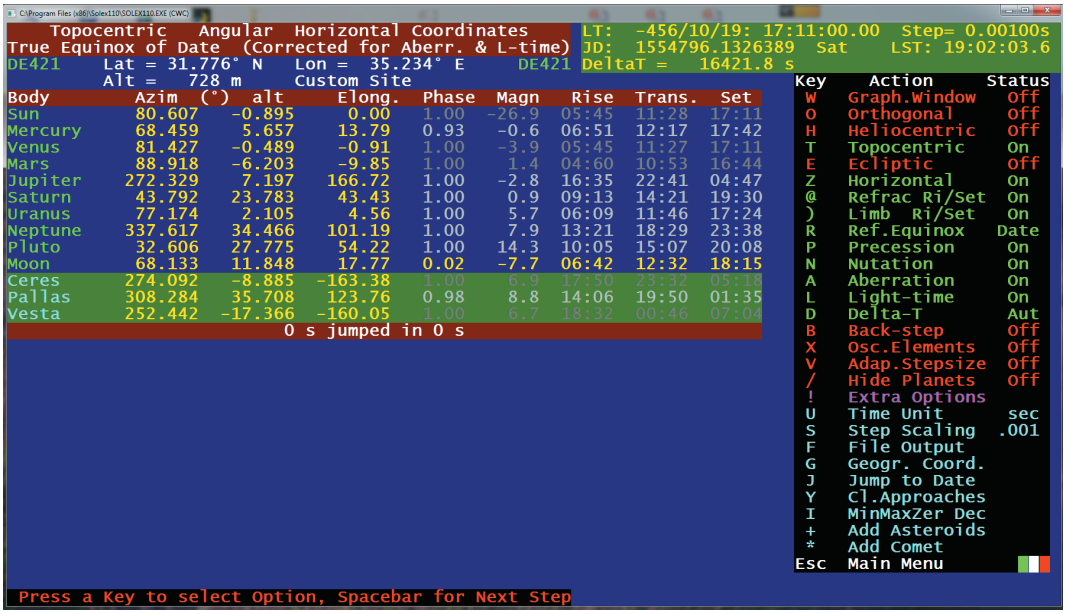


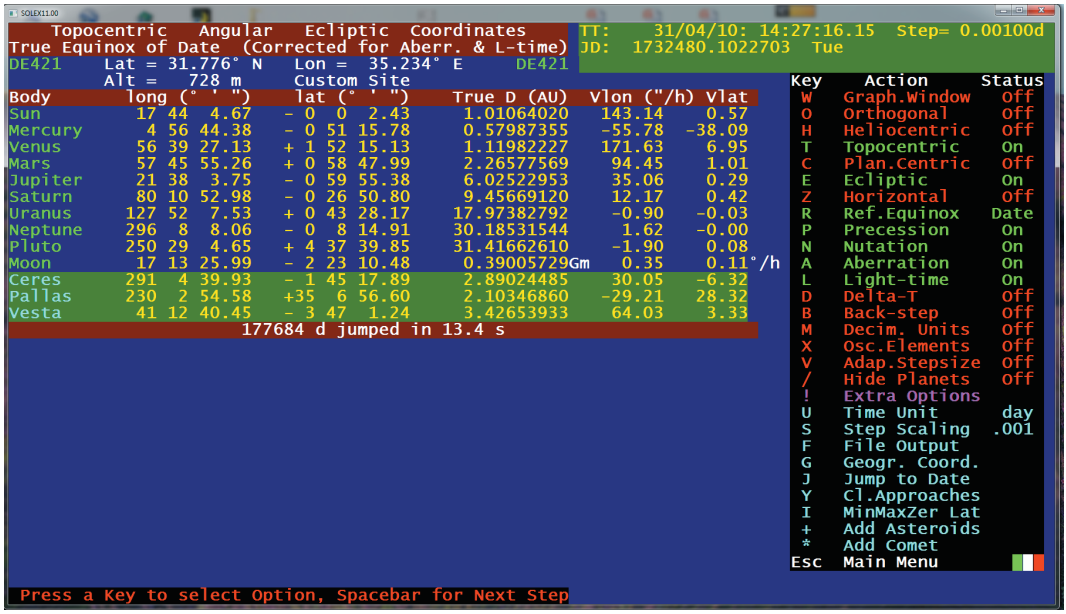



Terrestrial Time 11:56:45 and Universal Time 07:23:03 of the Geocentric Luniso-lar Conjunction in Longitude on October 18, 457 B.C.

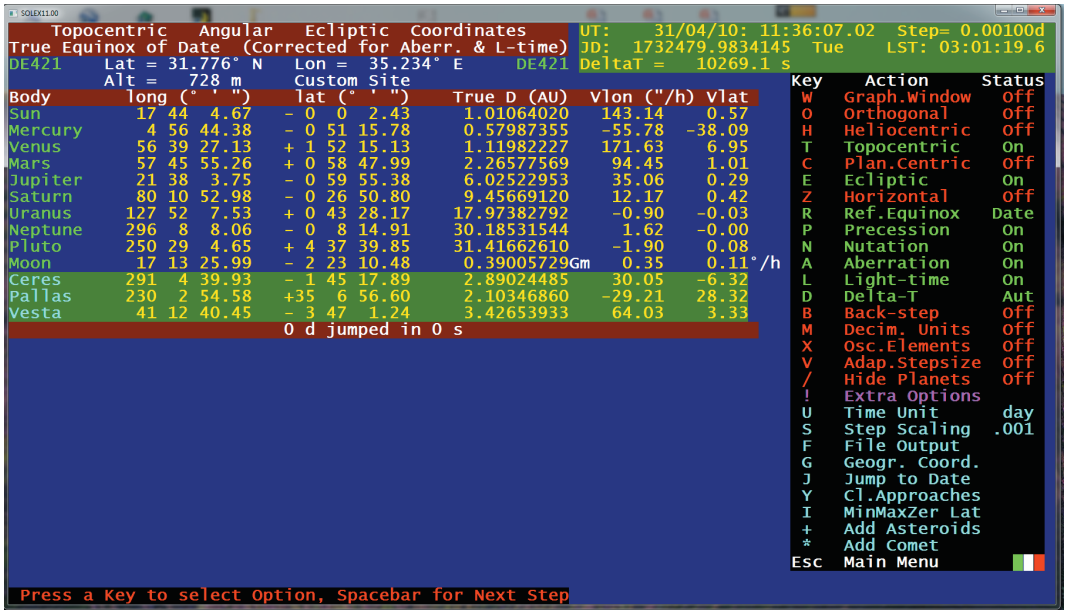


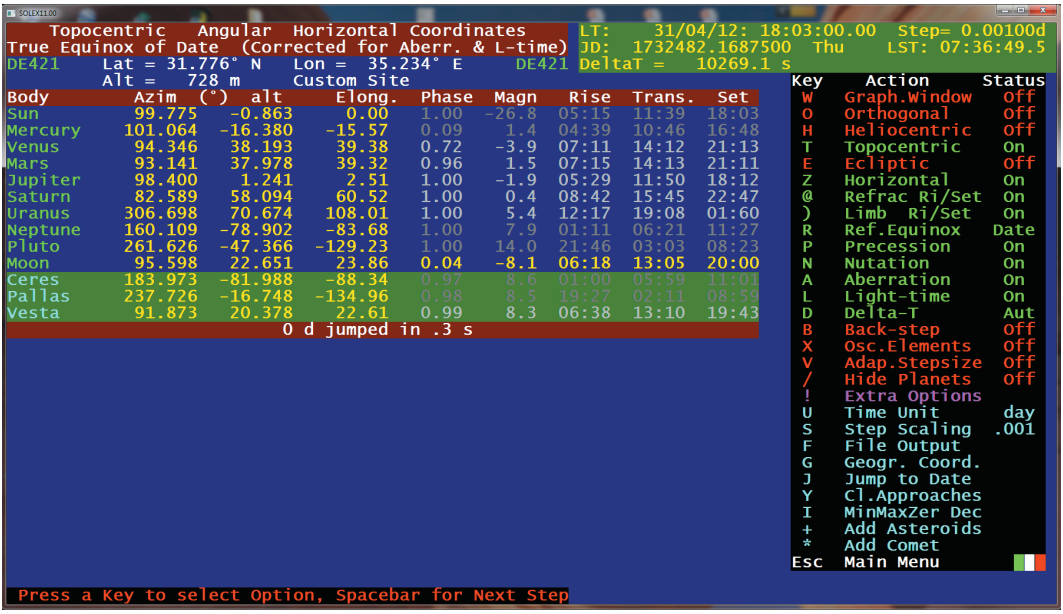



This sunset starts the month of Tishri in October, 457 B.C.
Tishri 1 = October 19/20 (sunset to sunset)
Tishri 10 = October 28/29 (sunset to sunset)
The first visible crescent is shown below.

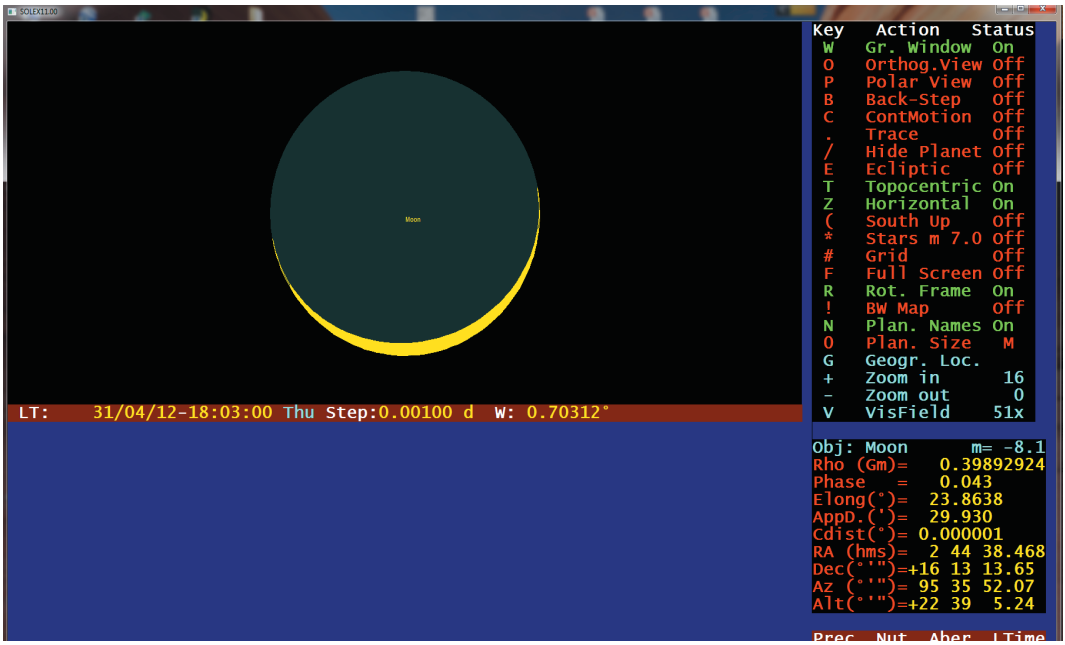


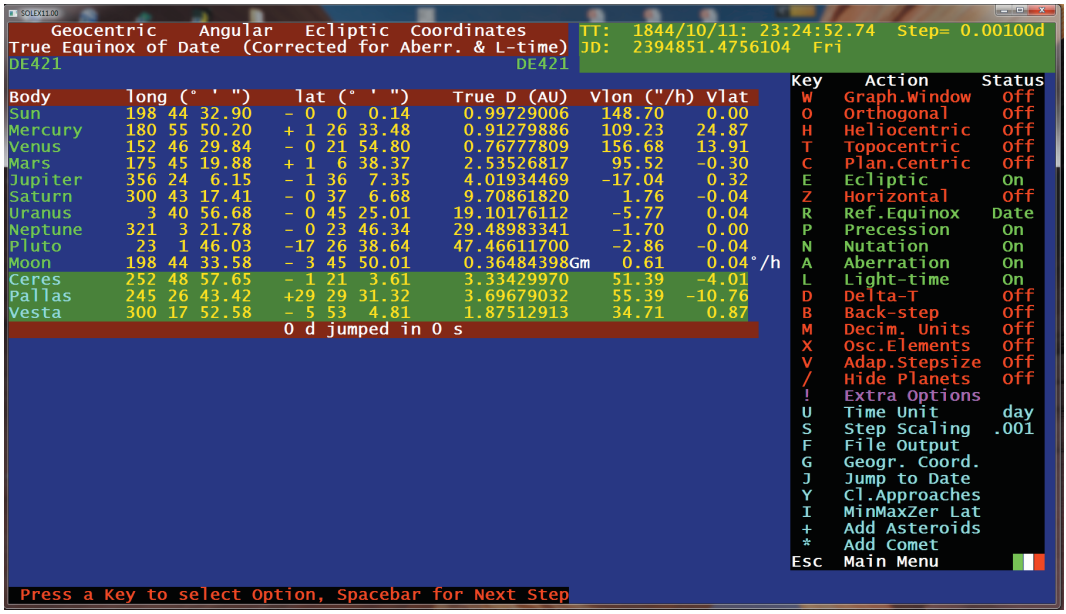

Terrestrial Time 14:27:16 and Universal Time 11:36:07 of the Geocentric Luniso-lar Conjunction in Longitude on April 10, A.D. 31.



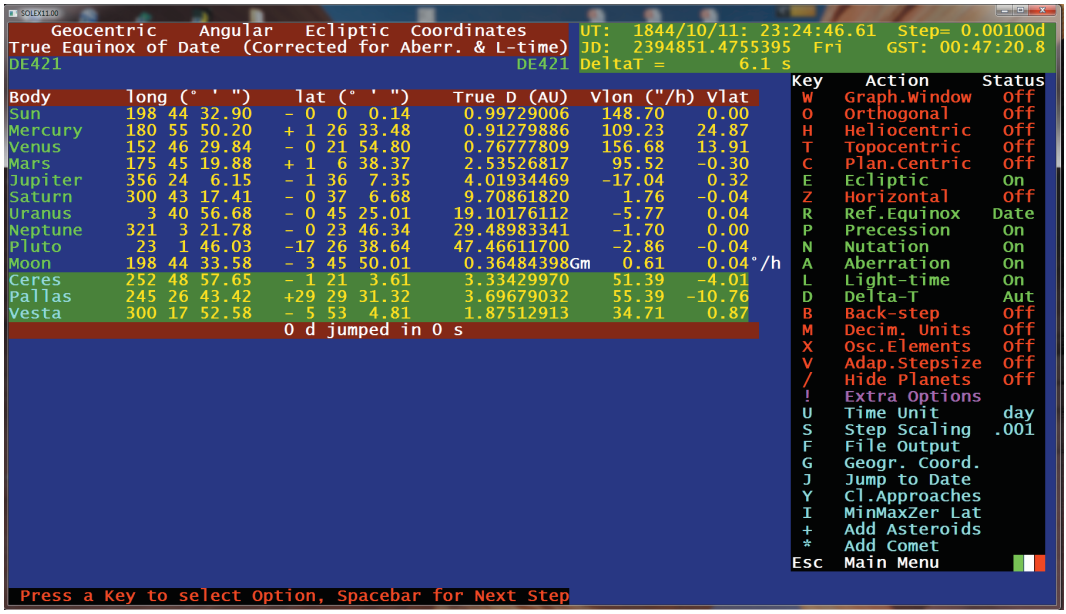


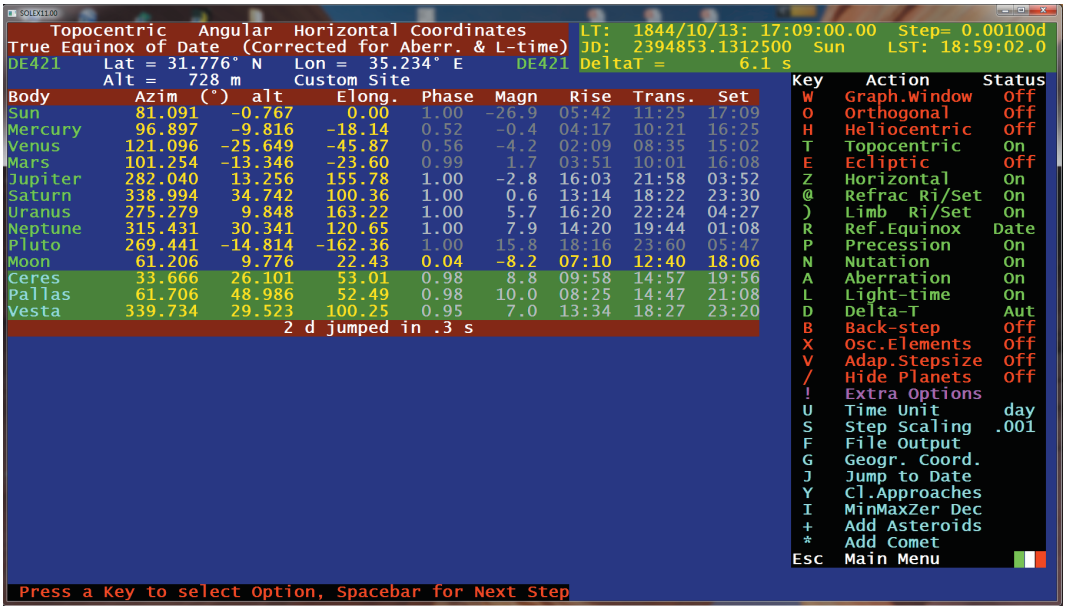

This sunset starts the month of Nisan in April, A.D. 31.
Nisan 1 = April 12/13 (sunset to sunset)
Nisan 15 = April 26/27 (sunset to sunset)
The first visible crescent is shown below.



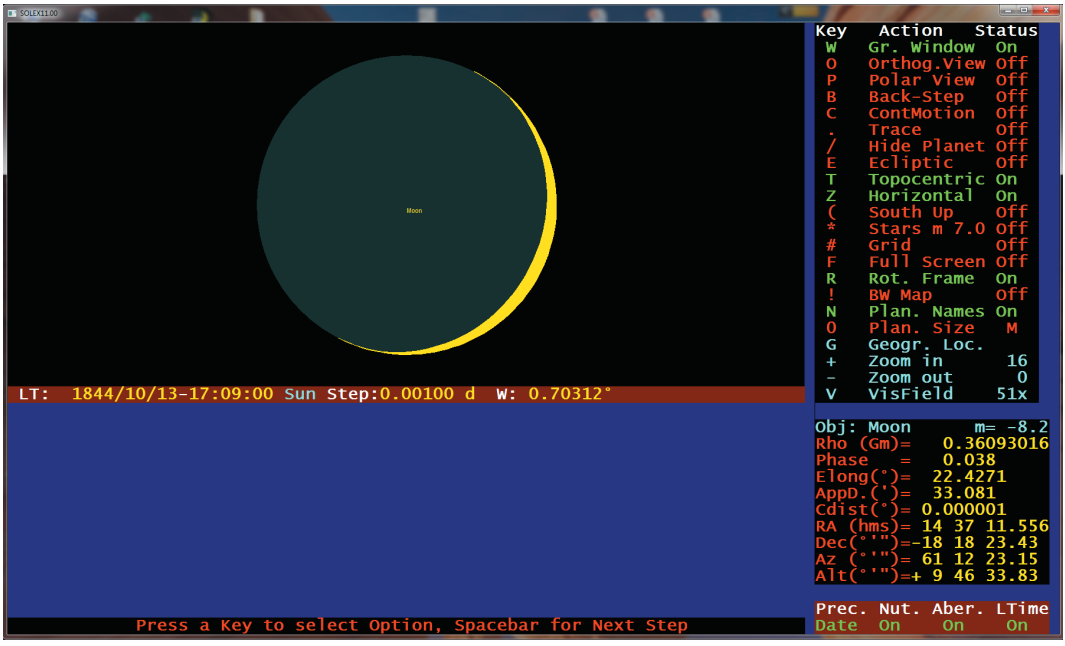


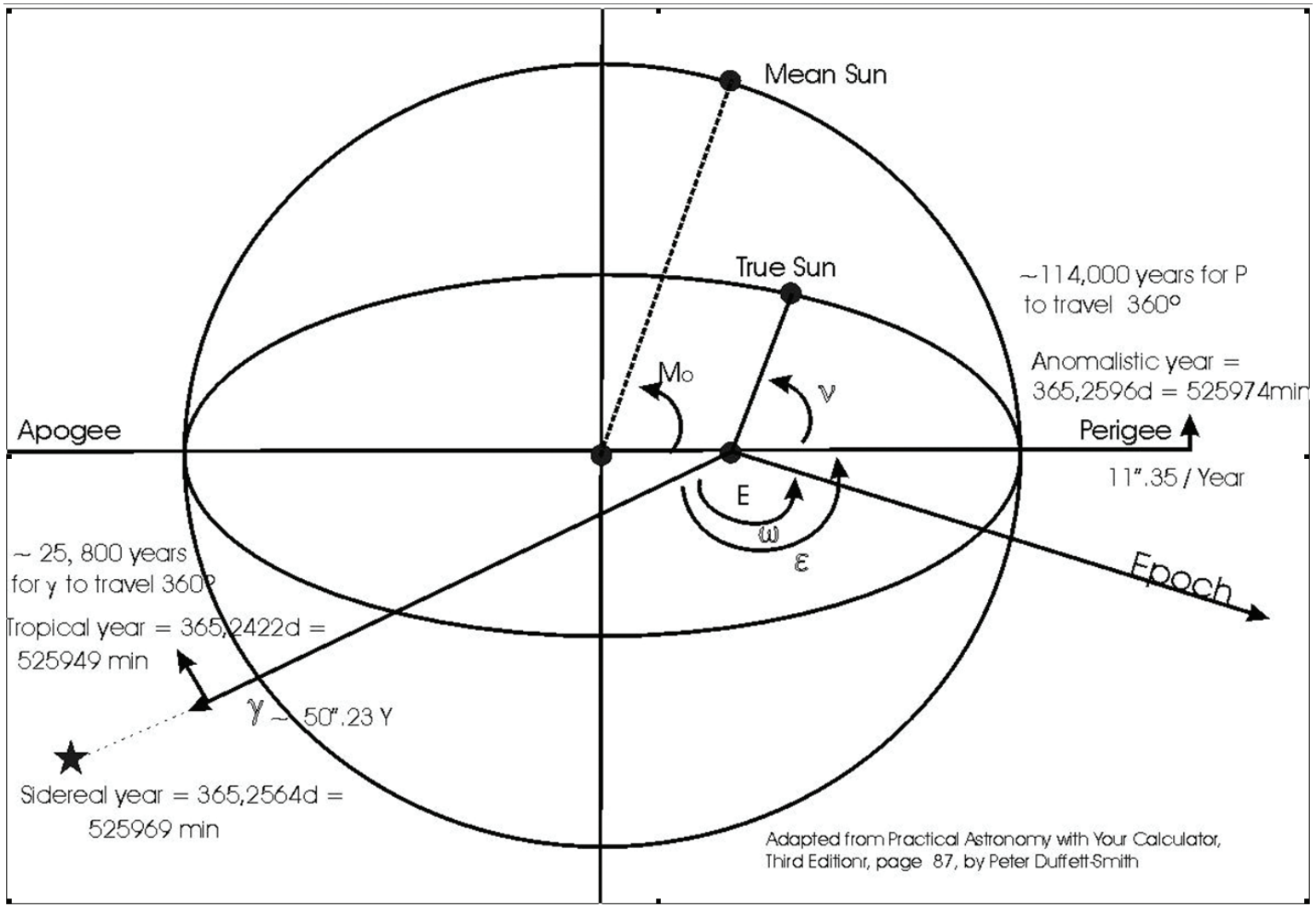

Terrestrial Time 23:24:53 and Universal Time 23:24:47 of the Geocentric Luni-solar Conjunction in Longitude in October, A.D. 1844.





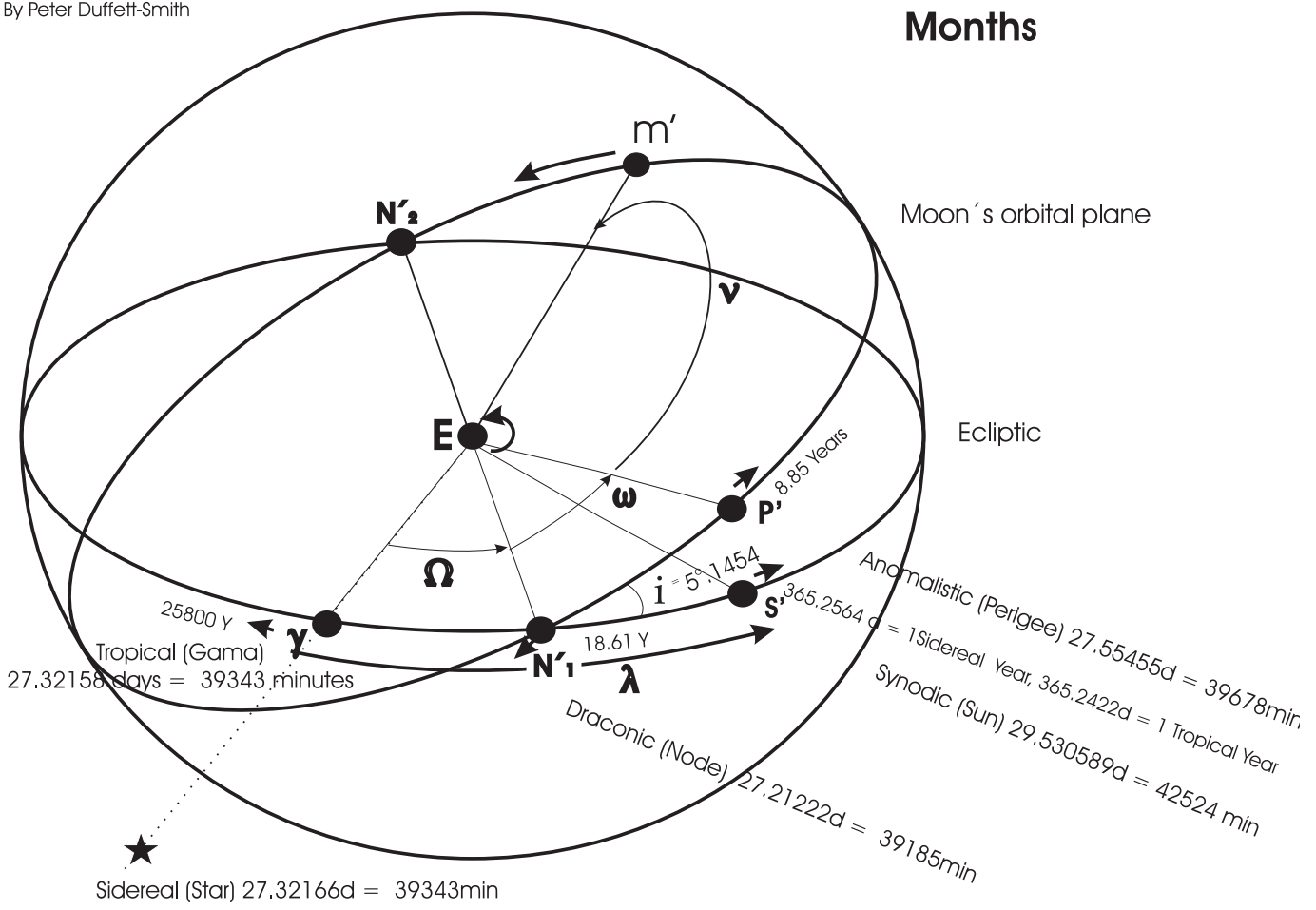

This sunset starts the month of Tishri in October, A.D. 1844.
Tishri 1 = October 12/13 (sunset to sunset)
Tishri 10 = October 22/23 (sunset to sunset)
The first visible crescent is shown below




Mean Sun
True Sun
~114,000 years for P
to travel 360°
Anomalistic year =
365,2596d = 525974min
Mo
ν
Apogee
Perigee
11".35 / Year
E
ω
ε
Epoch
~ 25, 800 years
for γ to travel 360°
Tropical year = 365,2422d =
525949 min
γ ~ 50".23 Y
Sidereal year = 365,2564d =
525969 min
Adapted from Practical Astronomy with Your Calculator,
Third Editionr, page 87, by Peter Duffett-Smith

Adapted from Practical Astronomy With Your Calculator, Third Edition, page 140
By Peter Duffett-Smith

# Months



# APPENDIXES

| Tishri 10 07/10 | Daniel 8:14<br>וַיֹּאמֶר אֵלַי עַד עֶרֶב בֹּקֶר אַלְפַּיִם וּשְׁלֹשׁ מֵאוֹת וְנִצְדַּק קֹדֶשׁ: | Tishri 10 07/10 |
|---|---|---|
| Lev. 16:1-34 | Gen. 1:14; 8:22, Num. 14:34, Job 38:31-33, Ps 81:3-5; 89:34-37; 104:19; 136:7-9, Jer. 31:31-37; 33:20-21-26, Ez. 4:6-7, Dan 8:26-27; 9:2-4, 21-27. | Lev. 23:26-32 |

2300 x 365.2422 = 840057.06 days
840057.06 / 29.53059 = 28447.0124 lunations
0.0124 x 29.53059 = 0.3662 days
0.3662 x 24 = 8.7888 hours
28447 lunations = 121 cycles [121 x 235 lunations = 28435 lunations] + 12 lunations

| 70 Weeks | | | Daniel 9:24-27 |
|---|---|---|---|
| 7 weeks | 62 weeks | 1 week | Eph. 5:2; Heb. 5:1; 7:27; 8:3-4; 9:8-10; 14-18; 10:1-2, 5-10; 13:8-15<br>Mat. 26:17-30<br>Mar. 14:1, 12<br>Luke 22:7-23<br>Ex. 12:1-6; 13:3-10<br>Lev. 23:4-8<br>Gal. 4:10; Eph. 2:11-22 |
| 69.5 weeks | | | |

69.5 x 7 = 486.5 days / years.....>**Abib 14/15**
486.5 x 365.2422 = 177690.3303 days
177690.3303 / 29.53059 = 6017.1615 lunations
0.1615 x 29.53059 = 4.7692 days
6017 lunations = 25 cycles [25 x 235 lun. = 5875 lun.] + 142 lunations

Days relationship

| 10 | | 10 | 11 | 12 | 13 | 14 | + |
|---|---|---|---|---|---|---|---|
| 6017 lunations | | 4.7 days | | | | | |
| 10* | 177690.3303 days from * to * | | | | | | *15 |

Months relationship

| 07 | | 07 | 08 | 09 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|
| 486 Years | | Six Months | | | | | | 01 |

Explanation

These charts using the solar year and the lunar month demonstrate that if we start from the Day of Atonement, (Tishri 10) and advance 2300 evenings/mornings or 2300 prophetic days or 2300 solar years or 840057.06 days, or 28447.0124 lunations, we arrive exactly on the Day of Atonement (Tishri 10). They also show that if we start from the time of the evening sacrifice on the Day of Atonement and advance 69.5 weeks or 486.5 prophetic days, or 486.5 solar years, or 177690.3303 days or 6017.1615 lunations or 6017 lunations + 4.7692 days, we arrive exacly in the night the Passover Lamb was eaten (* to *). This helps to confirm typologically and astronomically the relationship between Daniel 8:14 and Daniel 9:24-27. (See Detailed Chart)

Demonstration by means of the Julian Day System (UT)

JD 1554806.0416667 ( Oct. 29, 13:00, 457 B.C.) + 840057.06 = JD 2394863.1016667 (Oct. 23, 14:26:24, A.D. 1844)

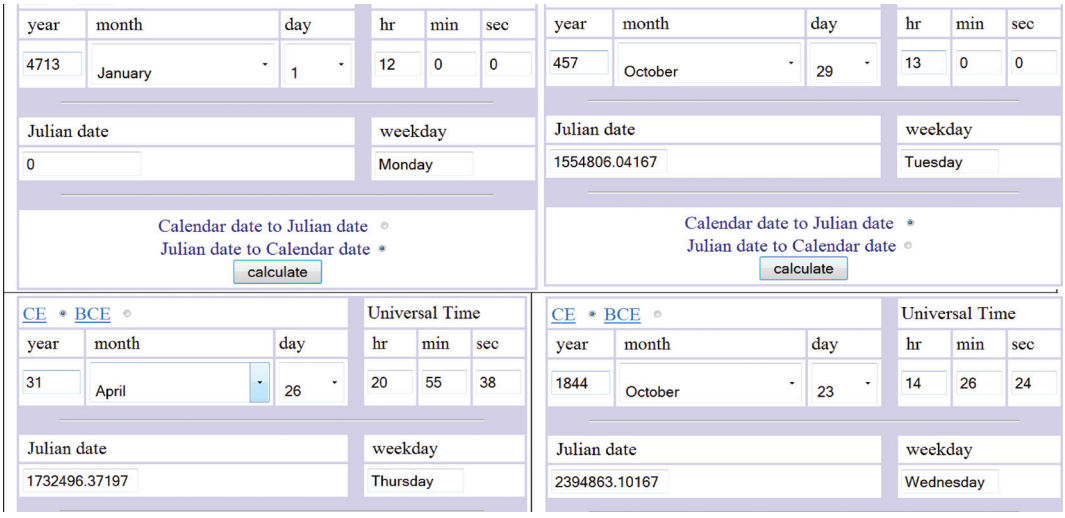
JD 1554806.0416667 ( Oct. 29, 13:00, 457 B.C.) + 177690.3303 = JD 1732496.37197 (Apr. 26, 20:55:38, A.D. 31)

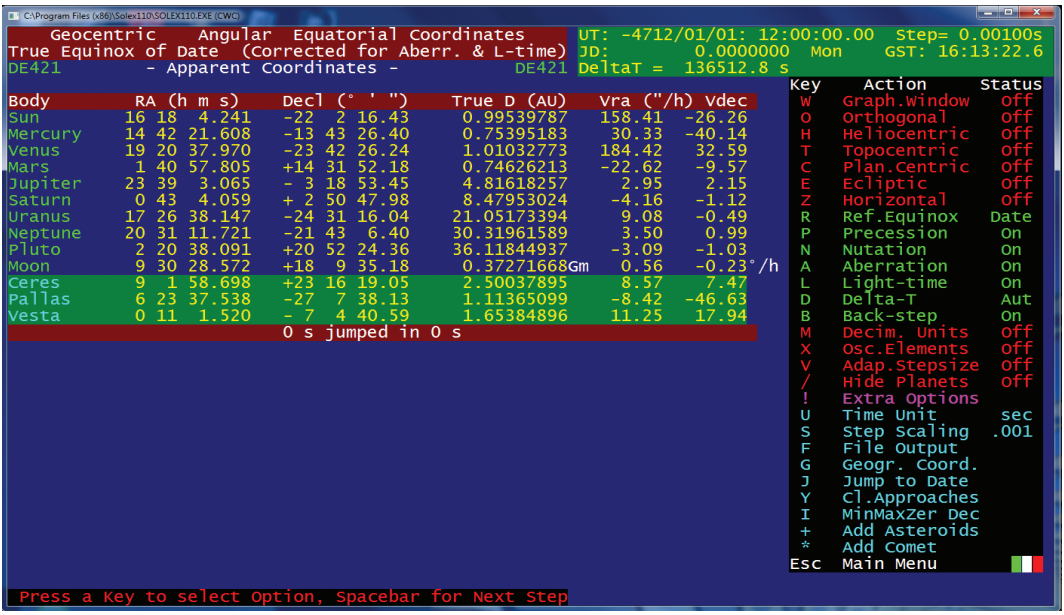
Conformity with the Bible is attained by using the true solar times of specific longitudes, latitudes and altitudes in Jerusalem. It must be pointed out that biblically the reference points are the sunsets, the morning and evening sacrifices, and the events pointed out by Jesus Christ during the religious Friday, Nisan 15, A.D. 31.

" The law of God is as sacred as himself. It is a revelation of his will, a transcript of his character, the expression of divine love and wisdom. The harmony of creation depends upon the perfect conformity of all beings, of everything, animate and inanimate, to the law of the Creator. God has ordained laws for the government, not only of living beings, but of all the operations of nature. Everything is under fixed laws, which cannot be disregarded. But while everything in nature is governed by natural laws, man alone, of all that inhabits the earth, is amenable to moral law." Patriarchs and Prophets, page 52.
See G. C. pages 326-328, 340-342, 345, 398-400, 405, 410-411, 424, 457 and D. A. page 642.

Check in the site http://www.onlineconversion.com/julian_date.htm,
The program is using Universal Time, but Jerusalem Local Time must be used. For example 13:00:00 UT = 15:00:00 Jerusalem Zone Time = 15:21 Local MeanTime = 15:21 + Equation of Time = True Solar Time.

| |
|---|
| Divide the Julian Day Number by 7 and multiply the remainder, the fractional part, by 7 (the divisor), to get the day of the week. |
| January 01 = Julian Day 0 divided by 7 = 0.0<br>0.0 x 7 = 0 = Monday |
| On January 1, 4713 B.C.,12:00:00 UT, the time elapsed was 0. |
| January 08 = Julian Day 7 divided by 7 = 1.0<br>0.0 x 7 = 0 = Monday |
| January 09 = Julian Day 8 divided by 7 = 1.142857143<br>0.142857143 x 7 = 1 = Tuesday |
| January 10 = Julian Day 9 divided by 7 = 1.285714286<br>0.285714286 x 7 = 2 = Wednesday |
| January 11 = Julian Day 10 divided by 7 = 1.428571429<br>0.428571429 x 7 = 3 = Thursday |
| January 12 = Julian Day 11 divided by 7 = 1.571428571<br>0.571428571 x 7 = 4 = Friday |
| January 13 = Julian Day 12 divided by 7 = 1.714285714<br>0.714285714 x 7 = 5 = Saturday |
| January 14 = Julian Day 13 divided by 7 = 1.857142857<br>0.857142857 x 7 = 6 = Sunday |
| 0 = Mon., 1 = Tue., 2 = Wed., 3 = Thu., 4 = Fri., 5 = Sat., 6 = Sun. |






Solex 11.0 is presently one of the most accurate ephemeris generator available at http://chemistry.unina.it/~alvitagl/solex/.

## UT JULIAN DAY 0

January 1, 4713 B.C. (-4712), Greenwich mean noon, Universal Time, Monday, is the starting point of this useful astronomical scale devised by the French Calvinist scholar Joseph Justus Scaliger (Aug. 5, 1540 – Jan. 21, 1609).The difference between Terrestrial Time and Universal Time is named Delta-T.

In 1583, Scaliger published his book *De Emendatione Temporum*, establishing chronology as a science. His Julian Period Cycle is made up of the Solar Cycle of 28 years, the Metonic (lunar) Cycle of 19 years and the Roman Indiction Cycle of 15 years, totaling 7,980 (28 x 19 x 15 = 7980) years. Whence 7,980 x 365.25 = 2,914,695 days in a Julian Period Cycle.

In the introduction to Book V, Scaliger states: "We call this Julian merely because it is accommodated to the Julian year."

Robert Lotharing, bishop of Hereford, first saw the conveniences of this system. In 1849, the astronomer John F. Herschel proposed counting from Greenwich midday.

Julian date (JD): the interval of time in days and fraction of a day since 4713 B.C. January 1, Greenwich noon, Julian proleptic calendar. In precise work the timescale, e.g., dynamical time or universal time, should be specified.

Julian day number (JD): the integral part of the Julian date.

Besides the Julian Day (JD), there are also the Modified Julian Day (MJD) and the Julian Ephemeris Day (JDE) or (TT = Terrestrial Time).

Most of the astronomy programs have this useful resource.

For a nice Julian day converter go to: http://www.onlineconversion.com/julian_date.htm

## Answers to the Above

1. B. C. 1 begins with the beginning of A. J. P. 4713, and ends with the beginning of A. J. P. 4714. {February 5, 1845 JVHe, HST 204.5}
2. It is; and the *ordinai* spans the entire year of A. J. P. 4713,--the commencement of that year being the numeral 1 year, B. C. {February 5, 1845 JVHe, HST 204.6}
3. That would be the case if time progressed *backwards*; but as the *ena* of that year is 12 full months *after* the *beginning*, if it begins with A. J. P. 4713, it must end with A. J. P. 4714. {February 5, 1845 JVHe, HST 204.7}
4. It is not constructed differently, only as we reckon *each way* from a common centre. {February 5, 1845 JVHe, HST 204.8}
5. It is. {February 5, 1845 JVHe, HST 204.9}
6. It would then have been 1 full year, and only the *commencemeni* of A. D. 2. {February 5, 1845 JVHe, HST 204.10}
7. O no, brother; If the era began with Jany. 1st, A. J. P. 4714, you will see that we must reckon the era from the *ena* of A. J. P. 4713. Subtract that from the commencement of A. J. P. 6558, the first of this year, and we have 1844 full years, so that on the 1st of Jany. we *commenceo* A. D. 1845. {February 5, 1845 JVHe, HST 204.11}
8. O no; They are thus expressed: {February 5, 1845 JVHe, HST 204.12}

| a. j. p. 4712 | a. j. p. 4713 | a. j. p. 4714 | a. j. p. 4715 |
|---|---|---|---|
| b. c. 2 | b. c. 1 | a. d. 1 | a. d. 2 |

b. c. b. c. a. d. 1 year 2 years

2 years. 1 year. 0 from a.d. from a. d.

Thus it will be seen that while the ordinal spans an arch of one entire year, the numeral marks only the *termination* of each year from A. D., or the commencement of each year B. C. {February 5, 1845 JVHe, HST 204.13}

It will thus be seen that from the commencement of any year B. C. to the end of any year A. D. is a number of years equal to the sum of he two numbers. And from a given point in any year B. C. to the same point in any year A. D. is one year less than the sum of the two. Thus from Jan. 1st, B. C. 1 to Dec. 31st, A. D. 1, is two full years. But from April 1, B. C. 1 to April 1, A.D. 1, is only one full year. {February 5, 1845 JVHe, HST 204.14}

The following article was written some time since, but was laid aside from the belief that the question had been made so plain, that its insertion would be useless. But we find that many are still unable to see the principle upon which the vulgar era is acjusted. We therefore insert it, hoping that it will enable all to see that we are to reckon from the *ena* of A. J. P. 4713; and that we are to subtract that number from any subsequent year of the Julian Period to give us the then current year from A. D.--the remainder being the full years, and the balance of a year being so much of the succeeding ordinal. This from 6558 gives 1844 years last Jany., and now we are one month into A. D. 1845, and in A. J. P. 6558. {February 5, 1845 JVHe, HST 204.15}

We trust that all who have written to us on this subject, will receive it as our answer to each; and we trust that all others will pardon its insertion, as our object is to relieve the perplexities of brethren on this point. The Julian Period. {February 5, 1845 JVHe, HST 204.16}

The Julian Period is entirely artificial, and is formed by the continued multiplication of the Cycles of the Sun 28 years, of the Moon 19 years, and of Indiction 15 years; whose product gives 7980. In its first year the Cycle of the Sun was 1, of the Moon 1, and of Indiction 1; but the three Cycles can never so correspond again until the end of it. Every intermediate year will be distinguished by different numbers of those Cycles, until the last year, 7980, when the division by the prime numbers 28, 19, and 15, respectively, will leave no remainders; the numbers then expressing the last years of each Cycle. {February 5, 1845 JVHe, HST 204.17}

Now the commencement of the Vulgar Era was at the termination of one year of the Julian Period, and the commencement of another. The year which has just closed was noted by the years of the current Cycle of the Sun 9, of the Moon 1, and of Indiction 3; while the year just commenced was noted by the years of the current Cycle of the Sun 10, of the Moon 2, and of Indiction 4; and from these characters the corresponding years of the Julian Period, *between* which the vulgar era dates, are found by finding such numbers as being divided by the three prime integral numbers, 28, 19, and 15, shall leave the given remainders, 9, 1, and 3, for the year which then expired; and 10, 2, and 4, for the year which then commenced. {February 5, 1845 JVHe, HST 204.18}

But as to find the unknown numbers which being thus respectively divided leave the given remainders, would be the result of a long algebraical demonstration of a compound problem, which our readers might not all understand, or be interested in, we will merely give Beverege's rule, which is the result of Simpson's ingenious and subtile analytical solution, viz.: {February 5, 1845 JVHe, HST 204.19}

"Multiply the given year of the Cycle of the Sun by 4845; of the Moon by 4200; and of Indiction by 6916; and divide the sum of the products by 7980; and the *remainder* will be the year of the Julian Period required." Thus {February 5, 1845 JVHe, HST 204.20}

S. 9 X 4845=43605 {February 5, 1845 JVHe, HST 204.21}

M. 1 X 4200=4200 {February 5, 1845 JVHe, HST 204.22}

I. 3 X 6916=20748 {February 5, 1845 JVHe, HST 204.23}

It amounts to 68553. Divide this by 7980 and it is contained in it 8 times, with a remainder of 4713, the year of the Julian Period which dosed at the Vulgar Era. {February 5, 1845 JVHe, HST 204.24}

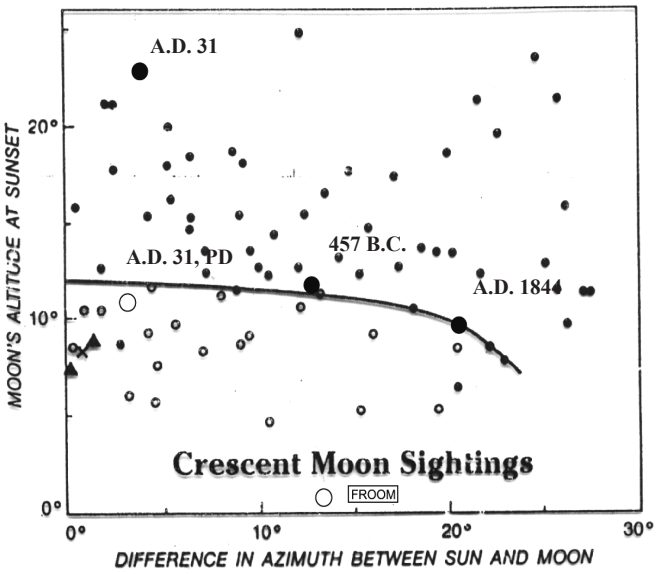
To prove this, the 4713 must be divided by 28, 19, and 15, successively; and the quotients are 168, 248, 314,--the number of revolutions of each cycle, from the beginning of this period until that time; and the remainders are 9, 1, and 3, the years of the current cycles respectively. It is thus proved that the year which terminated at the vulgar era was A. J. P. 4713; and consequently the year which then commenced was A. J. P. 4714. This is also proved by dividing 4714 by 28, 19, and 15, successively, which gives the same quotients as above, with the remainders 10, 2, and 4, the years of the respective cycles which commenced at the same point. Consequently as we have but 4713 full years of the Julian Period at the vulgar era, to reach the commencement of the present year of that period, we must add 1844 full years. So that Jany. 1st commcened A. D. 1845. {February 5, 1845 JVHe, HST 204.25}

The year of the Julian Period corresponding to any other year, is found in the same manner as the above by the current years of these cycles. Thus the year A. D. 1845 is the year of the Solar cyle 6, of the Lunar 3, and of the Roman Indiction 3. We must, therefore, have just entered the Julian year 6558; because that number divided by 28, 19, and 15 successively, leaves for remainders 6, 3, and 3, corresponding to the years of the cycles as noted above. It will, therefore, be seen that the Julian Period is not dated from any given year before creation; but its commencement is extended back from the vulgar era 4713 years, by all chronologers. And they assign the year before creation for its commencement, *earlier* or *later*, just as the number of years are *deficieni*, according to their respective chronologies, after deducting from 4713 the years they respectively allow from creation to the vulgar era. {February 5, 1845 JVHe, HST 204.26}

But it may be asked why not begin the Julian Period with creation? It is because it must commence at a point when the first year of each cycle would be respectively 1; and which cannot be oftener than once in 7980 years; and as the years of the cycles of the year ending at the era were respectively 9, 1, and 3, to begin at a time when they were all respectively 1, the period must be commenced just 4713 full years before that point. And consequently to complete 6557 of that period which terminated last Dec. 31st, we must add 1844 full years; which consequently must then have expired. Therefore A. D. 1845 and A. J. P. 6558 began with the first of last January, & will expire the 31st of next December. {February 5, 1845 JVHe, HST 204.27}

We have gone into this question so fully at this time, because we find that in many places the brethren have been perplexed respecting it; and we saw that to enable all to understand the matter, we must show the principle upon which the Julian Period is formed. We hope we have now made this question so plain, that all will see its true bearing, and save us from again adverting to it. {February 5, 1845 JVHe, HST 204.28}

As Bro. Marsh has gone into this question so extensively, and the above letter and reply covers the whole ground, he may see fit to publish it, or point out our mistake. {February 5, 1845 JVHe, HST 204.29}




This diagram, adapted from Joseph Ashbrook's *The Astronomical Scrapbook*, has long been used to predict the visibility of a crescent Moon. Solid dots represent naked-eye sightings, while open dots indicate failed attempts. The line forms an approximate boundary, while X marks a questionable sighting made in England in 1916. The gray triangle is Robert Victor's binocular observation, and the solid triangle denotes the naked-eye sightings made in New Mexico last May.

Chart scanned from the Sky and Telescope, September, 1989.
Data adapted from the RedShift-2 for the Sun and the Moon at sunset in Jerusalem:

| | | |
|---|---|---|
| Tishri 1 starts on Oct. 19, 457 B. C. | Nisan 1 starts on Apr. 12, A. D. 31 | Tishri 1 starts on Oct. 13, A. D. 1844 |
| Sun: Az.: 260 deg. 36 min. Alt.: -0 deg. 53 min. | Az.: 279 deg. 46 min. Alt.: -0 deg. 51 min. | Az.: 261 deg. 05 min. Alt.: -0 deg. 45 min. |
| Moon: Az.: 248 deg. 07 min. Alt.: 11 deg. 52 min. | Az.: 275 deg. 35 min. Alt.: 22 deg. 39 min. | Az.: 241 deg. 12 min. Alt.: 09 deg. 47 min. |
| Julian day = 1554796.1326 | Julian day = 1732482.1687 | Julian day = 2394853.1313 |

Besides the Moon´s altitude at sunset and the difference in azimuth between the Sun and the Moon, there are other criteria that must be taken into account. To better understand the crescent visibility criteria, go to the following Web Sites and download the excellent program MoonCalc 6.0, by Dr. Monzur Ahmed.

http://www.moonsighting.com

http://www.starlight.demon.co.uk/mooncalc
http://www.icoproject.org/accut.html

Other good programs, with precise coordinates of Jerusalem, are found at:

http://www.geocities.com/royh_il/software.htm

http://www.sym454.org/

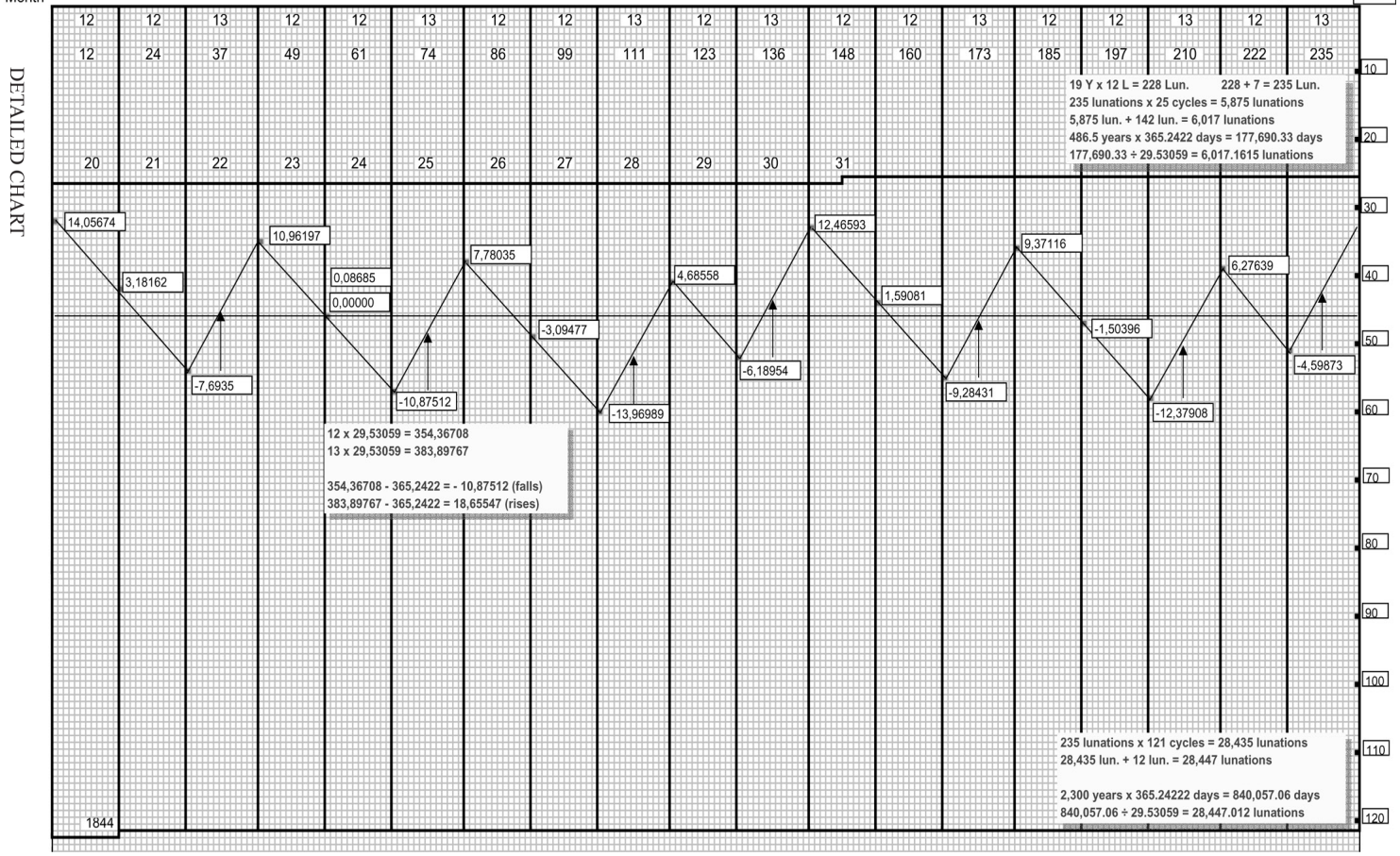
SCHEMATIC DISTRIBUTION OF LUNATIONS IN METONIC CYCLES (For precision, visibility checking is required.)

365.2422 days ÷ 29.53059 days = 12.368266 lunations in one solar year.

| **457** B.C. | 456 | 455 | 454 | 453 | 452 | 451 | 450 | 449 | 448 | 447 | 446 | 445 | 444 | 443 | 442 | 441 | 440 | 439 | 438 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

(7) Tishri 1 and (1) Nisan 1 schematic correspondences in the Julian Calendar. The arrows stand for Veadars.

| Day | **10/19** | 04/15 | 10/09 | 04/03 | 09/27 | 04/22 | 10/16 | 04/11 | 10/05 | 03/31 | 09/24 | 04/19 | 10/13 | 04/08 | 10/02 | 03/28 | 09/21 | 04/16 | 10/10 | 04/05 | 09/29 | 04/24 | **10/18** | 04/13 | 10/07 | 04/02 | 09/26 | 04/21 | 10/15 | 04/10 | 10/04 | 03/30 | 09/23 | 04/18 | 10/12 | 04/06 | 09/30 | 04/25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 |
| Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



This application may be used to check the dates in Horn´s conversion tables in *The Chronology of Ezra 7*, pages 128 and 154, and astronomical data in the Almagest, by Ptolemy.

**Calendar Module**

| | | | | | | |
|---|---|---|---|---|---|---|
| Egyptian calendar date (noon epoch) | Day: 1 | Month: Thoth [I] | Year: 284 | Era Nabonassar | | |
| Alexandria time | 0 h | 0 m | 0 s | (local time since noon) | | |
| Other eras used | -140 | Era Philip († Alexander) | -434 | Era Augustus | | |
| in the *Almagest* | -579 | Era Hadrian | -600 | Era Antoninus | | |
| Callippic calendar date (sunset epoch) | Day: 3 | Month: Poseideon | Cycle: -1 | Year: 18 | | |
| Dionysian calendar date (sunrise epoch) | Day: 25 | Month: Toxoton [Sagittarius] | Year: -179 | | | |
| Alexandrian calendar date (sunrise epoch) | Day: 21 | Month: Choiach [IV] | Year: -747 | Era Diocletian | | |
| Nabonassar Day Number | 103295 | | | Julian Day Number | 1551932.904468 | |
| Julian calendar date (midnight epoch) | Weekday: Saturday | Day: 17 | Month: December | Year: -464 | CE | |
| Universal Time (UT) | 9 h | 42 m | 26 s | Equation of time correction | Off (mean solar time) | |

Update ephemeris

## Geocentric position of the moon

**Lunar Module**

| | |
|---|---|
| Mean longitude ($\bar{\lambda}$) | 295;46,03 |
| Mean longitude lunar apogee ($\lambda_A$) | 119;32,47 |
| Longitude ascending node lunar orbit ($\lambda_\Omega$) | 245;42,22 |
| Mean epicyclic anomaly ($\bar{\alpha}$) | 176;13,16 |
| Mean luni-solar elongation ($\bar{\eta}$) | 33;49,17 |
| Equation of anomaly (*prosneusis* [$c_3(2\bar{\eta})$]) | 9;35,02 |
| True epicyclic anomaly ($\alpha_0$) | 185;48,18 |
| Equation of centre (*prosthaphairesis* [c]) | -0;38,25 |
| Latitude argument (measured from maximum northern latitude [ω']) | 320;42,06 |
| Geocentric longitude (λ) | 296;24,28 |
| Geocentric latitude (β) | 3;52,09 |
| Geocentric right ascension (α) | 297;43,05 |
| Geocentric declination (δ) | -17;26,20 |
| True luni-solar elongation (η) | 33;45,28 |
| Geocentric distance (terrestrial radii) | 53;42,41 |
| Geocentric parallax | 1;04,00 |
| Geocentric angular diameter | 0;37,26 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| +100y | +10y | +1y | +30d | +10d | +1d | +12h | +1h | +10m | +1m | +10s | +1s |
| –100y | –10y | –1y | –30d | –10d | –1d | –12h | –1h | –10m | –1m | –10s | –1s |
| +1 Ju-Sa conj | +1 Meton cyc | +1 trop. year | +13 lunations | +12 lunations | +1 lunation | | | | | | |

# Almagest Ephemeris Calculator


- Introduction
- How to use the Almagest Ephemeris Calculator
- Dates, calendars and time in the *Almagest*
- The equation of time
- Converting to other prime meridians
- Predicting equinoxes, solstices, syzygies, planetary stations and planetary aspects
- Notation and accuracy of the Almagest Ephemeris Calculator
- Calendar date module
- Precession in longitude and obliquity of the ecliptic
- Geocentric position of the sun
- Geocentric position of the moon
- Geocentric position of Saturn
- Geocentric position of Jupiter
- Geocentric position of Mars
- Geocentric position of Venus
- Geocentric position of Mercury
- Luni-solar and planetary aspects
- Bibliography


Note: This web page is best viewed with a minimum horizontal screen size of 1000 pixels.

**Calendar Module**

| | | | | | | |
|---|---|---|---|---|---|---|
| Egyptian calendar date (noon epoch) | Day: 1 | Month: Thoth [I] | Year: 1 | Era Nabonassar | | |
| Alexandria time | 0 h | 0 m | 0 s | (local time since noon) | | |
| Other eras used in the *Almagest* | -423 | Era Philip († Alexander) | -717 | Era Augustus | | |
| | -862 | Era Hadrian | -883 | Era Antoninus | | |
| Callippic calendar date (sunset epoch) | Day: 7 | Month: Anthesterion | Cycle: -5 | Year: 39 | | |
| Dionysian calendar date (sunrise epoch) | Day: 6 | Month: Ikhthyon [Pisces] | Year: -462 | | | |
| Alexandrian calendar date (sunrise epoch) | Day: 2 | Month: Phamenoth [VII] | Year: -1030 | Era Diocletian | | |
| Nabonassar Day Number | 0 | Julian Day Number | 1448637.904468 | | | |
| Julian calendar date (midnight epoch) | Weekday: Wednesday | Day: 26 | Month: February | Year: -746 | CE | |
| Universal Time (UT) | 9 h | 42 m | 26 s | Equation of time correction | Off (mean solar time) | |

Update ephemeris

Almagest Ephemeris Calculator: http://www2.arnes.si/~gljsentvid10/almagestephemeris.htm
This is an excellent program that may be run in your own computer if you download the page.

| Egyptian Calendar Months > 365 days | | | | | Thoth | Phao. | Athyr | Choiak | Tybi | Mechir | Phame. | Pharm. | Pacho. | Payni | Epiphi | Meso. | Epa. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 5 |
| Nab.Years | B.C. Years | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 5 |
| 0 | 748 | 747 | 746 | 745 | 26-fev | 28-mar | 27-abr | 27-mai | 26-jun | 26-jul | 25-ago | 24-set | 24-out | 23-nov | 23-dez | 22-jan | 5 |
| 4 | 744 | 743 | 742 | 741 | 25-fev | 27-mar | 26-abr | 26-mai | 25-jun | 25-jul | 24-ago | 23-set | 23-out | 22-nov | 22-dez | 21-jan | 5 |
| 8 | 740 | 739 | 738 | 737 | 24-fev | 26-mar | 25-abr | 25-mai | 24-jun | 24-jul | 23-ago | 22-set | 22-out | 21-nov | 21-dez | 20-jan | 5 |
| 12 | 736 | 735 | 734 | 733 | 23-fev | 25-mar | 24-abr | 24-mai | 23-jun | 23-jul | 22-ago | 21-set | 21-out | 20-nov | 20-dez | 19-jan | 5 |
| 16 | 732 | 731 | 730 | 729 | 22-fev | 24-mar | 23-abr | 23-mai | 22-jun | 22-jul | 21-ago | 20-set | 20-out | 19-nov | 19-dez | 18-jan | 5 |
| 20 | 728 | 727 | 726 | 725 | 21-fev | 23-mar | 22-abr | 22-mai | 21-jun | 21-jul | 20-ago | 19-set | 19-out | 18-nov | 18-dez | 17-jan | 5 |
| 24 | 724 | 723 | 722 | 721 | 20-fev | 22-mar | 21-abr | 21-mai | 20-jun | 20-jul | 19-ago | 18-set | 18-out | 17-nov | 17-dez | 16-jan | 5 |
| 28 | 720 | 719 | 718 | 717 | 19-fev | 21-mar | 20-abr | 20-mai | 19-jun | 19-jul | 18-ago | 17-set | 17-out | 16-nov | 16-dez | 15-jan | 5 |
| 32 | 716 | 715 | 714 | 713 | 18-fev | 20-mar | 19-abr | 19-mai | 18-jun | 18-jul | 17-ago | 16-set | 16-out | 15-nov | 15-dez | 14-jan | 5 |
| 36 | 712 | 711 | 710 | 709 | 17-fev | 19-mar | 18-abr | 18-mai | 17-jun | 17-jul | 16-ago | 15-set | 15-out | 14-nov | 14-dez | 13-jan | 5 |
| 40 | 708 | 707 | 706 | 705 | 16-fev | 18-mar | 17-abr | 17-mai | 16-jun | 16-jul | 15-ago | 14-set | 14-out | 13-nov | 13-dez | 12-jan | 5 |
| 44 | 704 | 703 | 702 | 701 | 15-fev | 17-mar | 16-abr | 16-mai | 15-jun | 15-jul | 14-ago | 13-set | 13-out | 12-nov | 12-dez | 11-jan | 5 |
| 48 | 700 | 699 | 698 | 697 | 14-fev | 16-mar | 15-abr | 15-mai | 14-jun | 14-jul | 13-ago | 12-set | 12-out | 11-nov | 11-dez | 10-jan | 5 |
| 52 | 696 | 695 | 694 | 693 | 13-fev | 15-mar | 14-abr | 14-mai | 13-jun | 13-jul | 12-ago | 11-set | 11-out | 10-nov | 10-dez | 9-jan | 5 |
| 56 | 692 | 691 | 690 | 689 | 12-fev | 14-mar | 13-abr | 13-mai | 12-jun | 12-jul | 11-ago | 10-set | 10-out | 9-nov | 9-dez | 8-jan | 5 |
| 60 | 688 | 687 | 686 | 685 | 11-fev | 13-mar | 12-abr | 12-mai | 11-jun | 11-jul | 10-ago | 9-set | 9-out | 8-nov | 8-dez | 7-jan | 5 |
| 64 | 684 | 683 | 682 | 681 | 10-fev | 12-mar | 11-abr | 11-mai | 10-jun | 10-jul | 9-ago | 8-set | 8-out | 7-nov | 7-dez | 6-jan | 5 |
| 68 | 680 | 679 | 678 | 677 | 9-fev | 11-mar | 10-abr | 10-mai | 9-jun | 9-jul | 8-ago | 7-set | 7-out | 6-nov | 6-dez | 5-jan | 5 |
| 72 | 676 | 675 | 674 | 673 | 8-fev | 10-mar | 9-abr | 9-mai | 8-jun | 8-jul | 7-ago | 6-set | 6-out | 5-nov | 5-dez | 4-jan | 5 |
| 76 | 672 | 671 | 670 | 669 | 7-fev | 9-mar | 8-abr | 8-mai | 7-jun | 7-jul | 6-ago | 5-set | 5-out | 4-nov | 4-dez | 3-jan | 5 |
| 80 | 668 | 667 | 666 | 665 | 6-fev | 8-mar | 7-abr | 7-mai | 6-jun | 6-jul | 5-ago | 4-set | 4-out | 3-nov | 3-dez | 2-jan | 5 |
| 84 | 664 | 663 | 662 | 661 | 5-fev | 7-mar | 6-abr | 6-mai | 5-jun | 5-jul | 4-ago | 3-set | 3-out | 2-nov | 2-dez | 1-jan | 5 |
| 88 | 660 | 659 | 658 | 657 | 4-fev | 6-mar | 5-abr | 5-mai | 4-jun | 4-jul | 3-ago | 2-set | 2-out | 1-nov | 1-dez | 31-dez | 5 |
| 92 | 656 | 655 | 654 | 653 | 3-fev | 5-mar | 4-abr | 4-mai | 3-jun | 3-jul | 2-ago | 1-set | 1-out | 31-out | 30-nov | 30-dez | 5 |
| 96 | 652 | 651 | 650 | 649 | 2-fev | 4-mar | 3-abr | 3-mai | 2-jun | 2-jul | 1-ago | 31-ago | 30-set | 30-out | 29-nov | 29-dez | 5 |
| 100 | 648 | 647 | 646 | 645 | 1-fev | 3-mar | 2-abr | 2-mai | 1-jun | 1-jul | 31-jul | 30-ago | 29-set | 29-out | 28-nov | 28-dez | 5 |
| 104 | 644 | 643 | 642 | 641 | 31-jan | 2-mar | 1-abr | 1-mai | 31-mai | 30-jun | 30-jul | 29-ago | 28-set | 28-out | 27-nov | 27-dez | 5 |
| 108 | 640 | 639 | 638 | 637 | 30-jan | 1-mar | 31-mar | 30-abr | 30-mai | 29-jun | 29-jul | 28-ago | 27-set | 27-out | 26-nov | 26-dez | 5 |
| 112 | 636 | 635 | 634 | 633 | 29-jan | 28-fev | 30-mar | 29-abr | 29-mai | 28-jun | 28-jul | 27-ago | 26-set | 26-out | 25-nov | 25-dez | 5 |
| 116 | 632 | 631 | 630 | 629 | 28-jan | 27-fev | 29-mar | 28-abr | 28-mai | 27-jun | 27-jul | 26-ago | 25-set | 25-out | 24-nov | 24-dez | 5 |
| 120 | 628 | 627 | 626 | 625 | 27-jan | 26-fev | 28-mar | 27-abr | 27-mai | 26-jun | 26-jul | 25-ago | 24-set | 24-out | 23-nov | 23-dez | 5 |
| 124 | 624 | 623 | 622 | 621 | 26-jan | 25-fev | 27-mar | 26-abr | 26-mai | 25-jun | 25-jul | 24-ago | 23-set | 23-out | 22-nov | 22-dez | 5 |
| 128 | 620 | 619 | 618 | 617 | 25-jan | 24-fev | 26-mar | 25-abr | 25-mai | 24-jun | 24-jul | 23-ago | 22-set | 22-out | 21-nov | 21-dez | 5 |
| 132 | 616 | 615 | 614 | 613 | 24-jan | 23-fev | 25-mar | 24-abr | 24-mai | 23-jun | 23-jul | 22-ago | 21-set | 21-out | 20-nov | 20-dez | 5 |
| 136 | 612 | 611 | 610 | 609 | 23-jan | 22-fev | 24-mar | 23-abr | 23-mai | 22-jun | 22-jul | 21-ago | 20-set | 20-out | 19-nov | 19-dez | 5 |
| 140 | 608 | 607 | 606 | 605 | 22-jan | 21-fev | 23-mar | 22-abr | 22-mai | 21-jun | 21-jul | 20-ago | 19-set | 19-out | 18-nov | 18-dez | 5 |
| 144 | 604 | 603 | 602 | 601 | 21-jan | 20-fev | 22-mar | 21-abr | 21-mai | 20-jun | 20-jul | 19-ago | 18-set | 18-out | 17-nov | 17-dez | 5 |
| 148 | 600 | 599 | 598 | 597 | 20-jan | 19-fev | 21-mar | 20-abr | 20-mai | 19-jun | 19-jul | 18-ago | 17-set | 17-out | 16-nov | 16-dez | 5 |
| 152 | 596 | 595 | 594 | 593 | 19-jan | 18-fev | 20-mar | 19-abr | 19-mai | 18-jun | 18-jul | 17-ago | 16-set | 16-out | 15-nov | 15-dez | 5 |
| 156 | 592 | 591 | 590 | 589 | 18-jan | 17-fev | 19-mar | 18-abr | 18-mai | 17-jun | 17-jul | 16-ago | 15-set | 15-out | 14-nov | 14-dez | 5 |
| 160 | 588 | 587 | 586 | 585 | 17-jan | 16-fev | 18-mar | 17-abr | 17-mai | 16-jun | 16-jul | 15-ago | 14-set | 14-out | 13-nov | 13-dez | 5 |
| 164 | 584 | 583 | 582 | 581 | 16-jan | 15-fev | 17-mar | 16-abr | 16-mai | 15-jun | 15-jul | 14-ago | 13-set | 13-out | 12-nov | 12-dez | 5 |
| 168 | 580 | 579 | 578 | 577 | 15-jan | 14-fev | 16-mar | 15-abr | 15-mai | 14-jun | 14-jul | 13-ago | 12-set | 12-out | 11-nov | 11-dez | 5 |
| 172 | 576 | 575 | 574 | 573 | 14-jan | 13-fev | 15-mar | 14-abr | 14-mai | 13-jun | 13-jul | 12-ago | 11-set | 11-out | 10-nov | 10-dez | 5 |
| 176 | 572 | 571 | 570 | 569 | 13-jan | 12-fev | 14-mar | 13-abr | 13-mai | 12-jun | 12-jul | 11-ago | 10-set | 10-out | 9-nov | 9-dez | 5 |
| 180 | 568 | 567 | 566 | 565 | 12-jan | 11-fev | 13-mar | 12-abr | 12-mai | 11-jun | 11-jul | 10-ago | 9-set | 9-out | 8-nov | 8-dez | 5 |
| 184 | 564 | 563 | 562 | 561 | 11-jan | 10-fev | 12-mar | 11-abr | 11-mai | 10-jun | 10-jul | 9-ago | 8-set | 8-out | 7-nov | 7-dez | 5 |
| 188 | 560 | 559 | 558 | 557 | 10-jan | 9-fev | 11-mar | 10-abr | 10-mai | 9-jun | 9-jul | 8-ago | 7-set | 7-out | 6-nov | 6-dez | 5 |
| 192 | 556 | 555 | 554 | 553 | 9-jan | 8-fev | 10-mar | 9-abr | 9-mai | 8-jun | 8-jul | 7-ago | 6-set | 6-out | 5-nov | 5-dez | 5 |
| 196 | 552 | 551 | 550 | 549 | 8-jan | 7-fev | 9-mar | 8-abr | 8-mai | 7-jun | 7-jul | 6-ago | 5-set | 5-out | 4-nov | 4-dez | 5 |
| 200 | 548 | 547 | 546 | 545 | 7-jan | 6-fev | 8-mar | 7-abr | 7-mai | 6-jun | 6-jul | 5-ago | 4-set | 4-out | 3-nov | 3-dez | 5 |
| 204 | 544 | 543 | 542 | 541 | 6-jan | 5-fev | 7-mar | 6-abr | 6-mai | 5-jun | 5-jul | 4-ago | 3-set | 3-out | 2-nov | 2-dez | 5 |
| 208 | 540 | 539 | 538 | 537 | 5-jan | 4-fev | 6-mar | 5-abr | 5-mai | 4-jun | 4-jul | 3-ago | 2-set | 2-out | 1-nov | 1-dez | 5 |
| 212 | 536 | 535 | 534 | 533 | 4-jan | 3-fev | 5-mar | 4-abr | 4-mai | 3-jun | 3-jul | 2-ago | 1-set | 1-out | 31-out | 30-nov | 5 |
| 216 | 532 | 531 | 530 | 529 | 3-jan | 2-fev | 4-mar | 3-abr | 3-mai | 2-jun | 2-jul | 1-ago | 31-ago | 30-set | 30-out | 29-nov | 5 |
| 220 | 528 | 527 | 526 | 525 | 2-jan | 1-fev | 3-mar | 2-abr | 2-mai | 1-jun | 1-jul | 31-jul | 30-ago | 29-set | 29-out | 28-nov | 5 |
| 224 | 524 | 523 | 522 | 521 | 1-jan | 31-jan | 2-mar | 1-abr | 1-mai | 31-mai | 30-jun | 30-jul | 29-ago | 28-set | 28-out | 27-nov | 5 |
| 228 | 521 | 520 | 519 | 518 | 31-dez | 30-jan | 1-mar | 31-mar | 30-abr | 30-mai | 29-jun | 29-jul | 28-ago | 27-set | 27-out | 26-nov | 5 |
| 232 | 517 | 516 | 515 | 514 | 30-dez | 29-jan | 28-fev | 30-mar | 29-abr | 29-mai | 28-jun | 28-jul | 27-ago | 26-set | 26-out | 25-nov | 5 |
| 236 | 513 | 512 | 511 | 510 | 29-dez | 28-jan | 27-fev | 29-mar | 28-abr | 28-mai | 27-jun | 27-jul | 26-ago | 25-set | 25-out | 24-nov | 5 |
| 240 | 509 | 508 | 507 | 506 | 28-dez | 27-jan | 26-fev | 28-mar | 27-abr | 27-mai | 26-jun | 26-jul | 25-ago | 24-set | 24-out | 23-nov | 5 |
| 244 | 505 | 504 | 503 | 502 | 27-dez | 26-jan | 25-fev | 27-mar | 26-abr | 26-mai | 25-jun | 25-jul | 24-ago | 23-set | 23-out | 22-nov | 5 |
| 248 | 501 | 500 | 499 | 498 | 26-dez | 25-jan | 24-fev | 26-mar | 25-abr | 25-mai | 24-jun | 24-jul | 23-ago | 22-set | 22-out | 21-nov | 5 |
| 252 | 497 | 496 | 495 | 494 | 25-dez | 24-jan | 23-fev | 25-mar | 24-abr | 24-mai | 23-jun | 23-jul | 22-ago | 21-set | 21-out | 20-nov | 5 |
| 256 | 493 | 492 | 491 | 490 | 24-dez | 23-jan | 22-fev | 24-mar | 23-abr | 23-mai | 22-jun | 22-jul | 21-ago | 20-set | 20-out | 19-nov | 5 |
| 260 | 489 | 488 | 487 | 486 | 23-dez | 22-jan | 21-fev | 23-mar | 22-abr | 22-mai | 21-jun | 21-jul | 20-ago | 19-set | 19-out | 18-nov | 5 |
| 264 | 485 | 484 | 483 | 482 | 22-dez | 21-jan | 20-fev | 22-mar | 21-abr | 21-mai | 20-jun | 20-jul | 19-ago | 18-set | 18-out | 17-nov | 5 |
| 268 | 481 | 480 | 479 | 478 | 21-dez | 20-jan | 19-fev | 21-mar | 20-abr | 20-mai | 19-jun | 19-jul | 18-ago | 17-set | 17-out | 16-nov | 5 |
| 272 | 477 | 476 | 475 | 474 | 20-dez | 19-jan | 18-fev | 20-mar | 19-abr | 19-mai | 18-jun | 18-jul | 17-ago | 16-set | 16-out | 15-nov | 5 |
| 276 | 473 | 472 | 471 | 470 | 19-dez | 18-jan | 17-fev | 19-mar | 18-abr | 18-mai | 17-jun | 17-jul | 16-ago | 15-set | 15-out | 14-nov | 5 |
| 280 | 469 | 468 | 467 | 466 | 18-dez | 17-jan | 16-fev | 18-mar | 17-abr | 17-mai | 16-jun | 16-jul | 15-ago | 14-set | 14-out | 13-nov | 5 |
| 284 | 465 | 464 | 463 | 462 | 17-dez | 16-jan | 15-fev | 17-mar | 16-abr | 16-mai | 15-jun | 15-jul | 14-ago | 13-set | 13-out | 12-nov | 5 |
| 288 | 461 | 460 | 459 | 458 | 16-dez | 15-jan | 14-fev | 16-mar | 15-abr | 15-mai | 14-jun | 14-jul | 13-ago | 12-set | 12-out | 11-nov | 5 |
| 292 | 457 | 456 | 455 | 454 | 15-dez | 14-jan | 13-fev | 15-mar | 14-abr | 14-mai | 13-jun | 13-jul | 12-ago | 11-set | 11-out | 10-nov | 5 |

The Nabonassar Era starts on Thoth 1 = Feb 26/27, 747 BC, sunrise to sunrise or noon to noon by Ptolemy.
For the Canon of Ptolemy, page 128 of "Chronology of Ezra 7" Second Edition, Revised, by Horn and Wood.
For double dating, using Egyptian date = Babylonian/Persian/Jewish date, see page 154 of Horn.
1461 Egyptian years = 1460 Julian years (1461 x 365 = 533265 days) = (1460 x 365.25 = 533265 days).

Download the excellent program *Almagest Ephemeris Calculator* by van Gent.

| Egyptian Calendar Months -> | | | | | Thoth | Phaophi | Athyr | Choiak | Tybi | Mechir | Phamenoth | Pharmuthi | Pachons | Payni | Epiphi | Mesore |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | = | 365 | days | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Nabo.Year | | B.C. Years | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 0 | 748 | 747 | 746 | 745 | 26-fev | 28-mar | 27-abr | 27-mai | 26-jun | 26-jul | 25-ago | 24-set | 24-out | 23-nov | 23-dez | 22-jan |
| 4 | 744 | 743 | 742 | 741 | 25-fev | 27-mar | 26-abr | 26-mai | 25-jun | 25-jul | 24-ago | 23-set | 23-out | 22-nov | 22-dez | 21-jan |
| 8 | 740 | 739 | 738 | 737 | 24-fev | 26-mar | 25-abr | 25-mai | 24-jun | 24-jul | 23-ago | 22-set | 22-out | 21-nov | 21-dez | 20-jan |
| 12 | 736 | 735 | 734 | 733 | 23-fev | 25-mar | 24-abr | 24-mai | 23-jun | 23-jul | 22-ago | 21-set | 21-out | 20-nov | 20-dez | 19-jan |
| 16 | 732 | 731 | 730 | 729 | 22-fev | 24-mar | 23-abr | 23-mai | 22-jun | 22-jul | 21-ago | 20-set | 20-out | 19-nov | 19-dez | 18-jan |
| 20 | 728 | 727 | 726 | 725 | 21-fev | 23-mar | 22-abr | 22-mai | 21-jun | 21-jul | 20-ago | 19-set | 19-out | 18-nov | 18-dez | 17-jan |
| 24 | 724 | 723 | 722 | 721 | 20-fev | 22-mar | 21-abr | 21-mai | 20-jun | 20-jul | 19-ago | 18-set | 18-out | 17-nov | 17-dez | 16-jan |
| 28 | 720 | 719 | 718 | 717 | 19-fev | 21-mar | 20-abr | 20-mai | 19-jun | 19-jul | 18-ago | 17-set | 17-out | 16-nov | 16-dez | 15-jan |
| 32 | 716 | 715 | 714 | 713 | 18-fev | 20-mar | 19-abr | 19-mai | 18-jun | 18-jul | 17-ago | 16-set | 16-out | 15-nov | 15-dez | 14-jan |
| 36 | 712 | 711 | 710 | 709 | 17-fev | 19-mar | 18-abr | 18-mai | 17-jun | 17-jul | 16-ago | 15-set | 15-out | 14-nov | 14-dez | 13-jan |
| 40 | 708 | 707 | 706 | 705 | 16-fev | 18-mar | 17-abr | 17-mai | 16-jun | 16-jul | 15-ago | 14-set | 14-out | 13-nov | 13-dez | 12-jan |
| 44 | 704 | 703 | 702 | 701 | 15-fev | 17-mar | 16-abr | 16-mai | 15-jun | 15-jul | 14-ago | 13-set | 13-out | 12-nov | 12-dez | 11-jan |
| 48 | 700 | 699 | 698 | 697 | 14-fev | 16-mar | 15-abr | 15-mai | 14-jun | 14-jul | 13-ago | 12-set | 12-out | 11-nov | 11-dez | 10-jan |
| 52 | 696 | 695 | 694 | 693 | 13-fev | 15-mar | 14-abr | 14-mai | 13-jun | 13-jul | 12-ago | 11-set | 11-out | 10-nov | 10-dez | 9-jan |
| 56 | 692 | 691 | 690 | 689 | 12-fev | 14-mar | 13-abr | 13-mai | 12-jun | 12-jul | 11-ago | 10-set | 10-out | 9-nov | 9-dez | 8-jan |
| 60 | 688 | 687 | 686 | 685 | 11-fev | 13-mar | 12-abr | 12-mai | 11-jun | 11-jul | 10-ago | 9-set | 9-out | 8-nov | 8-dez | 7-jan |
| 64 | 684 | 683 | 682 | 681 | 10-fev | 12-mar | 11-abr | 11-mai | 10-jun | 10-jul | 9-ago | 8-set | 8-out | 7-nov | 7-dez | 6-jan |
| 68 | 680 | 679 | 678 | 677 | 9-fev | 11-mar | 10-abr | 10-mai | 9-jun | 9-jul | 8-ago | 7-set | 7-out | 6-nov | 6-dez | 5-jan |
| 72 | 676 | 675 | 674 | 673 | 8-fev | 10-mar | 9-abr | 9-mai | 8-jun | 8-jul | 7-ago | 6-set | 6-out | 5-nov | 5-dez | 4-jan |
| 76 | 672 | 671 | 670 | 669 | 7-fev | 9-mar | 8-abr | 8-mai | 7-jun | 7-jul | 6-ago | 5-set | 5-out | 4-nov | 4-dez | 3-jan |
| 80 | 668 | 667 | 666 | 665 | 6-fev | 8-mar | 7-abr | 7-mai | 6-jun | 6-jul | 5-ago | 4-set | 4-out | 3-nov | 3-dez | 2-jan |
| 84 | 664 | 663 | 662 | 661 | 5-fev | 7-mar | 6-abr | 6-mai | 5-jun | 5-jul | 4-ago | 3-set | 3-out | 2-nov | 2-dez | 1-jan |
| 88 | 660 | 659 | 658 | 657 | 4-fev | 6-mar | 5-abr | 5-mai | 4-jun | 4-jul | 3-ago | 2-set | 2-out | 1-nov | 1-dez | 31-dez |
| 92 | 656 | 655 | 654 | 653 | 3-fev | 5-mar | 4-abr | 4-mai | 3-jun | 3-jul | 2-ago | 1-set | 1-out | 31-out | 30-nov | 30-dez |
| 96 | 652 | 651 | 650 | 649 | 2-fev | 4-mar | 3-abr | 3-mai | 2-jun | 2-jul | 1-ago | 31-ago | 30-set | 30-out | 29-nov | 29-dez |
| 100 | 648 | 647 | 646 | 645 | 1-fev | 3-mar | 2-abr | 2-mai | 1-jun | 1-jul | 31-jul | 30-ago | 29-set | 29-out | 28-nov | 28-dez |
| 104 | 644 | 643 | 642 | 641 | 31-jan | 2-mar | 1-abr | 1-mai | 31-mai | 30-jun | 30-jul | 29-ago | 28-set | 28-out | 27-nov | 27-dez |
| 108 | 640 | 639 | 638 | 637 | 30-jan | 1-mar | 31-mar | 30-abr | 30-mai | 29-jun | 29-jul | 28-ago | 27-set | 27-out | 26-nov | 26-dez |
| 112 | 636 | 635 | 634 | 633 | 29-jan | 28-fev | 30-mar | 29-abr | 29-mai | 28-jun | 28-jul | 27-ago | 26-set | 26-out | 25-nov | 25-dez |
| 116 | 632 | 631 | 630 | 629 | 28-jan | 27-fev | 29-mar | 28-abr | 28-mai | 27-jun | 27-jul | 26-ago | 25-set | 25-out | 24-nov | 24-dez |
| 120 | 628 | 627 | 626 | 625 | 27-jan | 26-fev | 28-mar | 27-abr | 27-mai | 26-jun | 26-jul | 25-ago | 24-set | 24-out | 23-nov | 23-dez |
| 124 | 624 | 623 | 622 | 621 | 26-jan | 25-fev | 27-mar | 26-abr | 26-mai | 25-jun | 25-jul | 24-ago | 23-set | 23-out | 22-nov | 22-dez |
| 128 | 620 | 619 | 618 | 617 | 25-jan | 24-fev | 26-mar | 25-abr | 25-mai | 24-jun | 24-jul | 23-ago | 22-set | 22-out | 21-nov | 21-dez |
| 132 | 616 | 615 | 614 | 613 | 24-jan | 23-fev | 25-mar | 24-abr | 24-mai | 23-jun | 23-jul | 22-ago | 21-set | 21-out | 20-nov | 20-dez |
| 136 | 612 | 611 | 610 | 609 | 23-jan | 22-fev | 24-mar | 23-abr | 23-mai | 22-jun | 22-jul | 21-ago | 20-set | 20-out | 19-nov | 19-dez |
| 140 | 608 | 607 | 606 | 605 | 22-jan | 21-fev | 23-mar | 22-abr | 22-mai | 21-jun | 21-jul | 20-ago | 19-set | 19-out | 18-nov | 18-dez |
| 144 | 604 | 603 | 602 | 601 | 21-jan | 20-fev | 22-mar | 21-abr | 21-mai | 20-jun | 20-jul | 19-ago | 18-set | 18-out | 17-nov | 17-dez |
| 148 | 600 | 599 | 598 | 597 | 20-jan | 19-fev | 21-mar | 20-abr | 20-mai | 19-jun | 19-jul | 18-ago | 17-set | 17-out | 16-nov | 16-dez |
| 152 | 596 | 595 | 594 | 593 | 19-jan | 18-fev | 20-mar | 19-abr | 19-mai | 18-jun | 18-jul | 17-ago | 16-set | 16-out | 15-nov | 15-dez |
| 156 | 592 | 591 | 590 | 589 | 18-jan | 17-fev | 19-mar | 18-abr | 18-mai | 17-jun | 17-jul | 16-ago | 15-set | 15-out | 14-nov | 14-dez |
| 160 | 588 | 587 | 586 | 585 | 17-jan | 16-fev | 18-mar | 17-abr | 17-mai | 16-jun | 16-jul | 15-ago | 14-set | 14-out | 13-nov | 13-dez |
| 164 | 584 | 583 | 582 | 581 | 16-jan | 15-fev | 17-mar | 16-abr | 16-mai | 15-jun | 15-jul | 14-ago | 13-set | 13-out | 12-nov | 12-dez |
| 168 | 580 | 579 | 578 | 577 | 15-jan | 14-fev | 16-mar | 15-abr | 15-mai | 14-jun | 14-jul | 13-ago | 12-set | 12-out | 11-nov | 11-dez |
| 172 | 576 | 575 | 574 | 573 | 14-jan | 13-fev | 15-mar | 14-abr | 14-mai | 13-jun | 13-jul | 12-ago | 11-set | 11-out | 10-nov | 10-dez |
| 176 | 572 | 571 | 570 | 569 | 13-jan | 12-fev | 14-mar | 13-abr | 13-mai | 12-jun | 12-jul | 11-ago | 10-set | 10-out | 9-nov | 9-dez |
| 180 | 568 | 567 | 566 | 565 | 12-jan | 11-fev | 13-mar | 12-abr | 12-mai | 11-jun | 11-jul | 10-ago | 9-set | 9-out | 8-nov | 8-dez |
| 184 | 564 | 563 | 562 | 561 | 11-jan | 10-fev | 12-mar | 11-abr | 11-mai | 10-jun | 10-jul | 9-ago | 8-set | 8-out | 7-nov | 7-dez |
| 188 | 560 | 559 | 558 | 557 | 10-jan | 9-fev | 11-mar | 10-abr | 10-mai | 9-jun | 9-jul | 8-ago | 7-set | 7-out | 6-nov | 6-dez |
| 192 | 556 | 555 | 554 | 553 | 9-jan | 8-fev | 10-mar | 9-abr | 9-mai | 8-jun | 8-jul | 7-ago | 6-set | 6-out | 5-nov | 5-dez |
| 196 | 552 | 551 | 550 | 549 | 8-jan | 7-fev | 9-mar | 8-abr | 8-mai | 7-jun | 7-jul | 6-ago | 5-set | 5-out | 4-nov | 4-dez |
| 200 | 548 | 547 | 546 | 545 | 7-jan | 6-fev | 8-mar | 7-abr | 7-mai | 6-jun | 6-jul | 5-ago | 4-set | 4-out | 3-nov | 3-dez |
| 204 | 544 | 543 | 542 | 541 | 6-jan | 5-fev | 7-mar | 6-abr | 6-mai | 5-jun | 5-jul | 4-ago | 3-set | 3-out | 2-nov | 2-dez |
| 208 | 540 | 539 | 538 | 537 | 5-jan | 4-fev | 6-mar | 5-abr | 5-mai | 4-jun | 4-jul | 3-ago | 2-set | 2-out | 1-nov | 1-dez |
| 212 | 536 | 535 | 534 | 533 | 4-jan | 3-fev | 5-mar | 4-abr | 4-mai | 3-jun | 3-jul | 2-ago | 1-set | 1-out | 31-out | 30-nov |
| 216 | 532 | 531 | 530 | 529 | 3-jan | 2-fev | 4-mar | 3-abr | 3-mai | 2-jun | 2-jul | 1-ago | 31-ago | 30-set | 30-out | 29-nov |
| 220 | 528 | 527 | 526 | 525 | 2-jan | 1-fev | 3-mar | 2-abr | 2-mai | 1-jun | 1-jul | 31-jul | 30-ago | 29-set | 29-out | 28-nov |
| 224 | 524 | 523 | 522 | 521 | 1-jan | 31-jan | 2-mar | 1-abr | 1-mai | 31-mai | 30-jun | 30-jul | 29-ago | 28-set | 28-out | 27-nov |
| 228 | 521 | 520 | 519 | 518 | 31-dez | 30-jan | 1-mar | 31-mar | 30-abr | 30-mai | 29-jun | 29-jul | 28-ago | 27-set | 27-out | 26-nov |
| 232 | 517 | 516 | 515 | 514 | 30-dez | 29-jan | 28-fev | 30-mar | 29-abr | 29-mai | 28-jun | 28-jul | 27-ago | 26-set | 26-out | 25-nov |
| 236 | 513 | 512 | 511 | 510 | 29-dez | 28-jan | 27-fev | 29-mar | 28-abr | 28-mai | 27-jun | 27-jul | 26-ago | 25-set | 25-out | 24-nov |
| 240 | 509 | 508 | 507 | 506 | 28-dez | 27-jan | 26-fev | 28-mar | 27-abr | 27-mai | 26-jun | 26-jul | 25-ago | 24-set | 24-out | 23-nov |
| 244 | 505 | 504 | 503 | 502 | 27-dez | 26-jan | 25-fev | 27-mar | 26-abr | 26-mai | 25-jun | 25-jul | 24-ago | 23-set | 23-out | 22-nov |
| 248 | 501 | 500 | 499 | 498 | 26-dez | 25-jan | 24-fev | 26-mar | 25-abr | 25-mai | 24-jun | 24-jul | 23-ago | 22-set | 22-out | 21-nov |
| 252 | 497 | 496 | 495 | 494 | 25-dez | 24-jan | 23-fev | 25-mar | 24-abr | 24-mai | 23-jun | 23-jul | 22-ago | 21-set | 21-out | 20-nov |
| 256 | 493 | 492 | 491 | 490 | 24-dez | 23-jan | 22-fev | 24-mar | 23-abr | 23-mai | 22-jun | 22-jul | 21-ago | 20-set | 20-out | 19-nov |
| 260 | 489 | 488 | 487 | 486 | 23-dez | 22-jan | 21-fev | 23-mar | 22-abr | 22-mai | 21-jun | 21-jul | 20-ago | 19-set | 19-out | 18-nov |
| 264 | 485 | 484 | 483 | 482 | 22-dez | 21-jan | 20-fev | 22-mar | 21-abr | 21-mai | 20-jun | 20-jul | 19-ago | 18-set | 18-out | 17-nov |
| 268 | 481 | 480 | 479 | 478 | 21-dez | 20-jan | 19-fev | 21-mar | 20-abr | 20-mai | 19-jun | 19-jul | 18-ago | 17-set | 17-out | 16-nov |
| 272 | 477 | 476 | 475 | 474 | 20-dez | 19-jan | 18-fev | 20-mar | 19-abr | 19-mai | 18-jun | 18-jul | 17-ago | 16-set | 16-out | 15-nov |
| 276 | 473 | 472 | 471 | 470 | 19-dez | 18-jan | 17-fev | 19-mar | 18-abr | 18-mai | 17-jun | 17-jul | 16-ago | 15-set | 15-out | 14-nov |
| 280 | 469 | 468 | 467 | 466 | 18-dez | 17-jan | 16-fev | 18-mar | 17-abr | 17-mai | 16-jun | 16-jul | 15-ago | 14-set | 14-out | 13-nov |
| 284 | 465 | 464 | 463 | 462 | 17-dez | 16-jan | 15-fev | 17-mar | 16-abr | 16-mai | 15-jun | 15-jul | 14-ago | 13-set | 13-out | 12-nov |
| 288 | 461 | 460 | 459 | 458 | 16-dez | 15-jan | 14-fev | 16-mar | 15-abr | 15-mai | 14-jun | 14-jul | 13-ago | 12-set | 12-out | 11-nov |
| 292 | 457 | 456 | 455 | 454 | 15-dez | 14-jan | 13-fev | 15-mar | 14-abr | 14-mai | 13-jun | 13-jul | 12-ago | 11-set | 11-out | 10-nov |
| 296 | 453 | 452 | 451 | 450 | 14-dez | 13-jan | 12-fev | 14-mar | 13-abr | 13-mai | 12-jun | 12-jul | 11-ago | 10-set | 10-out | 9-nov |
| 300 | 449 | 448 | 447 | 446 | 13-dez | 12-jan | 11-fev | 13-mar | 12-abr | 12-mai | 11-jun | 11-jul | 10-ago | 9-set | 9-out | 8-nov |
| 304 | 445 | 444 | 443 | 442 | 12-dez | 11-jan | 10-fev | 12-mar | 11-abr | 11-mai | 10-jun | 10-jul | 9-ago | 8-set | 8-out | 7-nov |
| 308 | 441 | 440 | 439 | 438 | 11-dez | 10-jan | 9-fev | 11-mar | 10-abr | 10-mai | 9-jun | 9-jul | 8-ago | 7-set | 7-out | 6-nov |
| 312 | 437 | 436 | 435 | 434 | 10-dez | 9-jan | 8-fev | 10-mar | 9-abr | 9-mai | 8-jun | 8-jul | 7-ago | 6-set | 6-out | 5-nov |
| 316 | 433 | 432 | 431 | 430 | 9-dez | 8-jan | 7-fev | 9-mar | 8-abr | 8-mai | 7-jun | 7-jul | 6-ago | 5-set | 5-out | 4-nov |
| 320 | 429 | 428 | 427 | 426 | 8-dez | 7-jan | 6-fev | 8-mar | 7-abr | 7-mai | 6-jun | 6-jul | 5-ago | 4-set | 4-out | 3-nov |
| 324 | 425 | 424 | 423 | 422 | 7-dez | 6-jan | 5-fev | 7-mar | 6-abr | 6-mai | 5-jun | 5-jul | 4-ago | 3-set | 3-out | 2-nov |
| 328 | 421 | 420 | 419 | 418 | 6-dez | 5-jan | 4-fev | 6-mar | 5-abr | 5-mai | 4-jun | 4-jul | 3-ago | 2-set | 2-out | 1-nov |
| 332 | 417 | 416 | 415 | 414 | 5-dez | 4-jan | 3-fev | 5-mar | 4-abr | 4-mai | 3-jun | 3-jul | 2-ago | 1-set | 1-out | 31-out |
| 336 | 413 | 412 | 411 | 410 | 4-dez | 3-jan | 2-fev | 4-mar | 3-abr | 3-mai | 2-jun | 2-jul | 1-ago | 31-ago | 30-set | 30-out |
| 340 | 409 | 408 | 407 | 406 | 3-dez | 2-jan | 1-fev | 3-mar | 2-abr | 2-mai | 1-jun | 1-jul | 31-jul | 30-ago | 29-set | 29-out |
| 344 | 405 | 404 | 403 | 402 | 2-dez | 1-jan | 31-jan | 2-mar | 1-abr | 1-mai | 31-mai | 30-jun | 30-jul | 29-ago | 28-set | 28-out |
| 348 | 401 | 400 | 399 | 398 | 1-dez | 31-dez | 30-jan | 1-mar | 31-mar | 30-abr | 30-mai | 29-jun | 29-jul | 28-ago | 27-set | 27-out |

Thoth 1 = Feb 26/27, 747 BC, sunrise to sunrise

For the Canon of Ptolemy, see page 128 of "Chronology of Ezra 7" Second Edition, Revised, by S. H. Horn and L. H. Wood

For double dating, using Egyptian date = Babylonian/Persian/Jewish date, see page 154 of Horn.

1461 Egyptian years = 1460 Julian years (1461 x 365 = 533265 days) = (1460 x 365.25 = 533265 days)

# YEARS OF REIGN OF ARTAXERXES I LONGIMANUS ACCORDING TO THE BABYLONIAN/PERSIAN, JEWISH AND EGYPTIAN CALENDARS

Olympiad I 78.4
AUC 289

GC 326

| Julian B.C. | 465 | 464 | 463 | 462 | 461 | 460 | 459 | 458 | 457 | 456 | 455 | 454 | 453 | 452 | 451 | 450 | 449 | 448 | 447 | 446 | 445 | 444 | 443 | 442 | 441 | 440 | 439 | 438 | 437 | 436 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NISAN 1 | M25 A24 | | A 13 | A 03 | A 22 | A 11 | M 31 | A 19 | A 08 | M27 A26 | A 15 | A 04 | A 23 | A 12 | A 02 | A 20 | A 10 | M 29 | A 16 | A 06 | M26 A25 | A 13 | A 03 | A 22 | A 11 | M 31 | A 18 | A 07 | M 28 A26 | A 14 | A 04 |
| BAB | acc | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | ■14 | 15 | 16 | 17 | 18 | 19 | **20** | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| TISHRI 1 | | O 9 | O 08 | S 27 | O 16 | O 04 | S 23 | O 12 | O 02 | S21 O 20 | O 10 | S 29 | O 18 | O 06 | S25 | O 14 | O 04 | S 22 | O 12 | O 01 | S20 O19 | O 08 | S 27 | O 15 | O 05 | S 23 | O 12 | O 02 | O 21 | O 09 | S 28 |
| JEW | acc ? | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | **20** | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| | | | | | | | | | Ezra 7 | | | | | | | | | | | | | | | | | | | | | | |
| | acc ? | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| TOTH 1 | | DEC. 17 | 17 | 17 | 17 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 10 | 10 |
| EGY | | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 |
| acc ? | | 1 | 2 | 3 | 4 | 5 | 6 | 7■ | 8 | 9 | 10 | 11 | 12 | 13 | 14■ | 15 | 16■ | 17 | 18 | 19■ | **20** | 21 | 22 | 23 | 24 | 25■ | 26 | 27 | 28■ | 29 | 30 |

LBART 1419, death of Xerxes on August 4-8. P.D. 17.

AP 6, Kislev 18 = Toth [17] year 21, the beginning of the reign of Artaxerxes I. (Jan. 2/3, 464 B.C.) Horn 98-127, 135-139, 173-174.

Cairo

See Uriah Smith's mistake in Daniel and Revelation, page 230.

Kraeling 1

Horn's bias

Kraeling 2

AP 13

Neh. 1:1; 2:1; 3:1,3; 6:15; 8:1, 4, 5, 9, 13; 9:1; 12:13, 36.

AP 14

Kraeling 3

| Julian B.C. | 435 | 434 | 433 | 432 | 431 | 430 | 429 | 428 | 427 | 426 | 425 | 424 | 423 | 422 | 421 | 420 | 419 | 418 | 417 | 416 | 415 | 414 | 413 | 412 | 411 | 410 | 409 | 408 | 407 | 406 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NISAN 1 | A 23 | A 13 | A 01 | A 20 | A 09 | M 29 | A 16 | A 05 | M26 A24 | A 14 | A 03 | A 22 | A 12 | M 31 | A 18 | A07 | M27 A26 | A 15 | A 04 | A 23 | A 13 | A 02 | A 19 | A 08 | M 29 | A 17 | A 05 | M26 A24 | A 14 | A 03 |
| BAB | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8■ | 9 | 10 | 11 | 12 | 13■ | 14 | 15 | 16 | 17 | 18 |
| TISHRI 1 | O 17 | | O 06 | S 25 | O 14 | O 04 | S 23 | O 11 | S 30 | S20 0 19 | O 08 | S 26 | O 15 | O 05 | S 24 | O 12 | O 02 | S21 O21 | O 10 | S 28 | O 17 | O 06 | S 26 | O 14 | O 04 | S 23 | O 12 | S 30 | O 18 | O 08 | S 27 |
| JEW | 30 | | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 1 | 2 | 3■ | 4 | 5 | 6 | 7 | ■8 | 9 | 10 | 11 | 12 | ■13 | 14 | 15 | 16 | 17 | 18 |
| | | | | | | | | | | | | | acc | | | | | | | | | | | | | | | | | | |
| | | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| TOTH 1 | | DEC. 10 | 10 | 09 | 09 | 09 | 09 | 08 | 08 | 08 | 08 | 07 | 07 | 07 | 07 | 06 | 06 | 06 | 06 | 05 | 05 | 05 | 05 | 04 | 04 | 04 | 04 | 03 | 03 | 03 | 03 |
| EGY | | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 |
| | | 31■ | 32 | 33 | 34 | 35 | 36 | 37 | 38■ | 39 | 40 | 41 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ■9 | 10 | 11 | 12 | 13 | ■14 | 15 | 16 | 17 | 18 | 19 |

Kraeling 4

Neh. 5:14; 13:6.

Kraeling 5

Death of Artaxerxes I by February, 423 B.C. See P.D. 18 and Horn 108, 170-171.

Kraeling 6 "On the 8th of Pharmuthi, which is the 8th day of Tammuz, year 3 of Darius, the King. (July 11/12, 420 B.C.). See Horn 84-89, 148-149.

AP 25
Horn 82-83, 151.

Horn's bias

AP 28
Horn 82-83, 151-152.

Horn's bias

AP 30, AP 31
Ezr. 10:6; Neh. 2:10, 19; 3:1; 4:1; 12:22-23; 13:28.
Johanan, Sanballat

| P 4 = J 3 | P 4 = J 4 |
|---|---|
| Nisan | Tishri |
| Iyyar | Marchesh |
| Sivan | Kislev |
| Tammuz | Tebeth |
| Ab | Shevat |
| Elul | Adar |

The Scribes did not care to point out year number difference between the Jewish (Tishri – Tishri) and the Egyptian Calendar, but did care to point out difference between the Egyptian and the Persian (AP 25 and 28). So, it seems the Scribes had the Persian Calendar in mind and not the Jewish Calendar, as assumed by Horn. The only document supporting a Tishri –Tishri system is Kraeling 6. There is none in the Artaxerxes I period. See also Bickerman, page 25.

that the Jews in Elephantine used a fall-to-fall calendar as their contemporaries in Judah did.

The publication, in 1956, of a newly discovered Babylonian Chronicle of Nebuchadnezzar's time brought to light some additional evidence for the existence of the Jewish fall-to-fall calendar, and for the fact that the regnal years of foreign kings were reckoned according to this Jewish calendar.[12] In conclusion it can thus be said that the Biblical data, supported by the Babylonian Chronicle for the pre-exilic period and by the Elephantine papyri for the postexilic period, make the existence and use of the civil fall-to-fall calendar among Jews quite certain.

*The accession of Artaxerxes determined.*—The solution of the second problem is needed in order to determine whether this regnal year of Artaxerxes I according to Jewish reckoning preceded or followed that of the Persians.[13] If he began to reign between Nisan and Tishri, the following Jewish New Year would come before the Persian New Year; hence Jewish years would run 6 months ahead of the Persian years, for the Jews, beginning the first year of the king in Tishri, counted it as such while it was still the accession year for the Persians until the next spring. If he came to the throne between Tishri and Nisan, the Persian year 1 would begin first in Nisan, but the Jews would continue to count that regnal year as the accession year until the next Tishri, 6 months later than the Persian year.

[12] See pp. 64-67.
[13] See chapter 5.





If the exact time of accession of a king is not ascertainable, an uncertainty remains as to which Jewish year is the accession year and which the 1st year, and the conversion of a Jewish date into the Julian calendar may be off by one year. For Artaxerxes I this uncertainty still exists to a certain degree. The only document dated in the calendar year in which Xerxes' death and Artaxerxes' accession occurred gives us merely the information that Artaxerxes had come to the throne before Jan. 2, 464 B.C. However, this document is one of the Jewish Elephantine papyri, and therefore applies the Jewish fall-to-fall calendar in its date line. It must be remembered that this document, written between Tishri, 465, and Nisan, 464, is dated "accession year of Artaxerxes." This shows that Artaxerxes could not have come to the throne, or at least was not recognized in Elephantine as king, until after Tishri 1. Otherwise the Jewish scribe would have written "year 1 of Artaxerxes" and not accession year. In this same document the equating of Artaxerxes' accession year with the 21st year of Xerxes—although Xerxes may have died in August, according to an unconfirmed report of a Hellenistic scribe—reflects an uncertainty caused by a power struggle after Xerxes' murder. This explains why the scribe continued to use the slain Xerxes' year 21 until it was certain which contender would hold the throne. Examples from other periods, before and after Artaxerxes' reign, prove this reasoning correct.[14]

Therefore we can conclude with reasonable cer-

[14] See pp. 170-172.

This Table from the SDABC corresponds to the Table found in *Chronology of Ezra 7*, Second Edition, pages 157–159. I am using this one because of its improved layout.



## Tables of Elephantine Jewish Calendar, 472/471 Through 400/399 B.C.

How to Use This Calendar Tabulation:—Each horizontal line of dates in this tabulation represents a regnal year as reckoned in the Jewish fall-to-fall calendar, beginning with Tishri, the 7th month. The first eight-line section comprises the 14th through the 21st years of Xerxes, and the following sections are the reigns of Artaxerxes I and so on. The boldface figures are the B.C. years (those starred are leap years); and the dates on each line (10/6, 11/5, etc.) are the Julian-calendar dates on which the 1st of each Jewish month falls.

For example, the first line represents the 14th year of Xerxes by Jewish reckoning. It begins in 472 B.C. (second column) with Tish[ri] 1, which falls on October 6, abbreviated to 10/6 (third column), that is, the day beginning at sunset of October 5. The 1st of the next month, Mar[heshvan], is 11/5 (November 5, beginning at sunset of November 4); Kislev[ 1 is December 4. Next comes the boldface figure 471, indicating the opening of a new B.C. year (Julian). Hence the remaining months of this Jewish year begin in 471: Teb[eth] 1 falls on January 3, 471; Shebat[ 1 on February 1, Ad[ar] 1 on March 3, Nis[an] 1 on April 1, Iyy[ar] 1 on May 1, Siv[an] 1 on May 30, Tam[muz] 1 on June 29, Ab 1 on July 28, Elul 1 on August 27. This last date appears in a box because one of the double-dated papyri was written in that month, thus fixing the date. (The 16 dates so marked on this calendar are the basis on which the rest of the calendar is computed.)

In the next year, the 15th of Xerxes, which begins in 471 B.C. (September 25), Tebeth is still in 471; hence the boldface date 470 appears in the column between Tebeth and Shebat, which is the first month beginning in 470. Thus 15th year has a 13th month, the second Adar. The column headed "Ad[ar] II" shows that 9 out of 19 years contain the second Adar.

Many Biblical dates in this volume of the commentary have been computed according to this sensitive reconstruction of the Jewish calendar; for example, the dates of Ezra's journey to Judea (Ezra 7:9; 8:15, 31). In the tabulation the line numbered the 7th year of Artaxerxes I shows that year beginning by Jewish reckoning in 458 B.C., on Tishri 1, or October 2, and places Nisan 1 of that year, the date of Ezra's departure, on March 27, 457. Ezra left Ahava on the 12th of the same month, 11 days later, which would be April 7 (that is, April 6/7, sunset to sunset); and his arrival date, the 1st of the 5th month (Ab), was July 25. Although the B.C. number at the beginning of this 7th year is 458, it changes to 457 between Tebeth 1 and Shebat 1; hence Ezra's dates in Nisan and Ab are all in 457.

### XERXES

| Year Regnal BC | (7) Tish. | (8) Mar. | (9) Kis. | BC | (10) Teb. | BC | (11) Sheb. | (12) Ad. | (13) Ad. II | (1) Nis. | (2) Iyy. | (3) Siv. | (4) Tam. | (5) Ab | (6) Elul |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *14* 472 | 10/6 | 11/5 | 12/4 | 471 | 1/3 | | 2/1 | 3/3 | | 4/1 | 5/1 | 5/30 | 6/29 | 7/28 | 8/27 |
| *15* 471 | 9/25 | 10/25 | 11/23 | | 12/23 | 470 | 1/21 | 2/20 | 3/22 | 4/20 | 5/20 | 6/18 | 7/18 | 8/16 | 9/15 |
| *16* 470 | 10/14 | 11/13 | 12/12 | 469* | 1/11 | | 2/9 | 3/10 | | 4/8 | 5/8 | 6/6 | 7/6 | 8/4 | 9/3 |
| *17* 469 | 10/2 | 11/1 | 12/1 | | 12/31 | 468 | 1/29 | 2/28 | | 3/29 | 4/28 | 5/27 | 6/26 | 7/25 | 8/24 |
| *18* 468 | 9/22 | 10/22 | 11/20 | | 12/20 | 467 | 1/18 | 2/17 | 3/19 | 4/17 | 5/17 | 6/15 | 7/15 | 8/13 | 9/12 |
| *19* 467 | 10/11 | 11/10 | 12/9 | 466 | 1/8 | | 2/6 | 3/8 | | 4/6 | 5/6 | 6/4 | 7/4 | 8/2 | 9/1 |
| *20* 466 | 9/30 | 10/30 | 11/28 | | 12/28 | 465* | 1/26 | 2/25 | 3/26 | 4/24 | 5/24 | 6/22 | 7/22 | 8/20 | 9/19 |
| → *21* 465 | 10/18 | 11/17 | 12/16 | 464 | 1/15 | | 2/13 | 3/15 | | 4/13 | 5/13 | 6/11 | 7/11 | 8/9 | 9/8 |

### ARTAXERXES I

| Year Regnal BC | (7) Tish. | (8) Mar. | (9) Kis. | BC | (10) Teb. | BC | (11) Sheb. | (12) Ad. | (13) Ad. II | (1) Nis. | (2) Iyy. | (3) Siv. | (4) Tam. | (5) Ab | (6) Elul |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *1* 464 | 10/7 | 11/6 | 12/6 | 463 | 1/5 | | 2/3 | 3/5 | | 4/3 | 5/3 | 6/1 | 7/1 | 7/30 | 8/29 |
| *2* 463 | 9/27 | 10/27 | 11/25 | | 12/25 | 462 | 1/23 | 2/22 | 3/24 | 4/22 | 5/22 | 6/20 | 7/20 | 8/18 | 9/17 |
| *3* 462 | 10/16 | 11/15 | 12/14 | 461* | 1/13 | | 2/11 | 3/12 | | 4/10 | 5/10 | 6/8 | 7/8 | 8/6 | 9/5 |
| *4* 461 | 10/4 | 11/3 | 12/2 | 460 | 1/1 | | 1/30 | 3/1 | | 3/30 | 4/29 | 5/28 | 6/27 | 7/26 | 8/25 |
| *5* 460 | 9/23 | 10/23 | 11/21 | | 12/21 | 459 | 1/19 | 2/20 | 3/20 | 4/18 | 5/18 | 6/16 | 7/16 | 8/14 | 9/13 |
| *6* 459 | 10/12 | 11/11 | 12/11 | 458 | 1/10 | | 2/8 | 3/10 | | 4/8 | 5/8 | 6/6 | 7/6 | 8/4 | 9/3 |
| *7* 458 | 10/2 | 11/1 | 11/30 | | 12/30 | 457* | 1/28 | 2/27 | | 3/27 | 4/26 | 5/25 | 6/24 | 7/23 | 8/22 |
| → *8* 457 | 9/20 | 10/20 | 11/18 | | 12/18 | 456 | 1/16 | 2/15 | 3/17 | 4/15 | 5/15 | 6/13 | 7/13 | 8/11 | 9/10 |
| *9* 456 | 10/9 | 11/8 | 12/7 | 455 | 1/6 | | 2/4 | 3/6 | | 4/4 | 5/4 | 6/2 | 7/2 | 7/31 | 8/30 |
| *10* 455 | 9/28 | 10/28 | 11/26 | | 12/26 | 454 | 1/24 | 2/23 | 3/25 | 4/23 | 5/23 | 6/21 | 7/21 | 8/19 | 9/18 |
| *11* 454 | 10/17 | 11/16 | 12/15 | 453* | 1/14 | | 2/12 | 3/13 | | 4/11 | 5/11 | 6/9 | 7/9 | 8/7 | 9/6 |
| *12* 453 | 10/5 | 11/4 | 12/4 | 452 | 1/3 | | 2/1 | 3/3 | | 4/1 | 5/1 | 5/30 | 6/29 | 7/28 | 8/27 |
| *13* 452 | 9/25 | 10/25 | 11/23 | | 12/23 | 451 | 1/21 | 2/20 | 3/22 | 4/20 | 5/20 | 6/18 | 7/18 | 8/16 | 9/15 |
| *14* 451 | 10/14 | 11/13 | 12/12 | 450 | 1/11 | | 2/9 | 3/11 | | 4/9 | 5/9 | 6/7 | 7/7 | 8/5 | 9/4 |
| *15* 450 | 10/3 | 11/2 | 12/2 | 449* | 1/1 | | 1/30 | 2/29 | | 3/29 | 4/28 | 5/27 | 6/26 | 7/25 | 8/24 |
| *16* 449 | 9/22 | 10/22 | 11/20 | | 12/20 | 448 | 1/18 | 2/17 | 3/19 | 4/17 | 5/17 | 6/15 | 7/15 | 8/13 | 9/12 |
| *17* 448 | 10/11 | 11/10 | 12/9 | 447 | 1/8 | | 2/6 | 3/8 | | 4/6 | 5/6 | 6/4 | 7/4 | 8/2 | 9/1 |
| *18* 447 | 9/30 | 10/30 | 11/28 | | 12/28 | 446 | 1/26 | 2/25 | | 3/26 | 4/25 | 5/24 | 6/23 | 7/22 | 8/21 |
| *19* 446 | 9/19 | 10/19 | 11/17 | | 12/17 | 445* | 1/15 | 2/14 | 3/15 | 4/13 | 5/13 | 6/11 | 7/11 | 8/9 | 9/8 |
| *20* 445 | 10/7 | 11/6 | 12/5 | 444 | 1/4 | | 2/2 | 3/4 | | 4/2 | 5/2 | 5/31 | 6/30 | 7/29 | 8/28 |





| Year Regnal BC | (7) Tish. | (8) Mar. | (9) Kis. | BC | (10) Teb. | BC | (11) Sheb. | (12) Ad. | (13) Ad. II | (1) Nis. | (2) Iyy. | (3) Siv. | (4) Tam. | (5) Ab | (6) Elul |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *21* 444 | 9/26 | 10/26 | 11/24 | | 12/24 | 443 | 1/22 | 2/21 | 3/23 | 4/21 | 5/21 | 6/19 | 7/19 | 8/17 | 9/16 |
| *22* 443 | 10/15 | 11/14 | 12/14 | 442 | 1/13 | | 2/11 | 3/13 | | 4/11 | 5/11 | 6/9 | 7/9 | 8/7 | 9/6 |
| *23* 442 | 10/5 | 11/4 | 12/3 | 441* | 1/2 | | 1/31 | 3/1 | | 3/30 | 4/29 | 5/28 | 6/27 | 7/26 | 8/25 |
| *24* 441 | 9/23 | 10/23 | 11/21 | | 12/21 | 440 | 1/19 | 2/18 | 3/20 | 4/18 | 5/18 | 6/16 | 7/16 | 8/14 | 9/13 |
| *25* 440 | 10/12 | 11/11 | 12/10 | 439 | 1/9 | | 2/7 | 3/9 | | 4/7 | 5/7 | 6/5 | 7/5 | 8/3 | 9/2 |
| *26* 439 | 10/1 | 10/31 | 11/29 | | 12/29 | 438 | 1/27 | 2/26 | 3/28 | 4/26 | 5/26 | 6/24 | 7/24 | 8/22 | 9/21 |
| → *27* 438 | 10/20 | 11/19 | 12/18 | 437* | 1/17 | | 2/15 | 3/16 | | 4/14 | 5/14 | 6/12 | 7/12 | 8/10 | 8/30 |
| *28* 437 | 10/8 | 11/7 | 12/7 | 436 | 1/6 | | 2/4 | 3/6 | | 4/4 | 5/4 | 6/2 | 7/2 | 7/31 | 8/30 |
| *29* 436 | 9/28 | 10/28 | 11/26 | | 12/26 | 435 | 1/24 | 2/23 | 3/25 | 4/23 | 5/23 | 6/21 | 7/21 | 8/19 | 9/18 |
| *30* 435 | 10/17 | 11/16 | 12/15 | 434 | 1/14 | | 2/12 | 3/14 | | 4/12 | 5/12 | 6/10 | 7/10 | 8/8 | 9/7 |
| *31* 434 | 10/6 | 11/5 | 12/5 | 433* | 1/4 | | 2/2 | 3/3 | | 4/1 | 5/1 | 5/30 | 6/29 | 7/28 | 8/27 |
| *32* 433 | 9/25 | 10/25 | 11/23 | | 12/23 | 432 | 1/21 | 2/20 | 3/22 | 4/20 | 5/20 | 6/18 | 7/18 | 8/16 | 9/15 |
| *33* 432 | 10/14 | 11/13 | 12/12 | 431 | 1/11 | | 2/9 | 3/11 | | 4/9 | 5/9 | 6/7 | 7/7 | 8/5 | 9/4 |
| *34* 431 | 10/3 | 11/2 | 12/1 | | 12/31 | 430 | 1/29 | 2/28 | | 3/29 | 4/28 | 5/27 | 6/26 | 7/25 | 8/24 |
| *35* 430 | 9/22 | 10/22 | 11/20 | | 12/20 | 429* | 1/18 | 2/17 | 3/18 | 4/16 | 5/16 | 6/14 | 7/14 | 8/12 | 9/11 |
| *36* 429 | 10/10 | 11/9 | 12/9 | 428 | 1/8 | | 2/6 | 3/8 | | 4/6 | 5/6 | 6/4 | 7/4 | 8/2 | 9/1 |
| *37* 428 | 9/30 | 10/30 | 11/28 | | 12/28 | 427 | 1/26 | 2/25 | | 3/26 | 4/25 | 5/24 | 6/23 | 7/22 | 8/21 |
| *38* 427 | 9/19 | 10/19 | 11/17 | | 12/17 | 426 | 1/15 | 2/14 | 3/16 | 4/14 | 5/14 | 6/12 | 7/12 | 8/10 | 9/9 |
| *39* 426 | 10/8 | 11/7 | 12/6 | 425* | 1/5 | | 2/3 | 3/4 | | 4/2 | 5/2 | 5/31 | 6/30 | 7/29 | 8/28 |
| *40* 425 | 9/26 | 10/26 | 11/24 | | 12/24 | 424 | 1/22 | 2/21 | 3/23 | 4/21 | 5/21 | 6/19 | 7/19 | 8/17 | 9/16 |
| *41* 424 | 10/15 | 11/14 | 12/13 | 423 | 1/12 | | 2/10 | 3/12 | | 4/10 | 5/10 | 6/8 | 7/8 | 8/6 | 9/5 |

### DARIUS II

| Year Regnal BC | (7) Tish. | (8) Mar. | (9) Kis. | BC | (10) Teb. | BC | (11) Sheb. | (12) Ad. | (13) Ad. II | (1) Nis. | (2) Iyy. | (3) Siv. | (4) Tam. | (5) Ab | (6) Elul |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *1* 423 | 10/4 | 11/3 | 12/3 | 422 | 1/2 | | 1/31 | 3/2 | | 3/31 | 4/30 | 5/29 | 6/28 | 7/27 | 8/26 |
| *2* 422 | 9/24 | 10/24 | 11/22 | | 12/22 | 421* | 1/20 | 2/19 | 3/20 | 4/18 | 5/18 | 6/16 | 7/16 | 8/14 | 9/13 |
| *3* 421 | 10/12 | 11/11 | 12/10 | 420 | 1/9 | | 2/7 | 3/9 | | 4/7 | 5/7 | 6/5 | 7/5 | 8/3 | 9/2 |
| *4* 420 | 10/1 | 10/31 | 11/30 | | 12/30 | 419 | 1/28 | 2/27 | | 3/28 | 4/27 | 5/26 | 6/25 | 7/24 | 8/23 |
| *5* 419 | 9/21 | 10/21 | 11/19 | | 12/19 | 418 | 1/17 | 2/16 | 3/18 | 4/16 | 5/16 | 6/14 | 7/14 | 8/12 | 9/11 |
| *6* 418 | 10/10 | 11/9 | 12/8 | 417* | 1/7 | | 2/5 | 3/6 | | 4/4 | 5/4 | 6/2 | 7/2 | 7/31 | 8/30 |
| *7* 417 | 9/28 | 10/28 | 11/26 | | 12/26 | 416 | 1/24 | 2/23 | 3/25 | 4/23 | 5/23 | 6/21 | 7/21 | 8/19 | 9/18 |
| *8* 416 | 10/17 | 11/16 | 12/15 | 415 | 1/14 | | 2/12 | 3/14 | | 4/12 | 5/12 | 6/10 | 7/10 | 8/8 | 9/7 |
| *9* 415 | 10/6 | 11/5 | 12/4 | 414 | 1/3 | | 2/1 | 3/3 | | 4/1 | 5/1 | 5/30 | 6/29 | 7/28 | 8/27 |
| *10* 414 | 9/25 | 10/25 | 11/23 | | 12/23 | 413* | 1/21 | 2/20 | 3/21 | 4/19 | 5/19 | 6/17 | 7/17 | 8/15 | 9/14 |
| *11* 413 | 10/13 | 11/12 | 12/12 | 412 | 1/11 | | 2/9 | 3/11 | | 4/9 | 5/9 | 6/7 | 7/7 | 8/5 | 9/4 |
| *12* 412 | 10/3 | 11/2 | 12/1 | | 12/31 | 411 | 1/29 | 2/28 | | 3/29 | 4/28 | 5/27 | 6/26 | 7/25 | 8/24 |
| *13* 411 | 9/22 | 10/22 | 11/20 | | 12/20 | 410 | 1/18 | 2/17 | 3/19 | 4/17 | 5/17 | 6/15 | 7/15 | 8/13 | 9/12 |
| *14* 410 | 10/11 | 11/10 | 12/9 | 409* | 1/8 | | 2/6 | 3/7 | | 4/5 | 5/5 | 6/3 | 7/3 | 8/1 | 8/31 |
| *15* 409 | 9/29 | 10/29 | 11/28 | | 12/28 | 408 | 1/26 | 2/25 | | 3/26 | 4/25 | 5/24 | 6/23 | 7/22 | 8/21 |
| *16* 408 | 9/19 | 10/19 | 11/17 | | 12/17 | 407 | 1/15 | 2/14 | 3/16 | 4/14 | 5/14 | 6/12 | 7/12 | 8/10 | 9/9 |
| *17* 407 | 10/8 | 11/7 | 12/6 | 406 | 1/5 | | 2/3 | 3/5 | | 4/3 | 5/3 | 6/1 | 7/1 | 7/30 | 8/29 |
| *18* 406 | 9/27 | 10/27 | 11/25 | | 12/25 | 405* | 1/23 | 2/22 | 3/23 | 4/21 | 5/21 | 6/19 | 7/19 | 8/17 | 9/16 |
| *19* 405 | 10/15 | 11/14 | 12/13 | 404 | 1/12 | | 2/10 | 3/12 | | 4/10 | 5/10 | 6/8 | 7/8 | 8/6 | 9/5 |

### ARTAXERXES II

| Year Regnal BC | (7) Tish. | (8) Mar. | (9) Kis. | BC | (10) Teb. | BC | (11) Sheb. | (12) Ad. | (13) Ad. II | (1) Nis. | (2) Iyy. | (3) Siv. | (4) Tam. | (5) Ab | (6) Elul |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *1* 404 | 10/4 | 11/3 | 12/2 | 403 | 1/1 | | 1/30 | 3/1 | | 3/30 | 4/29 | 5/28 | 6/27 | 7/26 | 8/25 |
| *2* 403 | 9/23 | 10/23 | 11/21 | | 12/21 | 402 | 1/19 | 2/18 | 3/20 | 4/18 | 5/18 | 6/16 | 7/16 | 8/14 | 9/13 |
| *3* 402 | 10/12 | 11/11 | 12/11 | 401* | 1/10 | | 2/8 | 3/9 | | 4/7 | 5/7 | 6/5 | 7/5 | 8/3 | 9/2 |
| *4* 401 | 10/1 | 10/31 | 11/29 | | 12/29 | 400 | 1/27 | 2/26 | | 3/27 | 4/26 | 5/25 | 6/24 | 7/23 | 8/22 |
| *5* 400 | 9/20 | 10/20 | 11/18 | | 12/18 | 399 | 1/16 | 2/15 | 3/17 | 4/15 | 5/15 | 6/13 | 7/13 | 8/11 | 9/10 |

# SCHEMATIC METONIC CYCLES

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HORN'S TISHRI 1 | year | ~~476~~ | ~~475~~ | ~~474~~ | ~~473~~ | 472 | 471 | 470 | 469 | 468 | 467 | 466 | **465** | 464 | 463 | 462 | 461 | 460 | 459 | 458 |
| | date | S 20 | O 09 | S 28 | O 17 | O 06 | S 25 | O 14 | O 02 | S 22 | O 11 | S 30 | **O 18** | O 07 | S 27 | O 16 | O 04 | S 23 | O 12 | O 02 |
| | year | 457 | 456 | 455 | 454 | 453 | 452 | 451 | 450 | 449 | 448 | 447 | 446 | 445 | 444 | 443 | 442 | 441 | 440 | 439 |
| | date | S 20 | O 09 | S 28 | O 17 | O 05 | S 25 | O 14 | O 03 | S 22 | O 11 | S 30 | S 19 | O 07 | S 26 | O 15 | O 05 | S 23 | O 12 | O 01 |
| | year | **438** | 437 | 436 | 435 | 434 | 433 | 432 | 431 | 430 | 429 | 428 | 427 | 426 | 425 | 424 | 423 | 422 | 421 | 420 |
| | date | **O 20** | O 08 | S 28 | O 17 | O 06 | S 25 | O 14 | O 03 | S 22 | O 10 | S 30 | S 19 | O 08 | S 26 | O 15 | O 04 | S 24 | O 12 | O 01 |
| | year | 419 | 418 | 417 | 416 | 415 | 414 | 413 | 412 | 411 | 410 | 409 | *408* | 407 | 406 | 405 | 404 | 403 | 402 | 401 |
| | Date Ni/**Ti** | S 21 | O 10 | S 28 | O 17 | O 06 | S 25 | O 13 | O 03 | S 22 | O 11 | S 29 | S ***O*** 19 | O 08 | S 27 | O 15 | O 04 | S 23 | O 12 | O 01 |
| APRIL/OCTOBER | 26/20 | | | | | | | | | | | | | | | | | | | |
| | 25/19 | J | | | | | | | | | | | | | | | | | | |
| | 24/18 | | | | | | | | | | | | J | | | | | | | |
| | 23/17 | | | | | | | | | | | | | | | | | | | |
| | 22/16 | | | | JH | | | | | | | | | | | | | | | |
| | 21/15 | | | | | | | | | | | | | | | JH | | | | |
| | 20/14 | | | | | | | | | | | | | | | | | | | |
| | 19/13 | | | | | | | JH | | | | | | | | | | | | |
| | 18/12 | | | | | | | | | | | | | | | | | | JH | |
| | 17/11 | | | | | | | | | | | | | | | | | | | |
| | 16/10 | | | | | | | | | | JH | | | | | | | | | |
| | 15/09 | | | | | | | | | | | | | | | | | | | |
| | 14/08 | | JH | | | | | | | | | | | | | | | | | |
| | 13/07 | | | | | | | | | | | | | JH | | | | | | |
| | 12/06 | | | | | | | | | | | | | | | | | | | |
| | 11/05 | | | | | JH | Mid Point | | | | | | | | | | | | | |
| | 10/04 | | | | | | | | | | | | | | | | JH | | 1 | |
| | 09/03 | | | | | | | | | | | | | | | | | | 2 | |
| | 08/02 | | | | | | | | JH | | | | | | | | | | 3 | |
| | 07/01 | | | | | | | | | | | | | | | | | | 4 | |
| MARCH/SEPTEMBER | 06/30 | | | | | | | | | | | | | | | | | | 5 | JH |
| | 05/29 | | | | | | | | | | | JHR | | | | | | | 6 | |
| | 04/28 | | | | | | | | | | | | | | | | | | 7 | |
| | 03/27 | | | JHR | | | | | | | | | | | | | | | 8 | |
| | 02/26 | | | | | | | | | | | | | | JHR | | | | 9 | |
| | 01/25 | | | | | | | | | | | | | | | | | | 10 | |
| | 31/24 | | | | | | JHR | | | | | | | | | | | | 11 | |
| | 30/23 | | | | | | | | | | | | | | | | | JHR | 12 | |
| | 29/22 | | | | | | | | | | | | | | | | | | 13 | |
| | 28/21 | | | | | | | | | JHR | | | | | | | | | 14 | |
| | 27/20 | | | | | | | | | | | | | | | | | | 15 | |
| | 26/19 | HR | | | | | | | | | | | | | | | | | 16 | |
| | 25/18 | | | | | | | | | | | | HR | | | | | | 17 | |
| | 24/17 | | | | | | | | | | | | | | | | | | 18 | |
| | 23/16 | | | | R | | | | | | | | | | | | | | 19 | |
| | 22/15 | | | | | | | | | | | | | | | R | Mid Point | | 20 | |
| | 21/14 | | | | | | | | | | | | | | | | | | | |
| | 20/13 | | | | | | | R | | | | | | | | | | | | |
| | 19/12 | | | | | | | | | | | | | | | | | | R | |
| | 18/11 | | | | | | | | | | | | | | | | | | | |
| | 1710 | | | | | | | | | | R | | | | | | | | | |
| | 16/09 | | | | | | | | | | | | | | | | | | | |
| | 15/08 | | R | | | | | | | | | | | | | | | | | |
| | 14/07 | | | | | | | | | | | | | R | | | | | | |
| | 13/06 | | | | | | | | | | | | | | | | | | | |
| | 12/05 | | | | | R | | | | | | | | | | | | | | |
| | 11/04 | | | | | | | | | | | | | | | | R | | | |
| | 10/03 | | | | | | | | | | | | | | | | | | | |
| | 09/02 | | | | | | | | R | | | | | | | | | | | |
| | 08/01 | | | | | | | | | | | | | | | | | | | |
| A | 07/31 | | | | | | | | | | | | | | | | | | | R |
| A.D. Years | | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| | | 1843 | 1844 | | | | | | | | | | | | | | | | | |

J = Juarez H = Horn R = Rabbies 20 days from J-Mid to R-Mid

The Rabbinical cycle is positioned about 20 days earlier than the cycle used in Babylon in the times of Daniel and Ezra.

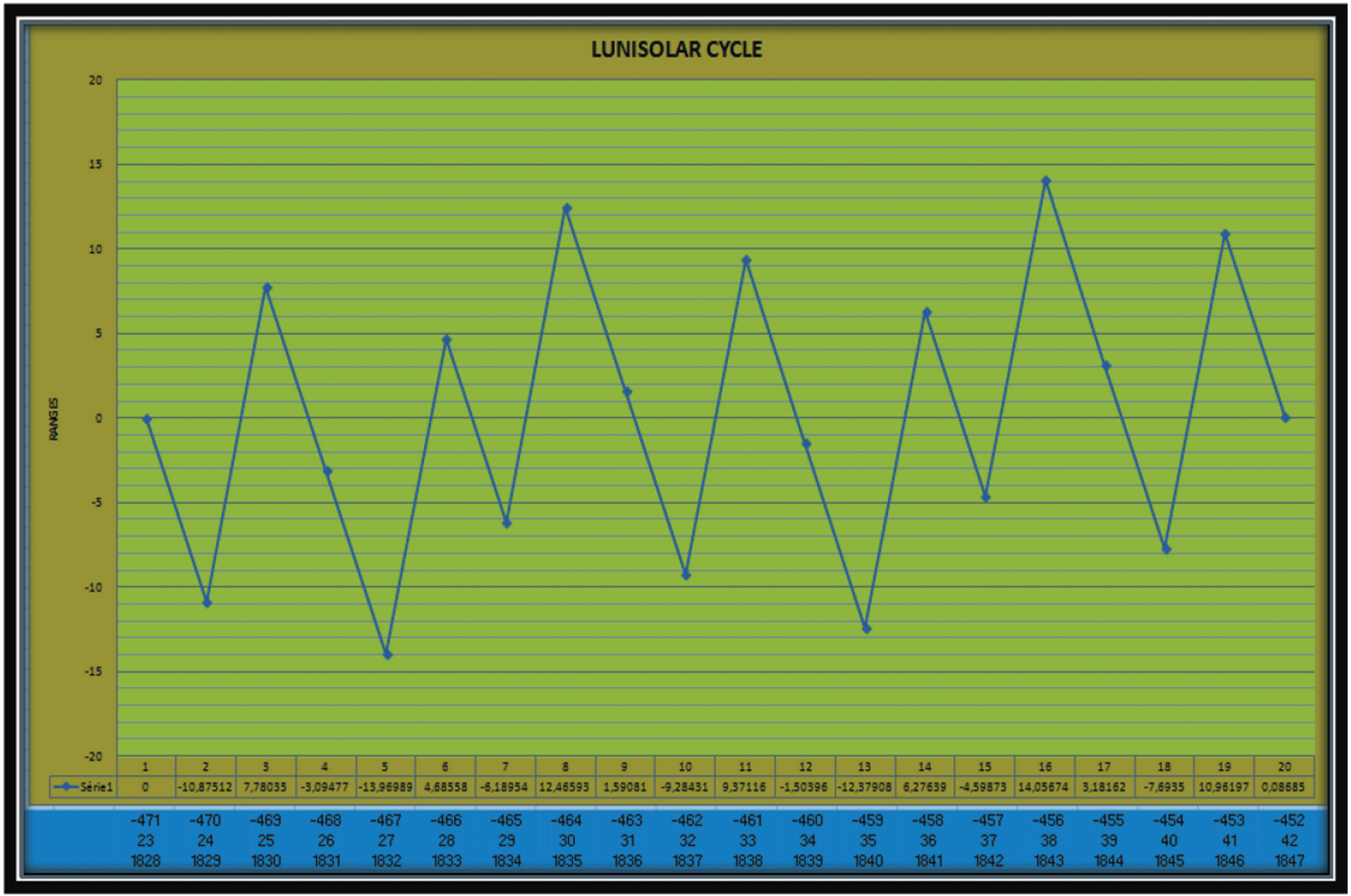
# CYCLIC LUNISOLAR CALCULATIONS AND 19-YEAR CYCLE

(See Signs of the Times, April 26, 1843, pages 58-61)

| CYCLE YEAR | SOLAR YEARS | LUNAR MONTHS | LUNAR MONTHS IN THE CYCLE YEAR | LUNAR YEARS OF 12 OR 13 LUNATIONS | DIFFERENCE BETWEEN SOLAR AND LUNAR YEARS | COMMENTS |
|---|---|---|---|---|---|---|
| 1 | 365.2422 | 29.53059 | 12 | 354.36708 | -10.87512 | |
| 2 | 365.2422 | 29.53059 | 12 | 354,36708 | -10.87512 | |
| 3 | 365.2422 | 29.53059 | 12<br>+1 | 354.36708<br>+29.53059<br>----------<br>383,89767 | -10.87512<br>----------<br>-32.62536 | The 13th month may be introduced in the end of the 3rd year.<br><br>32.62536 - 29.53059 = 3.09477 (surplus to be carried over to the end of the 8th year) |
| 4 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 5 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 6 | 365.2422 | 29.53059 | 12<br>+1 | 354.36708<br>+29.53059<br>----------<br>383,89767 | 10.87512<br>----------<br>32.62536 | The 13th month may be introduced in the end of the 6th year.<br><br>32.62536 - 29.53059 = 3.09477 (surplus to be carried over to the end of the 8th year) |
| 7 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 8 | 365.2422 | 29.53059 | 12<br>+1 | 354.36708<br>+29.53059<br>----------<br>383,89767 | 10.87512<br>----------<br>21.75024<br>03.09477<br>03.09477<br>----------<br>27.93978 | Surplus of the 3rd year<br>Surplus of the 6th year<br>The 13th month may be introduced in the end of the 8th year, with a deficit of 29.53059 - 27.93978 = 1.59081 days to be compensated for by the surpluses got henceforth. |
| 9 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 10 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 11 | 365.2422 | 29.53059 | 12<br>+1 | 354.36708<br>+29.53059<br>----------<br>383,89767 | 10.87512<br>----------<br>32.62536 | The 13th month may be introduced in the end of the 11th year.<br><br>32.62536 - 29.53059 = 3.09477 (surplus to be carried over to the end of the 19th year) |
| 12 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 13 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 14 | 365.2422 | 29.53059 | 12<br>+1 | 354.36708<br>+29.53059<br>----------<br>383,89767 | 10.87512<br>----------<br>32.62536 | The 13th month may be introduced in the end of the 14th year.<br><br>32.62536 - 29.53059 = 3.09477 (surplus to be carried over to the end of the 19th year) |
| 15 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 16 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 17 | 365.2422 | 29.53059 | 12<br>+1 | 354.36708<br>+29.53059<br>----------<br>383,89767 | 10.87512<br>----------<br>32.62536 | The 13th month may be introduced in the end of the 17th year.<br><br>32.62536 - 29.53059 = 3.09477 (surplus to be carried over to the end of the 19th year) |
| 18 | 365.2422 | 29.53059 | 12 | 354,36708 | 10.87512 | |
| 19 | 365.2422 | 29.53059 | 12<br>+1 | 354.36708<br>+29.53059<br>----------<br>383,89767 | 10.87512<br>----------<br>21.75024<br>03.09477<br>03.09477<br>03.09477<br>----------<br>31.03455 | Surplus from the 11th year<br>Surplus from the 14th year<br>Surplus from the 17th year<br>The 13th month may be introduced in the end of the 19th year.<br>31.03455 - 29.53059 = 1.50396 days, surplus to compensate for the deficit in the end of the 8th year<br>1.59081 - 1.50396 = 0.08685 days, which is how much 235 lunations exceed 19 solar years. |
| 19 years | 6939,6018 | | 235 lunations | 6939,68865 | | 6939,6886 - 6939,6018 = 0,08685 |

These calculations may be expressed graphically to show a more realistic behavior of the lunar months in relation to the solar years. In 19 solar years there are seven introductions of the 13th month (Veadar or Adar Sheni). 19 x 12 = 228 + 7 = 235 lunations.

**1 solar year contains 12.368266 lunations.**




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Série1 | 0 | -10,87512 | 7,78035 | -3,09477 | -13,96989 | 4,68558 | -6,18954 | 12,46593 | 1,59081 | -9,28431 | 9,37116 | -1,50396 | -12,37908 | 6,27639 | -4,59873 | 14,05674 | 3,18162 | -7,6935 | 10,96197 | 0,08685 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -471 | -470 | -469 | -468 | -467 | -466 | -465 | -464 | -463 | -462 | -461 | -460 | -459 | -458 | -457 | -456 | -455 | -454 | -453 | -452 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
| 1828 | 1829 | 1830 | 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 | 1846 | 1847 |

## INTERCALARY MONTHS MENTIONED IN UNPUBLISHED OR RECENTLY PUBLISHED TEXTS[7]

| | |
|---|---|
| ASSUR-NADIN-SHUM | |
| *Addaru II*, 3d year | Unpub. text *YBC* 7162 (Goetze, *JNES* III [1944] 43) |
| SHAMASH-SHUM-UKIN | |
| *Ululu II*, 2d year | G. R. Driver, *Centenary Supplement to the Journal of the Royal Asiatic Society* (1924) Pl. IV/V |
| KANDALANU | |
| *Ululu II*, 19th year | Unpub. texts *NBC* 6144, *YBC* 11476, 11300, and 11481 (Goetze, *op. cit.* p. 43, and a personal letter which corrects the published attribution of the first two texts to Kandalanu's 9th year) |
| NABOPOLASSAR | |
| *Addaru II*, 2d year | Unpub. text *NCBT* 589 (*ibid.*) |
| *Ululu II*, 5th year | Figulla, *UET* IV 202 |
| *Addaru II*, 7th year | Unpub. text *YBC* 3455 (*ibid.*, which corrects our conjectural Ululu II based on the damaged month name in Dougherty, *GCCI* II 74) |
| *Ululu II*, 10th year | Dougherty, *GCCI* II 50; unpub. text *NBC* 6141 (Goetze, *op. cit.* p. 43) |
| *Addaru II*, 12th year | Unpub. economic text (Sachs) |
| Ululu II, 15th year | Contenau, *TCL* XII 19;[8] unpub. text *NCBT* 1175 (Goetze, *op. cit.* p. 43) |
| *Ululu II*, 19th year[9] | Unpub. text *NCBT* 1156 |
| Addaru II, 20th year | Dougherty, *GCCI* II 16; Contenau, *TCL* XII 21: unpub. texts *YBC* 4153 and 11601 (Goetze, *op. cit.* p. 43) |
| NEBUCHADNEZZAR | |
| Ululu II, 2d year | Unpub. text *NCBT* 114 (*ibid.*); eclipse text BM 38462 described *LBART* No. *1420 |
| [*Addaru II*, 4th year] | *VAS* VI 265[10] |

[7] Italics indicate months either unknown to or not used by Kugler and Sidersky in their tables. Brackets ([ ]) indicate months rejected as impossible.

[8] Add here the Ululu II of year 15 discussed by Kugler, *SSB* II 418 f. He assigned it to the 15th year of Nebuchadnezzar; but that is disproved by the Addaru II listed below for the latter's 14th year. He also suggested Nabopolassar as an alternative.

[9] There remains some question as to whether or not this tablet is correctly placed, as the king's name is not mentioned. According to Goetze, the appearance of the tablet makes it hardly possible to assign it either to Nebuchadnezzar or to Kandalanu. The former is excluded on the basis of the known intercalary months in his 17th and 21st years, but the latter has an Ululu II in his 19th year, as is demonstrated above. Provisionally we accept Goetze's decision, but point out that it results in an exceptionally low date of March 6 for Nisanu 1.

[10] A broken text. In lines 1 and 2 "Addaru II of year 4" is preserved. Kugler, *SSB* II 418, argued that on the basis of elimination this text probably belongs to Nebuchadnezzar; other possibilities were Xerxes, Artaxerxes I, or Artaxerxes II. Nebuchadnezzar is eliminated by the newly demonstrated intercalations in his 2d and 5th years



| | |
|---|---|
| *Ululu II*, 5th year | Unpub. text *NCBT* 859 (Goetze, *op. cit.* p. 43); eclipse text BM 38462 described *LBART* No. *1420 |
| Ululu II, 7th year | Lutz, *UCP* IX 1, Part II, No. 10 |
| Ululu II, 9th year | Krückmann, *NBRVT*, No. 197 |
| *Addaru II*, 11th year | Eclipse text BM 38462 described *LBART* No. *1420 |
| *Addaru II*, 14th year | Contenau, *TCL* XII 35; Moore, *NBD*, No. 29 (date damaged); unpub. texts *YBC* 9324, 9375, 9388, and 9528 (Goetze, *op. cit.* p. 43) |
| Addaru II, 17th year | Unpub. texts *NBC* 4633, *NCBT* 853, *YBC* 8816 and 11665 (*ibid.*) |
| *Ululu II*, 21st year | Unpub. texts *YBC* 4110 and 8860 (*ibid.*) |
| *Addaru II*, 23d year | Keiser, *LCE*, No. 126; Dougherty, *GCCI* I 45 |
| Addaru II, 26th year | Eclipse text BM 38462 described *LBART* No. *1420 |
| *Addaru II*, 28th year | Lutz, *UCP* IX 1, Part I, No. 52 |
| *Ululu II*, 31st year | Krückmann, *NBRVT*, No. 20; R. C. Thompson, *Catalogue of the Late Babylonian Tablets in the Bodleian Library, Oxford* (London, 1927) p. 3, A 91; p. 4, A 95; unpub. texts *NCBT* 775 and *YBC* 8819 (Goetze, *op. cit.* p. 43) |
| [Ululu II, 32d year][11] | |
| Addaru II, 33d year | Dougherty, *GCCI* I 117 and 125 |
| Addaru II, 36th year | *Ibid.* Nos. 68, 98, and probably 82 (year 30+*x*); II 268 (no king given, but tablet apparently belongs here; "36" and "Addaru II" are clear) |
| Ululu II, 41st year | Krückmann, *NBRVT*, Nos. 79, 153, 154; Dougherty, *GCCI* I 231 (year *x*+11), 248 |
| Addaru II, 42d year | Dougherty, *GCCI* I 138, 155, 219, 225 |
| NERGAL-SHAR-USUR | |
| Addaru II, acc. year | Krückmann, *NBRVT*, No. 129 |
| Addaru II, 3d year | Contenau, *TCL* XII 70 |
| NABUNAID | |
| Addaru II, 1st year | Eclipse text BM 32234 described *LBART* No. *1419 |

March 27/28, 590 B.C.

March 27/28, 571 B.C.

(see above), and intercalation is impossible in the 4th year of either Artaxerxes I or Artaxerxes II. Since the Addaru II attributed to Xerxes' 5th year in our first edition is now known to belong instead to the 5th year of Artaxerxes I (see below), the present text can fit very nicely in the 4th year of Xerxes, and we have transferred it there.

[11] Kugler, *SSB* II 411, uses Strassmaier, *Nabuchodonosor*, No. 249, as proof for an intercalated Ululu in the 32d year of Nebuchadnezzar. The text, as given by Strassmaier, is dated in lines 4 and 5 to Arahsamnu (8th month), 15th day, 32d year (the "32" is damaged slightly) of Nebuchadnezzar. Kugler's date is based on mention of an Ululu II at the end of the last line (line 39) unaccompanied by day, year, or king. Since lines 6, 13, 15, 31 refer to year 30 and line 37 refers to the 25th of Addaru, the Ululu II in line 39 cannot be used to prove an intercalation in year 32. This tablet is a summary, and the various dates within the text all seem to be earlier than year 32. Hence we consider the Ululu II to be that of year 31 (see above).

PLATE I

| Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 42 | 43 | 44 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | B.C. 747 | 728 | 709 | 690 | 671 | 652 | 633 | 614 | 595 | 576 | 557 | 538 | 519 | 500 | 481 | 462 | 443 | 424 | 405 | 386 | 367 | 348 | A.D. 33 | 52 | 71 |
| I | | | | | | | | | | | | | | | | | | | | | | | | | |
| II | | | | | | | | A | | | A | | | | | | | | | | | | | | |
| III | | | | | | | | | A | | | | U | A | | | | | | | | | | | |
| IV | | U | | | | | | | | U | A | U | | | | | | | | A | | | | | |
| V | | | | | | | U | U | | | A | A | A | A | a | A | A | A | A | | | | A | A | A |
| | | | | | | U | | | A | A | A | | | | | | | | | | | | | | |
| VI | | | | | U | | | | | | | | | | | | | | | | | | | | |
| VII | | | | | | | | | | | | | | | | a | a | A | A | A | A | A | A | A | A |
| VIII | | | | | | | | U | | | | A | A | A | a | a | A | A | A | A | A | A | | | |
| IX | | | | | | | | A | A | A | A | | | | A | A | A | A | A | A | A | A | | | |
| X | | | | | | U | A | | | | | U | U | a | A | A | A | A | A | A | A | A | | | |
| XI | | | | | | | | | | | | | | | | | | | | | | | | | |
| XII | | | | | | | | U | U | | U | U | A | A | A | A | A | A | A | A | A | A | A | A | A |
| XIII | | | | | | | U | | | U | | | | | | | | | | | | | | | |
| XIV | | | | A | | | | | A | A | A | A | A | A | A | A | A | A | a | A | A | A | | | |
| XV | | | | | | A | U | U | | | A | A | A | A | A | A | A | A | | | | | | | |
| XVI | | | | | | | | | | | | | | | | | | | | | | | | | |
| XVII | | | | | | | | U | A | A | A | U | U | U | U | A | A | U | U | U | U | U | U | U | U |
| XVIII | | | | | | U | | | | | | | | | | | | | | | | | | | |
| XIX | | | | | | | U | U | A | | | | | A | A | A | A | A | A | A | A | A | A | A | A |

TABLE SHOWING POSITIONS OF BABYLONIAN INTERCALARY MONTHS IN RELATION TO NINETEEN-YEAR PERIODS



March 27/28, 552 B.C.

Three Addaru II from the time of Daniel that support Tishri in October, in 457 B.C.

| | |
|---|---|
| [Addaru II, 2d year][12] | |
| Addaru II, 3d year | Pohl, *NBRU* II 8; Dougherty, *REN*, Nos. 13 and 46 |
| Addaru II, 6th year | Krückmann, *NBRVT*, No. 115 |
| Ululu II, 10th year | Dougherty, *GCCI* I 291, 305, 338, 354; *idem*, *REN*, Nos. 19, 139, 212 |
| Addaru II, 12th year | Moore, *NBD*, No. 55; Krückmann, *NBRVT*, No. 209 (broken date read as 11th year by Krückmann, but must be read as 12th on basis of known materials); Dougherty, *REN*, Nos. 152, 165, 175, 191, 203, 206, 210, 214, 223, 230, 235; *idem*, *GCCI* II 371 (no king's name preserved on tablet, but year 12 places it here) |
| Addaru II, 15th year | Dougherty, *REN*, No. 224 |
| CYRUS | |
| Addaru II, 6th year[13] | Tremayne, *RECC*, No. 47 (year traces fit 6 but not 3) |
| CAMBYSES | |
| Ululu II, acc. year | Tremayne, *RECC*, No. 98; Dougherty, *GCCI* II 116, 117, 118, 218; J. B. Nies and C. E. Keiser, *Historical, Religious and Economic Texts and Antiquities* ("Babylonian Inscriptions in the Collection of James B. Nies" II [New Haven, 1920]) No. 130 |
| Ululu II, 3d year | Tremayne, *RECC*, No. 155; Krückmann, *NBRVT*, No. 161 (broken date, read as "$x+1$" by Krückmann, must be read as "3" on basis of known intercalated months); Contenau, *TCL* XIII 155 |
| Addaru II, 5th year | Pohl, *NBRU* I 77 |
| DARIUS I | |
| Addaru II, acc. year | Pohl, *NBRU* II 10 (Pohl's Ululu II should be corrected to read Addaru II; see A. Poebel in *AJSL* LVI [1939] 134, n. 41) and 11 |
| Ululu II, 3d year | Krückmann, *NBRVT*, No. 165 |
| Addaru II, 16th year | Contenau, *TCL* XIII 193; unpub. text Persepolis 4303 (on all the Persepolis references under Darius I see R. T. Hallock in *JNES* I [1942] 231, n. 5) |
| *Ululu II*, 19th year | Unpub. texts Persepolis 3158 (Poebel in *AJSL* LV [1938] 136 f.) and 718 (Hallock) |
| Addaru II, 22d year | Unpub. texts Persepolis 11424 and (slightly doubtful) 1899, 5968, and 9916 (Hallock) |
| Addaru II, 24th year | Unpub. texts Persepolis 5257, 9637, and 10134 (Hallock) |

[12] Pohl, *NBRU* I 20, has an Addaru II in the 2d year of Nabunaid. This is impossible, since other texts place an Addaru II in the 1st and 3d years. By addition of one wedge the year may be read either as "3" or as "12"; or by omission of one wedge it may be read as "1." Error of either scribe or copyist is evident. Reading as "3" seems preferable to us.

[13] In C. H. Gordon, *Smith College Tablets* . . . ("Smith College Studies in History" XXXVIII [Northampton, 1952]), No. 84 is dated in Addaru I.

| Year B.C. | Nis | Aia | Sim | Duz | Abu | Ulu | U II | Tas | Ara | Kis | | Teb | | Sha | Add | A II |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 594 | 4/12 | 5/11 | 6/9 | 7/9 | 8/7 | 9/6 | | 10/6 | 11/4 | 12/4 | 593 | 1/2 | | 2/1 | 3/2 | 3/31 |
| 12 593 | 4/30 | 5/29 | 6/27 | 7/27 | 8/25 | 9/24 | | 10/23 | 11/22 | 12/21 | 592 | 1/20 | | 2/19 | 3/21 | |
| 13 592 | 4/19 | 5/19 | 6/17 | 7/17 | 8/15 | 9/13 | | 10/13 | 11/11 | 12/10 | 591 | 1/9 | | 2/8 | 3/10 | |
| 14 591 | 4/8 | 5/8 | 6/7 | 7/6 | 8/5 | 9/3 | | 10/2 | 11/1 | 11/30 | | 12/29 | 590 | 1/28 | 2/27 | 3/28 |
| 15 590 | 4/27 | 5/27 | 6/25 | 7/25 | 8/23 | 9/22 | → | 10/21 | 11/20 | 12/19 | 589 | 1/18 | | 2/16 | 3/16 | Page 5 |
| 16 589 | 4/15 | 5/15 | 6/13 | 7/13 | 8/11 | 9/10 | | 10/10 | 11/8 | 12/8 | 588 | 1/6 | | 2/5 | 3/6 | |
| 17 588 | 4/4 | 5/4 | 6/2 | 7/2 | 7/31 | 8/30 | | 9/29 | 10/29 | 11/27 | | 12/27 | 587 | 1/25 | 2/24 | 3/25 |
| 18 587 | 4/23 | 5/23 | 6/21 | 7/21 | 8/19 | 9/18 | | 10/18 | 11/17 | 12/16 | 586 | 1/15 | | 2/13 | 3/15 | |
| 19 586 | 4/13 | 5/12 | 6/11 | 7/10 | 8/8 | 9/7 | | 10/7 | 11/6 | 12/6 | 585 | 1/4 | | 2/3 | 3/3 | |
| 20 585 | 4/2 | 5/1 | 5/30 | 6/29 | 7/28 | 8/26 | | 9/25 | 10/25 | 11/24 | | 12/23 | 584 | 1/22 | 2/21 | |
| 21 584 | 3/22 | 4/21 | 5/20 | 6/18 | 7/18 | 8/16 | 9/14 | 10/14 | 11/13 | 12/13 | 583 | 1/11 | | 2/10 | 3/11 | |
| 22 583 | 4/10 | 5/9 | 6/8 | 7/7 | 8/6 | 9/4 | | 10/4 | 11/2 | 12/2 | | 12/31 | 582 | 1/30 | 2/28 | |
| 23 582 | 3/30 | 4/29 | 5/28 | 6/27 | 7/26 | 8/25 | | 9/23 | 10/23 | 11/21 | | 12/21 | 581 | 1/19 | 2/18 | 3/18 |
| 24 581 | 4/17 | 5/16 | 6/15 | 7/15 | 8/13 | 9/12 | | 10/12 | 11/10 | 12/9 | 580 | 1/8 | | 2/6 | 3/7 | |
| 25 580 | 4/6 | 5/5 | 6/4 | 7/4 | 8/3 | 9/1 | | 10/1 | 10/31 | 11/29 | | 12/28 | 579 | 1/27 | 2/25 | |
| 26 579 | 3/26 | 4/25 | 5/24 | 6/23 | 7/23 | 8/22 | | 9/20 | 10/20 | 11/19 | | 12/18 | 578 | 1/16 | 2/15 | 3/16 |
| 27 578 | 4/14 | 5/14 | 6/12 | 7/12 | 8/10 | 9/9 | | 10/9 | 11/8 | 12/7 | 577 | 1/6 | | 2/4 | 3/5 | |
| 28 577 | 4/3 | 5/2 | 6/1 | 6/30 | 7/30 | 8/28 | | 9/27 | 10/27 | 11/25 | | 12/25 | 576 | 1/24 | 2/22 | 3/24 |
| 29 576 | 4/22 | 5/21 | 6/20 | 7/19 | 8/18 | 9/16 | | 10/16 | 11/14 | 12/14 | 575 | 1/13 | | 2/11 | 3/13 | |
| 30 575 | 4/12 | 5/11 | 6/9 | 7/9 | 8/7 | 9/6 | | 10/5 | 11/4 | 12/3 | 574 | 1/2 | | 1/31 | 3/2 | |
| 31 574 | 4/1 | 4/30 | 5/30 | 6/28 | 7/28 | 8/26 | 9/25 | 10/24 | 11/22 | 12/22 | 573 | 1/20 | | 2/19 | 3/20 | |
| 32 573 | 4/19 | 5/18 | 6/17 | 7/16 | 8/15 | 9/13 | | 10/13 | 11/11 | 12/10 | 572 | 1/9 | | 2/7 | 3/9 | |
| 33 572 | 4/8 | 5/7 | 6/6 | 7/6 | 8/4 | 9/3 | | 10/2 | 11/1 | 11/30 | | 12/29 | 571 | 1/28 | 2/26 | 3/28 |
| 34 571 | 4/26 | 5/26 | 6/25 | 7/24 | 8/23 | 9/22 | → | 10/21 | 11/20 | 12/19 | 570 | 1/18 | | 2/16 | 3/17 | Page 5 |
| 35 570 | 4/16 | 5/15 | 6/14 | 7/13 | 8/12 | 9/10 | | 10/10 | 11/9 | 12/9 | 569 | 1/7 | | 2/6 | 3/6 | |
| 36 569 | 4/4 | 5/4 | 6/2 | 7/1 | 7/31 | 8/30 | | 9/28 | 10/28 | 11/27 | | 12/27 | 568 | 1/25 | 2/24 | 3/25 |
| 37 568 | 4/23 | 5/23 | 6/21 | 7/20 | 8/19 | 9/17 | | 10/17 | 11/16 | 12/16 | 567 | 1/15 | | 2/13 | 3/15 | VAT 4956 |
| 38 567 | 4/13 | 5/12 | 6/11 | 7/10 | 8/8 | 9/7 | | 10/6 | 11/5 | 12/5 | 566 | 1/4 | | 2/2 | 3/4 | |
| 39 566 | 4/2 | 5/2 | 5/31 | 6/29 | 7/29 | 8/27 | | 9/26 | 10/25 | 11/24 | | 12/24 | 565 | 1/22 | 2/21 | |
| 40 565 | 3/22 | 4/20 | 5/20 | 6/18 | 7/17 | 8/16 | | 9/14 | 10/14 | 11/13 | | 12/12 | 564 | 1/11 | 2/9 | |
| 41 564 | 3/11 | 4/9 | 5/9 | 6/7 | 7/7 | 8/5 | 9/4 | 10/4 | 11/2 | 12/2 | | 12/31 | 563 | 1/29 | 2/28 | |
| 42 563 | 3/29 | 4/28 | 5/28 | 6/26 | 7/26 | 8/25 | | 9/23 | 10/23 | 11/21 | | 12/21 | 562 | 1/19 | 2/17 | 3/19 |
| 43 562 | 4/17 | 5/17 | 6/15 | 7/15 | 8/14 | 9/13 | | 10/13 | 11/11 | 12/10 | 561 | 1/9 | | 2/7 | 3/7 | |

## AMEL-MARDUK

Ptolemy: Jan. 11, 561 B.C.

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 561 | 4/6 | 5/5 | 6/3 | 7/3 | 8/2 | 9/1 | | 10/1 | 10/30 | 11/29 | | 12/28 | 560 | 1/27 | 2/25 | |
| 2 560 | 3/26 | 4/24 | 5/24 | 6/22 | 7/22 | 8/21 | | 9/20 | 10/20 | 11/18 | | 12/18 | 559 | 1/16 | 2/15 | 3/16 |



## NERGAL-SHAR-USUR

| Year B.C. | Nis | Aia | Sim | Duz | Abu | Ulu | U II | Tas | Ara | Kis | | Teb | | Sha | Add | A II |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 559 | 4/14 | 5/14 | 6/12 | 7/11 | 8/10 | 9/9 | | 10/9 | 11/7 | 12/7 | 558 | 1/5 | | 2/4 | 3/5 | |
| 2 558 | 4/4 | 5/3 | 6/2 | 7/1 | 7/31 | 8/29 | | 9/28 | 10/27 | 11/26 | | 12/25 | 557 | 1/24 | 2/23 | |
| 3 557 | 3/23 | 4/22 | 5/21 | 6/20 | 7/19 | 8/18 | | 9/16 | 10/15 | 11/14 | | 12/13 | 556 | 1/12 | 2/11 | 3/12 |
| 4 556 | 4/11 | 5/11 | 6/9 | 7/9 | 8/7 | 9/6 | | 10/5 | 11/3 | 12/3 | 555 | 1/1 | | 1/30 | 3/1 | |

Labashi-Marduk = year 4 of Nergal-shar-usur

## NABUNAID

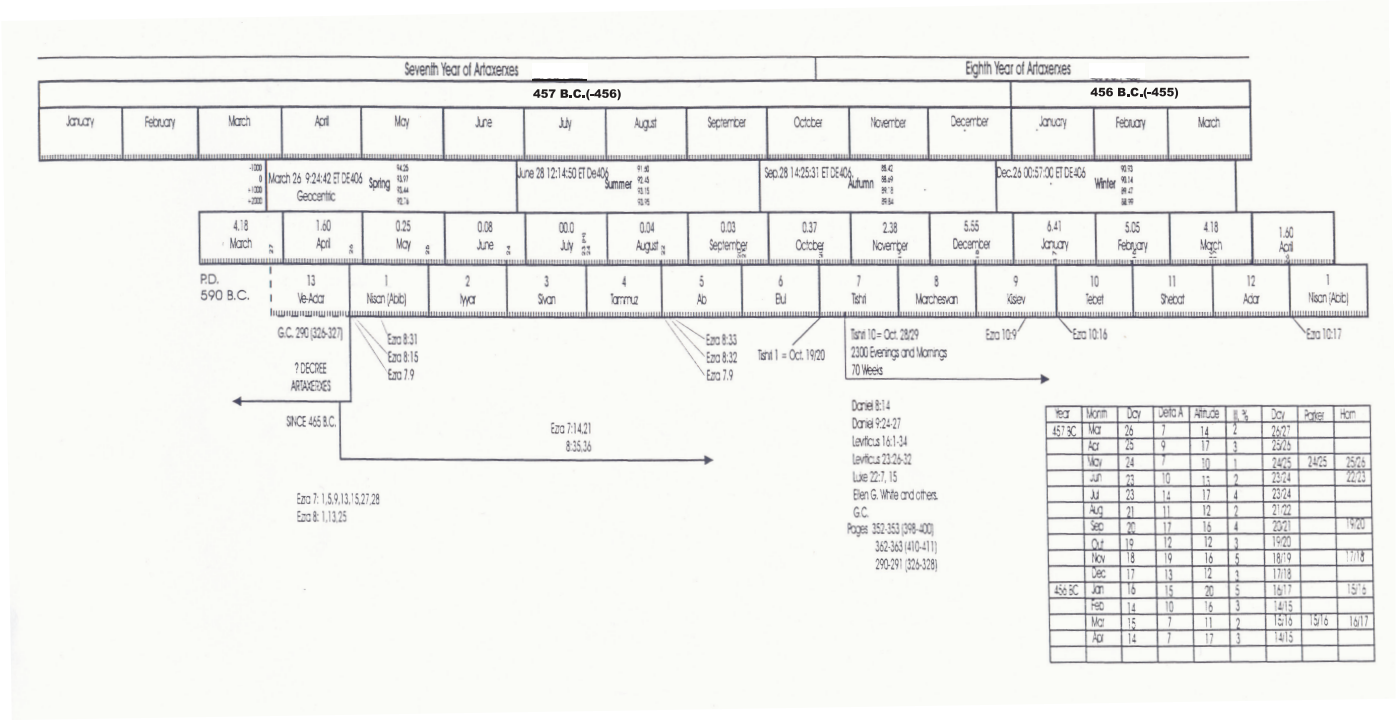
Ptolemy: Jan. 09, 555 B.C.

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 555 | 3/31 | 4/30 | 5/30 | 6/28 | 7/28 | 8/26 | | 9/25 | 10/24 | 11/22 | | 12/22 | 554 | 1/20 | 2/19 | 3/20 |
| 2 554 | 4/19 | 5/19 | 6/17 | 7/17 | 8/15 | 9/14 | | 10/14 | 11/12 | 12/11 | 553 | 1/10 | | 2/8 | 3/9 | |
| 3 553 | 4/7 | 5/7 | 6/5 | 7/5 | 8/3 | 9/2 | | 10/2 | 10/31 | 11/30 | | 12/29 | 552 | 1/28 | 2/26 | 3/28 |
| 4 552 | 4/26 | 5/25 | 6/24 | 7/23 | 8/22 | 9/21 | → | 10/21 | 11/19 | 12/19 | 551 | 1/18 | | 2/16 | 3/17 | Page 7 |
| 5 551 | 4/16 | 5/15 | 6/13 | 7/13 | 8/11 | 9/10 | | 10/10 | 11/8 | 12/8 | 550 | 1/7 | | 2/6 | 3/7 | |
| 6 550 | 4/5 | 5/5 | 6/3 | 7/2 | 8/1 | 8/30 | | 9/29 | 10/29 | 11/27 | | 12/27 | 549 | 1/26 | 2/24 | 3/25 |
| 7 549 | 4/23 | 5/23 | 6/21 | 7/20 | 8/19 | 9/17 | | 10/17 | 11/16 | 12/15 | 548 | 1/14 | | 2/13 | 3/14 | |
| 8 548 | 4/13 | 5/12 | 6/11 | 7/10 | 8/8 | 9/7 | | 10/6 | 11/5 | 12/5 | 547 | 1/3 | | 2/2 | 3/3 | |
| 9 547 | 4/2 | 5/2 | 5/31 | 6/29 | 7/29 | 8/27 | | 9/26 | 10/25 | 11/24 | | 12/23 | 546 | 1/22 | 2/20 | |
| 10 546 | 3/22 | 4/21 | 5/20 | 6/19 | 7/18 | 8/17 | 9/15 | 10/15 | 11/14 | 12/13 | 545 | 1/11 | | 2/10 | 3/10 | |
| 11 545 | 4/9 | 5/8 | 6/7 | 7/6 | 8/5 | 9/4 | | 10/3 | 11/2 | 12/2 | | 12/31 | 544 | 1/29 | 2/28 | |
| 12 544 | 3/29 | 4/27 | 5/27 | 6/25 | 7/25 | 8/24 | | 9/23 | 10/23 | 11/21 | | 12/21 | 543 | 1/19 | 2/17 | 3/19 |
| 13 543 | 4/17 | 5/16 | 6/15 | 7/14 | 8/13 | 9/12 | | 10/12 | 11/11 | 12/10 | 542 | 1/9 | | 2/7 | 3/8 | |
| 14 542 | 4/6 | 5/6 | 6/4 | 7/4 | 8/2 | 9/1 | | 10/1 | 10/30 | 11/29 | | 12/29 | 541 | 1/27 | 2/26 | |
| 15 541 | 3/26 | 4/25 | 5/24 | 6/22 | 7/22 | 8/20 | | 9/19 | 10/18 | 11/17 | | 12/17 | 540 | 1/16 | 2/14 | 3/16 |
| 16 540 | 4/14 | 5/14 | 6/12 | 7/11 | 8/10 | 9/8 | | 10/8 | 11/7 | 12/6 | 539 | 1/5 | | 2/3 | 3/5 | |
| 17 539 | 4/4 | 5/3 | 6/2 | 7/1 | 7/31 | 8/29 | | 9/27 | 10/27 | 11/25 | | 12/24 | 538 | 1/23 | 2/22 | |

## CYRUS

Ptolemy: Jan. 05, 538 B.C.

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 538 | 3/24 | 4/22 | 5/22 | 6/20 | 7/20 | 8/19 | | 9/17 | 10/16 | 11/15 | | 12/14 | 537 | 1/13 | 2/11 | |
| 2 537 | 3/12 | 4/10 | 5/10 | 6/9 | 7/8 | 8/7 | 9/6 | 10/5 | 11/3 | 12/3 | 536 | 1/1 | | 1/30 | 3/1 | |
| 3 536 | 3/31 | 4/29 | 5/29 | 6/28 | 7/27 | 8/26 | | 9/25 | 10/24 | 11/22 | | 12/22 | 535 | 1/20 | 2/19 | 3/20 |
| 4 535 | 4/18 | 5/18 | 6/17 | 7/16 | 8/15 | 9/14 | | 10/13 | 11/12 | 12/11 | 534 | 1/9 | | 2/8 | 3/9 | |
| 5 534 | 4/8 | 5/7 | 6/6 | 7/6 | 8/4 | 9/3 | | 10/2 | 11/1 | 12/1 | | 12/30 | 533 | 1/29 | 2/27 | |
| 6 533 | 3/28 | 4/26 | 5/25 | 6/24 | 7/24 | 8/22 | | 9/20 | 10/20 | 11/19 | | 12/19 | 532 | 1/17 | 2/16 | 3/17 |
| 7 532 | 4/16 | 5/15 | 6/13 | 7/13 | 8/11 | 9/9 | | 10/9 | 11/8 | 12/8 | 531 | 1/6 | | 2/5 | 3/7 | |
| 8 531 | 4/5 | 5/5 | 6/3 | 7/2 | 7/31 | 8/30 | | 9/28 | 10/28 | 11/27 | | 12/27 | 530 | 1/25 | 2/23 | |
| 9 530 | 3/26 | 4/24 | 5/24 | 6/22 | 7/21 | 8/20 | 9/18 | 10/18 | 11/16 | 12/16 | 529 | 1/14 | | 2/13 | 3/14 | |




This chart helps to visualize graphically the beginning points in discussion. Compare it with Snow´s True Midnight Cry, Aug. 22, 1844,[P 2] and Jubilee Standard, May 22, 1845, 84-85.

**CORRESPONDENCE OF TISHRI 1 DATES IN 121 METONIC CYCLES OR 2299 SOLAR YEARS**
**(457/456 B.C. TO A. D. 1843/1844)**

| | | | JUL | | | | | | | | | | GRE. | JUL. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | PROJECTED RANGE FOR HORN'S TISHRI 1 DATES | | OCTOBER | 24 | 12 | OCTOBER |
| | | | | | | | | | | | | | **23** | **11** | |
| | | | | | | | | | | | | | **22** | **10** | |
| | | | | | | | | | | | | | 21 | 09 | |
| | | | | | | | | | | | | | 20 | 08 | |
| | | | | | | | | | | | | | 19 | 07 | |
| | | | | | | | | | | | | | 18 | 06 | |
| | | | | | | | | | | | | | 17 | 05 | |
| | | | | | | | | | | | | | 16 | 04 | |
| | | | | | | | | | | | | | 15 | 03 | |
| HORN'S TISHRI 1 DATES (472 B.C. TO 400 B.C) | | OCTOBER | 20 | | | | | | | | | | 14 | 02 | |
| | | | **19** | | | | | | | | | | 13 | 01 | |
| | | | **18** | | | | | | | | | | 12 | 30 | SEPTEMBER |
| | | | 17 | | | | | | | | | | 11 | 29 | |
| | | | 16 | | | | | | | | | | 10 | 28 | |
| | | | 15 | | | | | | | | **MID** | | 09 | 27 | |
| | | | 14 | | | | | | | | | | 08 | 26 | |
| | | | 13 | | | | | | | | | | 07 | 25 | |
| | | | 12 | | | | | | | | | | 06 | 24 | |
| | | | 11 | | | | | | | | RABBINIC RANGE FOR TISHRI 1 ABOUT 1844 | | 05 | 23 | |
| | | | 10 | | | | | | | | | | 04 | 22 | |
| | | | 09 | | | | | | | | | | 03 | 21 | |
| | | | 08 | | | | | | | | | | 02 | 20 | |
| | | | 07 | | | | | | | | | | 01 | 19 | |
| | | | 06 | | | | | | | | | SEPTEMBER | 30 | 18 | |
| | | | 05 | **MID** | | | | | | | | | 29 | 17 | |
| | | | 04 | | | | | | | | | | 28 | 16 | |
| | | | 03 | | | | | | | | | | 27 | 15 | |
| | | | 02 | | | | | | | | | | 26 | 14 | |
| | PROJECTED RANGE FOR RABBINIC TISHRI 1 DATES | | 01 | | | | | | | | | | 25 | 13 | |
| | | SEPTEMBER | 30 | | | | | | | | | | 24 | 12 | |
| | | | 29 | | | | | | | | | | 23 | 11 | |
| | | | **28** | **FALL EQUINOX** | | | | | | | | | **22** | **10** | |
| | | | 27 | | | | | | | | | | 21 | 09 | |
| | | | 26 | | | | | | | | | | 20 | 08 | |
| | | | 25 | | | | | | | MID | | | 19 | 07 | |
| | | | 24 | | | | | | | | | | 18 | 06 | |
| | | | 23 | | | | | | | | | | 17 | 05 | |
| | | | 22 | | | | | | | | | | 16 | 04 | |
| | | | 21 | | | | | | | | | | 15 | 03 | |
| | | | 20 | | | | | | | | | | 14 | 02 | |
| | | | 19 | | | | | | | | | | 13 | 01 | |
| | | | 18 | | | | | | | | | | 12 | 31 | AUGUST |
| | | | 17 | | | | | | | | | | 11 | 30 | |
| | | | 16 | | | | | | | | | | 10 | 29 | |
| | | | 15 | MID | | | | | | | | | 09 | 28 | |
| | | | 14 | | | | | | | | | | 08 | 27 | |
| | | | 13 | | | | | | | | | | 07 | 26 | |
| | | | 12 | | | | | | | | | | 06 | 25 | |
| | | | 11 | | | | | | | | | | 05 | 24 | |
| | | | 10 | | | | | | | | | | 04 | 23 | |
| | | | 09 | | | | | | | | | | | | |
| | | | 08 | | | | | | | | | | | | |
| | | | 07 | | | | | | | | | | | | |
| | | | 06 | | | | | | | | | | | | |
| | | | 05 | | | | | | | | | | | | |
| | | | 04 | | | | | | | | | | | | |
| | | | 03 | | | | | | | | | | | | |
| | | | 02 | | | | | | | | | | | | |
| | | | 01 | | | | | | | | | | | | |
| | | | 31 | | | | | | | | | | | | |

**In 121 Metonic cycles the lunar calendar advances 10.50 days in relation to the solar year**

**Metonic Cycles and Comparison of the Tropical Year with Other Types of Years:**

1 Metonic Cycle:

19 Tropical Y. = 365.2422 x 19 = 6939.6018 days

235 lunations = 235 x 29.53059 = 6939.68865 days D = 0.08685 = + 2.0844 h

121 Metonic Cycles:

2,299 Tropical Y = 365.2422 x 2,299 = 839691.8178 days D = 0.0 days

28,435 lunations = 29.53059 x 28.435 = 839702.3267 days D = +10.50 days

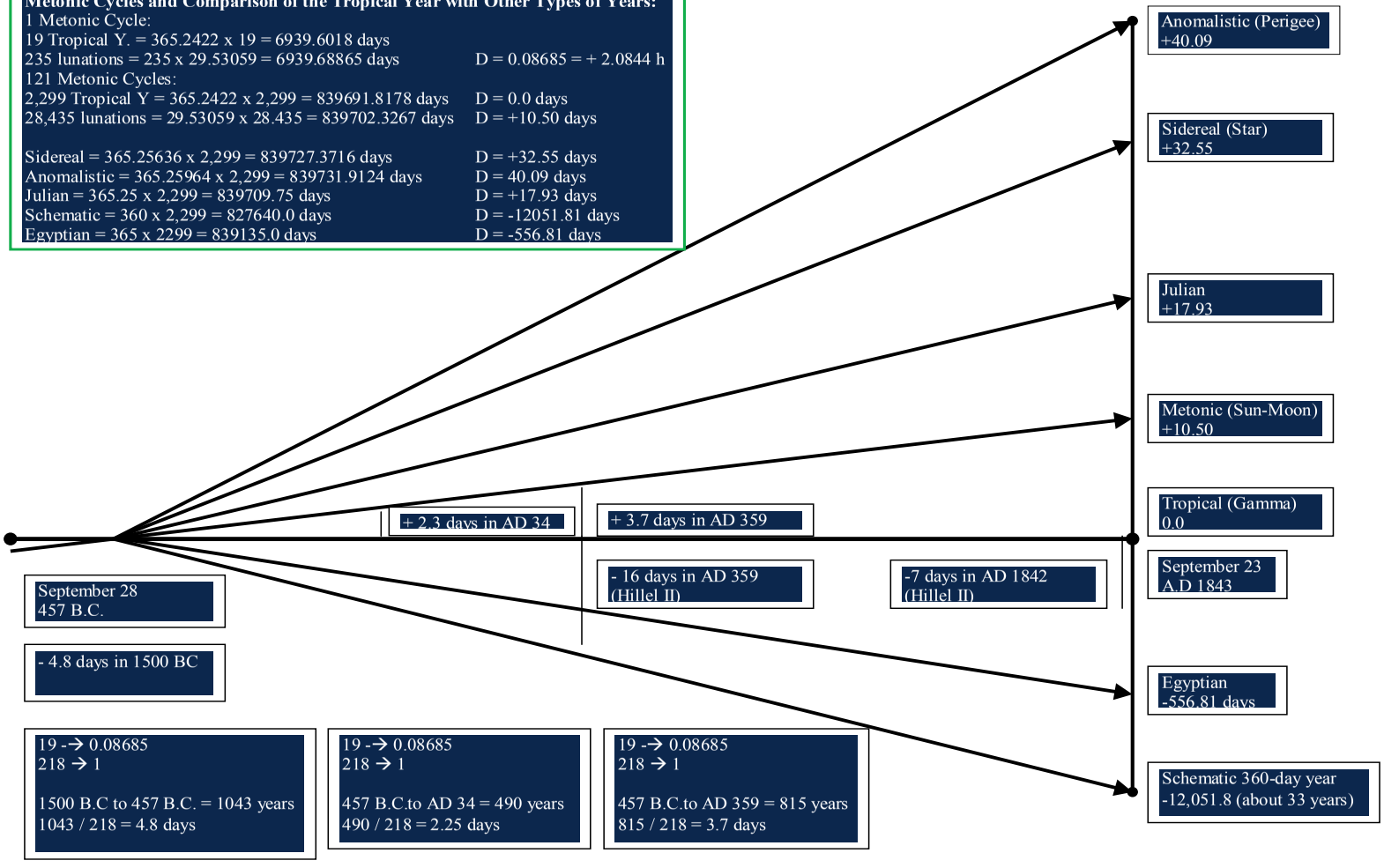
Sidereal = 365.25636 x 2,299 = 839727.3716 days D = +32.55 days

Anomalistic = 365.25964 x 2,299 = 839731.9124 days D = 40.09 days

Julian = 365.25 x 2,299 = 839709.75 days D = +17.93 days

Schematic = 360 x 2,299 = 827640.0 days D = -12051.81 days

Egyptian = 365 x 2299 = 839135.0 days D = -556.81 days



| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -608 | -607 | -606 | -605 | -604 | -603 | -602 | -601 | -600 | -599 | -598 | -597 | **-596** | -595 | -594 | -593 | -592 | -591 | -590 |
| **-589** | **-588** | -587 | -586 | -585 | -584 | -583 | -582 | -581 | -580 | -579 | -578 | -577 | -576 | -575 | -574 | -573 | -572 | -571 |
| **-570** | -569 | -568 | -567 | -566 | -565 | -564 | -563 | -562 | -561 | -560 | -559 | -558 | -557 | -556 | -555 | -554 | -553 | -552 |
| **-551** | -550 | -549 | -548 | -547 | -546 | -545 | -544 | -543 | -542 | -541 | -540 | -539 | -538 | -537 | -536 | -535 | -534 | -533 |
| -532 | -531 | -530 | -529 | -528 | -527 | -526 | -525 | -524 | -523 | -522 | -521 | -520 | -519 | -518 | -517 | -516 | -515 | -514 |
| -513 | -512 | -511 | -510 | -509 | -508 | -507 | -506 | -505 | -504 | -503 | -502 | -501 | -500 | -499 | -498 | -497 | -496 | -495 |
| -494 | -493 | -492 | -491 | -490 | -489 | -488 | -487 | -486 | -485 | -484 | -483 | -482 | -481 | -480 | -479 | -478 | -477 | -476 |
| -475 | -474 | -473 | -472 | -471 | -470 | -469 | -468 | -467 | -466 | -465 | -464 | **-463** | -462 | -461 | -460 | -459 | -458 | -457 |
| ***-456*** | -455 | -454 | -453 | -452 | -451 | -450 | -449 | -448 | -447 | -446 | -445 | -444 | -443 | -442 | -441 | -440 | -439 | -438 |
| -437 | -436 | -435 | -434 | -433 | -432 | -431 | -430 | -429 | -428 | -427 | -426 | -425 | -424 | -423 | -422 | -421 | -420 | -419 |
| -418 | -417 | -416 | -415 | -414 | -413 | -412 | -411 | -410 | -409 | -408 | -407 | -406 | -405 | -404 | -403 | -402 | -401 | -400 |
| -399 | -398 | -397 | -396 | -395 | -394 | -393 | -392 | -391 | -390 | -389 | -388 | -387 | -386 | -385 | -384 | -383 | -382 | -381 |
| -380 | -379 | -378 | -377 | -376 | -375 | -374 | -373 | -372 | -371 | -370 | -369 | -368 | -367 | -366 | -365 | -364 | -363 | -362 |
| -361 | -360 | -359 | -358 | -357 | -356 | -355 | -354 | -353 | -352 | -351 | -350 | -349 | -348 | -347 | -346 | -345 | -344 | -343 |
| -342 | -341 | -340 | -339 | -338 | -337 | -336 | -335 | -334 | -333 | -332 | -331 | **-330** | -329 | -328 | -327 | -326 | -325 | -324 |
| -323 | **-322** | -321 | -320 | -319 | -318 | -317 | -316 | -315 | -314 | -313 | -312 | **-311** | -310 | -309 | -308 | -307 | -306 | -305 |
| -304 | -303 | -302 | -301 | -300 | -299 | -298 | -297 | -296 | -295 | -294 | -293 | -292 | -291 | -290 | -289 | -288 | -287 | -286 |
| -285 | -284 | -283 | -282 | -281 | -280 | -279 | -278 | -277 | -276 | -275 | -274 | -273 | -272 | -271 | -270 | -269 | -268 | -267 |
| -266 | -265 | -264 | -263 | -262 | -261 | -260 | -259 | -258 | -257 | -256 | -255 | -254 | -253 | -252 | -251 | -250 | -249 | -248 |
| -247 | -246 | -245 | -244 | -243 | -242 | -241 | -240 | -239 | -238 | -237 | -236 | -235 | -234 | -233 | -232 | -231 | -230 | -229 |
| -228 | -227 | -226 | -225 | -224 | -223 | -222 | -221 | -220 | -219 | -218 | -217 | -216 | -215 | -214 | -213 | -212 | -211 | -210 |
| -209 | -208 | -207 | -206 | -205 | -204 | -203 | -202 | -201 | -200 | -199 | -198 | -197 | -196 | -195 | -194 | -193 | -192 | -191 |
| -190 | -189 | -188 | -187 | -186 | -185 | -184 | -183 | -182 | -181 | -180 | -179 | -178 | -177 | -176 | -175 | -174 | -173 | -172 |
| -171 | -170 | -169 | -168 | -167 | -166 | -165 | -164 | -163 | -162 | -161 | -160 | **-159** | -158 | -157 | -156 | -155 | -154 | -153 |
| -152 | **-151** | -150 | -149 | -148 | -147 | -146 | -145 | -144 | -143 | -142 | -141 | **-140** | -139 | -138 | -137 | -136 | -135 | -134 |
| -133 | -132 | -131 | -130 | -129 | -128 | -127 | -126 | -125 | -124 | -123 | -122 | -121 | -120 | -119 | -118 | -117 | -116 | -115 |
| -114 | -113 | -112 | -111 | -110 | -109 | -108 | -107 | -106 | -105 | -104 | -103 | -102 | -101 | -100 | -99 | -98 | -97 | -96 |
| -95 | -94 | -93 | -92 | -91 | -90 | -89 | -88 | -87 | -86 | -85 | -84 | -83 | -82 | -81 | -80 | -79 | -78 | -77 |
| -76 | -75 | -74 | -73 | -72 | -71 | -70 | -69 | -68 | -67 | -66 | -65 | -64 | -63 | -62 | -61 | -60 | -59 | -58 |
| -57 | -56 | -55 | -54 | -53 | -52 | -51 | -50 | -49 | -48 | -47 | -46 | -45 | -44 | -43 | -42 | -41 | -40 | -39 |
| -38 | -37 | -36 | -35 | -34 | -33 | -32 | -31 | -30 | -29 | -28 | -27 | -26 | -25 | -24 | -23 | -22 | -21 | -20 |
| -19 | -18 | -17 | -16 | -15 | -14 | -13 | -12 | -11 | -10 | -9 | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | **31** | 32 | 33 | 34 | 35 | 36 | 37 |
| | | | | | | | | | | | | | | | | | | |
| 1824 | 1825 | 1826 | 1827 | 1828 | 1829 | 1830 | 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 | 1841 | 1842 |
| 1843 | **1844** | 1845 | 1846 | 1847 | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 | 1861 |
| J | R | JHR | R | R | JHR | R | R | JHR | R | JHR | J | R | JHR | R | R | JHR | R | R |

J = Juarez H = Horn R = Rabbies JHR = All

**Dates adapted from Horn and Parker and Dubberstein for the years 609 B.C. to 420 B.C. and projection down to A. D. 1861.**

# Objections to Calculating Prophetic Times - Signs of the Times, April 26, 1843, pages 58-61, by Apollos Hale (1807-1898)

DIFFERENT MODES OF RECKONING TIME - Pages 60-61.

Again we are pointed to sundry difficulties in the way of calculating the time. It is said the difference in the mode of computing time at different periods, makes it impossible to tell when the prophetic periods run out, even if we can tell when they begin. We will let one speak for a great many. "Our readers are aware that the ancient mode of reckoning the *year was by 360 days.* The 2300 years of Daniel were of course years of 360 days each; in these 2300 years, the 490 years are included: but everybody knows that we count 365 days in the year. This fact has been overlooked. The 1810 years which remain of the 2300, after the accomplishment of the 490 years, are too long by 5 days and 6 hours each, and this makes a difference of upwards of 26 years. We must therefore deduct 26 years from 1843, and this takes us back to the year 1817, when, if this scheme had been correct, the world would have been destroyed." Protestant Banner, July 19th, 1843. (?)

We may reply with the strictest propriety in the language of the Protestant Banner. "It is seldom that so large an amount of arrogance, egotism, and ignorance is found condensed in a single sentence; but the author possesses the faculty of condensing these elements in a wonderful degree." The P. B. must presume very largely upon the ignorance of its "readers," to suppose them to be "aware that the ancient mode of reckoning the year was by 360 days."

We challenge the P. B. or any other Banner to point out a single nation, "ancient" or modern, whose mode of reckoning the year was by 360 days. If it can be shown that this was ever "the mode of reckoning the year," it certainly has not been since the time stated for the commencement of these obnoxious prophetic periods. See Prid. Con. Preface; Tegg´s Chronology, and Roll. It is very doubtful credit to the emphasized "we" of the P. B. that "everybody knows that we count 365 days to the year." In our part of the country *we have 366 once in a while*. And this talk about the difference between the ancient and modern computation of the year, and the years that are lost on account of it, is really amusing. We wonder if the sun, moon and stars stood still to accommodate the supposed "ignorance" of the ancients, so that the natural year should agree with theirs! If not, what a state of "confusion confounded" must things have got into when winter came in July, summer in January, autumn in March, and spring in October. At any rate, they might have sung, without any poetic license, once in a while, "December´s as pleasant as May." Though one would suppose they would have felt more like singing with the German poet, especially when May should find the thermometer below zero,

"The world is out of joint,
O, cursed spite!
That ever I was born
To set it right."

But perhaps they had some P. B. or Rev. Mr. Thomas or Colver, to keep things straight for them.

The great unerring standard of time which God established when he set the sun, moon, and stars to be for signs and for seasons, for days and years, has never varied. - And however men have computed time, God´s years have always been the same. Moreover, it has been the work of astronomers, mathematicians, chronologers and historians, since men were upon the earth, to bring their defective computations to correspond with the true natural year - the time required for the earth to pass from a particular point in its orbit round to the same point, usually beginning at the equinoxes. This time, it has been demonstrated, is 365 days 5 hours and a fraction.

**It was by referring to this never varying standard that the necessity of the leap year was discovered. It was this which led to the change of the O. S. for N. S. - So with the ancients and their modes of reckoning the year. There is pretty clear evidence that they knew enough about astronomy to know *when the sun shined*, and to know day from night, and winter from summer; and they knew enough to make up the deficiency in their current years by intercalary months or days, as the case required;** just as we should have to do at a broker´s in exchanging money on which there might be 5 or 10 per cent discount, to get par money, - we must add enough to ours to make it of equal value with his. **They always had the true solar year as much as we have, whether their current year included the whole of it or not; and they always contrived some way to keep the current and natural year along together,** near enough at leas not to lose *more than a whole year every century.*

These lost years are all nonsense, and would never have been mentioned but by men whose "arrogance, egotism and ignorance" are of a sufficiently "large amount" to disqualify them to perceive that they have *lost their reckoning*. Rollin tells us, (vol. ii. P. 627, Harpers´ Edition,)

**"Though all nations may not agree with one another in the manner of determining their years, some regulating them by the motion of the sun, and others by that of the moon, they, however, generally use the solar year in *chronology*. It seems at first, that as the lunar years are shorter than the solar, that inequality should produce some error in chronological calculations. But it is to be observed, that the nations who used lunar years, added a certain number of intercalary days to make them agree with the solar: which makes them correspond with each other; or at least, if there be any difference, it may be neglected, when the question is only to determine the year in which a fact happened."** [Emphasis mine].

But the years used in the Bible history were undoubtedly Jewish years, so that we know exactly the difference" to be considered, and what allowance to make for lost time. Horne, vol. iii. Pp. 168, 167, 297.

"The ecclesiastical or sacred year began in March, or on the first day of the month Nisan, because at that time they departed out of Egypt." (...) "The Jewish months were originally calculated from the first appearance of the moon, on which the Feast of the New Moon, or beginning of months (as the Hebrews termed it) was celebrated. Exod. Xii. 2; Num. x. 10; xxvii. 11." (...) "The Jewish months being regulated by the phases or appearances of the moon, their years were consequently lunar years, consisting of twelve lunations, or 354 days and 8 hours; but as the Jewish festivals were held not only **on certain fixed days of the month, but also at certain seasons of the year**, consequently great confusion would, in process of time, arise by this method of calculating: the spring month sometimes falling the middle of winter, **it became necessary to accommodate the lunar to solar years, in order that their months, and consequently**

**their festivals, might always fall at the same season. For this purpose, the Jews added a whole month to the year, as often as it was necessary; which occurred commonly once in three years, and sometimes once in two years. This intercalary month was added at the end of the ecclesiastical year after the month Adar, and was therefore called Ve-Adar, or the second Adar."** [Emphasis mine].

**Now by regulating the "lunar years" so as to correspond with the "solar," their years must, of necessity, at every nineteenth, correspond, "within an hour and a half," with the same number of solar years, a "difference" which would not amount to one month in six thousand years; so that the "scheme" of the P. B. and its worthy coadjutors, "which takes us back to the year 1817, when the world would have been destroyed," will afford no relief to their "readers," except to those whose "ignorance" may be of sufficient "degree" to disqualify them to appreciate the more "wonderful" "arrogance" and "egotism" of the writers.**

PROPHETIC AND SOLAR YEARS.

"But does not Mr. Miller reckon some years at 360 and some at 365 days?" No - unless you refer to the prophetic years, as distinguished from chronological or historical years. **In history and chronology no other years are ever used but true solar years**. Prophetic years, generally called "times" in scripture, are always of 360 days. God has so explained them in his word (compare Rev. xii. 6 and 14); and the history of fulfilled prophecy corresponds with that explanation.

When these two modes of time are used in reckoning, prophetic years are never put alongside of solar *years* as if they were to be matched together as years; i. e. it is not to be supposed that the seven times, for instance, are to be matched with seven solar *years*; - nor, as some have thought, are we, 1st, to suppose the *days* in the prophetic ´period indicates a corresponding number of *solar years*; and 2d, that the period thus obtained is to be compared with the same number of prophetic years; and 3d, to get at the result, deduct the difference between the *prophetic* and solar years from the whole period; but prophetic or symbolic times are always interpreted to mean as many true solar years as there are days in the period considered. "Each day" of the prophetic period represents a true solar year - there being 2520 days in 7 times, understood symbolically, the period expresses 2520 true solar years. Prophetic time is the measure, true time the article to be measured. There is the same difference between the measure and the article to be measured in this case that there is in all other cases: the measure is an arbitrary abstract rule, by which the natural and real thing is to be measured off for use.

***"The Lunar Cycle, called also the Golden Number, is the revolution of nineteen years, at the end of which the moon returns, within an hour and a half, to the same point with the sun, and begins its lunations again in the same order as at first."** Rollin, vol. 2, p. 627. [Emphasis mine].

"From the very time of the original institution of the Passover, the observance of it was fixed to the fourteenth day of the first month Nisan, otherwise denominated Abib, or the month of *green ears*, at which time in Judea the harvest was beginning: and, in a similar manner, the feast of tabernacles was fixed to the middle of the seventh month Tisri, and to the time of the ending of the vintage. Now, these feasts were thus observed - The Passover they celebrated on the fourteenth day of Nisan or Abib by killing the paschal lamb; the fifteenth was the first of the days of unleavened bread, and was ordained to be kept as a Sabbath, and on the morrow after

this Sabbath, as being the beginning of the barley harvest, they were directed to bring a sheaf of the first fruits for a wave offering before the Lord. The feast of tabernacles they celebrated on the fifteenth day of Tisri, and this festival was also called the feast of *ingathering*, because it was celebrated after they had gathered in their corn and their wine.

If then the ancient Jewish year consisted of no more than 360 days, and if it were neither annually lengthened by the addition of five supernumerary days, nor occasionally regulated by monthly intercalations, it is evident, that *all* the months, and among them the months Abib and Tishri, must have rapidly revolved through the several seasons of the year. Hence it is equally evident, since the Passover and the feast of tabernacles were fixed, the one to the fourteenth day of Abib and the other to the fifteenth day of Tisri, that *they* must similarly have revolved through the seasons. Such being the case, how would it be possible to observe the ordinances of the law, when the months Abib and Tisri had passed into opposite seasons of the solar year? How could the Jews, in the climate of Judea, offer the first fruits of their harvest after the Passover, when the month Abib, in whch it was celebrated, had passed into autumn or winter? And how could they observe the feast of tabernacles, as a feast of the ingathering of their corn and their wine, in the month of Tisri, when that month had passed into spring or summer? **It is plain, that, unless Abib were always a vernal month and Tisri an autumnal month, the Passover and the feast of tabernacles could not have been duly observed. And hence it is equally plain, that the ancient Jews could not have reckoned by years of 360 days without some expedient to make those years fall in with solar years."** Faber, pp. 12-14.

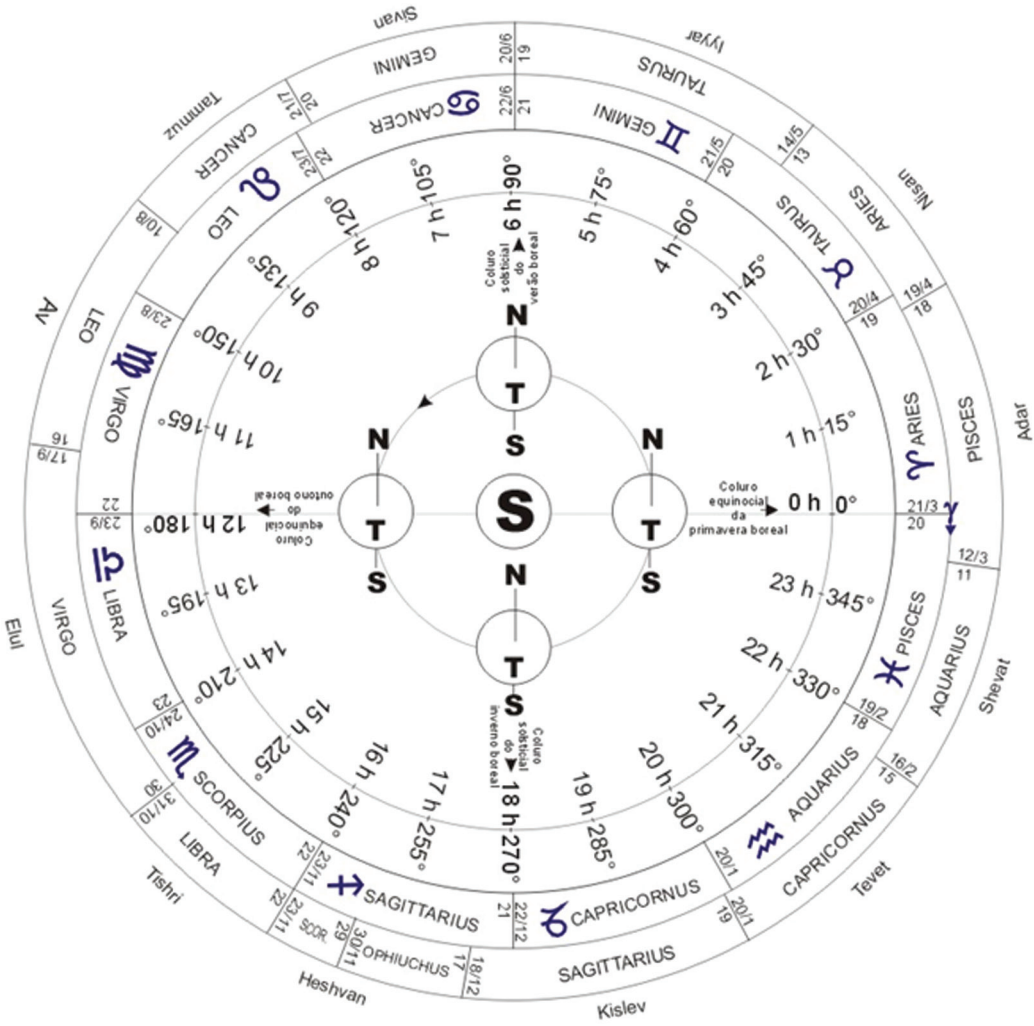
The quotation above shows that since the beginning of 1843, some of the Millerites or Adventists, as they preferred to be called, were acquainted with the solar year, the lunar month, the lunisolar coordination, the 19-year period and so on. It is a pity and shame that nowadays this subject is ignored, overlooked and slighted by those who are required to give a reason for their hope and faith, as expressed in 1 Peter 3:15.

**Months of the Hebrew Year**

Month = Strong's number (Bible Texts)
אָבִיב = 24 (Ex. 13:4; 23:15; 34:18; 34:18; Deut. 16:1; 16:1)
נִיסָן = 5212 (Neh. 2:1; Esth. 3:7)
זִו = 2099 (I Ki. 6:1; 6:37)זִיו
אִיָּר = אִיָּר =
סִיוָן = 5510 (Esth. 8:9)
תָּמוּז = תמוז
אָב =
אֱלוּל = 435 (Neh. 6:15)
אֵיתָנִים = 388 (I Ki. 8:2)
תִּשְׁרֵי =
בּוּל = 945 (I Ki. 6:38)
מַרְחֶשְׁוָן =
כִּסְלֵו = 3691 (Neh. 1:1; Zech. 7:1; I Mac 1:54, Jo. 10:22)
תֵּבֵת = 2887 (Esth. 2:16)תֵּבֵת
שְׁבָט = 7627 (Zech. 1:7)
אֲדָר= 143 (Ezra 6:15; Est. 3:7,13; 8:12; 9:1,15,17,19,21; I Mac. 7:43)
אֲדָר שֵׁנִי=אֲדָר בֵּית= וְאֲדָר =

# לוּחַ שָׁנָה = CALENDAR

| Months | | חֹדֶשׁ (newness), new moon, day of new moon, month | מוֹלָד = Birth, beginning, appearance of the new moon | Feasts | תְּקוּפָה cycle, circuit; season of the year | הַמַּזָּלוֹת גַּלְגַּל |
|---|---|---|---|---|---|---|
| Rel<br>1<br>**ABIB/ NISAN** | Civ<br>7 | אָבִיב<br>נִיסָן | March<br>APRIL<br>שְׂעוֹרָה = **barley** | פֶּסַח<br>חַג הַמַּצּוֹת | SPRING<br>אָבִיב<br>נִיסָן | **ARIES**<br>☼<br>טָלֶה |
| 2<br>**IYYAR** | 8 | זִו<br>זִיו<br>אִיָּר<br>אִיָּר | April<br>MAY<br>Flower | | | TAURUS<br>☾<br>שׁוֹר |
| 3<br>**SIVAN** | 9 | סִיוָן | May<br>JUNE<br>חִטָּה = **wheat** | חַג שָׁבֻעוֹת | | GEMINI<br>תְּאוֹמִים |
| 4<br>**TAMMUZ** | 10 | תָּמּוּז | June<br>JULY | | SUMMER<br>קַיִץ | CANCER<br>סַרְטָן |
| 5<br>**AB** | 11 | אָב | July<br>AUGUST | | | LEO<br>אַרְיֵה |
| 6<br>**ELUL** | 12 | אֱלוּל | August<br>SEPTEMBER<br>Gleaning | | | VIRGO<br>בְּתוּלָה |
| 7<br>**TISHRI** | 1 | אֵיתָנִים<br>אֵתָנִים<br>תִּשְׁרֵי | September<br>OCTOBER<br>Perennial | שָׁנָה<br>רֹאשׁ<br>כִּפֻּרִים<br>יוֹם<br>חַג הַסֻּכּוֹת | AUTUMN<br>סְתָו | **LIBRA**<br>☼<br>מֹאזְנַיִם |
| 8<br>**HESH-VAN** | 2 | בּוּל<br>מַרְחֶשְׁוָן | October<br>NOVEMBER<br>Rain God | | | SCORPIUS<br>☾<br>עַקְרָב |
| 9<br>**KISLEV** | 3 | כִּסְלֵו | November<br>DECEMBER | חֲנֻכָּה | | SAGITTARIUS<br>קֶשֶׁת |
| 10<br>**TEBETH** | 4 | תֵּבֵת<br>תֵּבֵת | December<br>JANUARY<br>Sinking in | | WINTER<br>חֹרֶף | CAPRICORNUS<br>גְּדִי |
| 11<br>**SHEBAT** | 5 | שְׁבָט | January<br>FEBRUARY<br>Destroying rain | | | AQUARIUS<br>☼<br>דְּלִי |
| 12<br>**ADAR** | 6 | אֲדָר | February<br>MARCH<br>Blossoms | פּוּרִים<br>פֻּרִים | | PISCES<br>☾<br>דָּגִים |
| 13<br>**ADAR SHENI, ADAR BET, VE-ADAR** | | אֲדָר שֵׁנִי<br>אֲדָר בֵּית<br>וְאֲדָר | MARCH | | | |


Coluro equinocial da primavera boreal
0 h 0°
1 h 15°
2 h 30°
3 h 45°
4 h 60°
5 h 75°
6 h 90°
Coluro solsticial do verão boreal
7 h 105°
8 h 120°
9 h 135°
10 h 150°
11 h 165°
12 h 180°
Coluro equinocial do outono boreal
13 h 195°
14 h 210°
15 h 225°
16 h 240°
17 h 255°
18 h 270°
Coluro solsticial do inverno boreal
19 h 285°
20 h 300°
21 h 315°
22 h 330°
23 h 345°
N
S
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ARIES
TAURUS
GEMINI
CANCER
LEO
VIRGO
LIBRA
SCORPIUS
SAGITTARIUS
CAPRICORNUS
AQUARIUS
PISCES
Nisan
Iyyar
Sivan
Tammuz
Av
Elul
Tishri
Heshvan
Kislev
Tevet
Shevat
Adar

Zodiac
31.01.21 15:53:23 Aquarius
31.02.20 15:46:31 Pisces
31.03.23 4:25:41 Aries
31.04.23 5:30:06 Taurus
31.05.24 15:10:32 Gemini
31.06.25 3:05:01 Cancer
31.07.26 10:11:34 Leo
31.08.26 6:53:48 Virgo
31.09.25 14:35:31 Libra
31.10.25 10:14:38 Scorpius
31.11.23 21:54:09 Sagitarius
31.12.23 7:32:46 Capricornus
Year : 31
Show in IE
1000 years
Season only
Show in IE
Cancel
OK

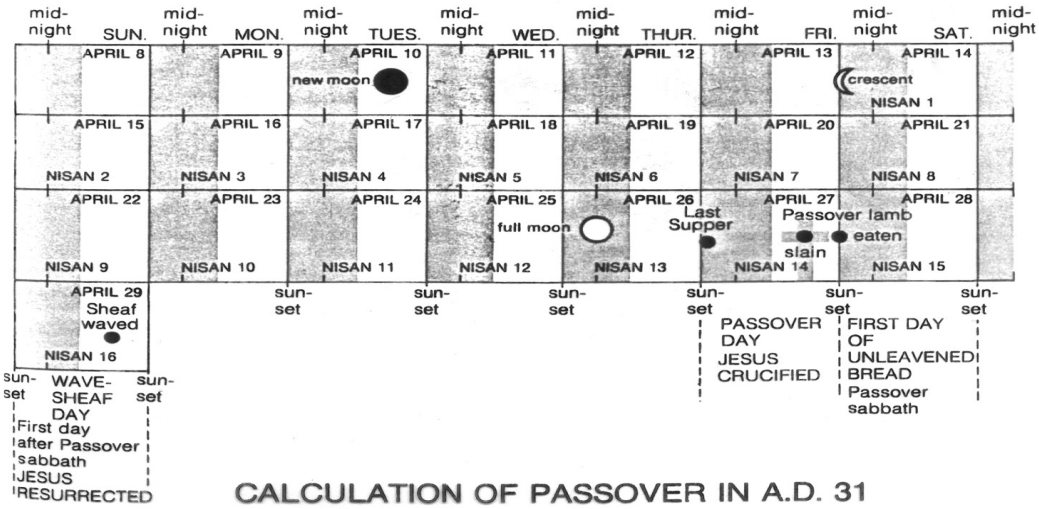
"The answer is that, yes, a Friday crucifixion in A.D. 31 is entirely "possible" according to astronomical calculations (for whatever they may be worth), granted a few unprovable yet reasonable assumptions.

We assume to begin with that the March 12 new moon (conjunction) was too early for the barley-harvest requirement. (Dated Jewish papyri found at Elephantine do not allow Nisan to begin as early as March 14, and neither did the Babylonian cycle.) So, with March 12 regarded as too early, the new moon prior to Nisan 1 in the year 31 becomes the one listed as number 12755 on page 86 of Goldstine´s computer printout, for Tuesday afternoon, April 10. Goldstine´s time for the new moon is 2:45 p.m. in Babylon. In Jerusalem, some 850 kilometers or 525 miles to the west, the new moon occurred thirty-seven minutes earlier, local time.

If the interval between this April 10 new moon and the first visibility of the crescent moon at Jerusalem was a very long 3.19 days, as it could have been, or if it was shorter but was obscured the first night, the crescent was observed at sunset on Friday, April 13."

With the observation of the crescent, the month of Nisan commenced at once and Nisan 1 should be dated in our Julian-Gregorian calendar as the Saturday, April 14, which followed at midnight. The fourteenth night thereafter, counting the evening of the crescent (inclusive reckoning), brought Jerusalem to the commencement of Nisan 14 at sunset on April 26, a Thursday. Thus, April 27, the Passover day on which Jesus died, was a Friday-Friday, Nisan 14, A.D. 31.

A diagram may help to make this statement clearer."[1]




CALCULATION OF PASSOVER IN A.D. 31

1. C. Mervyn Maxwell. Your Questions Answered. 5. WHY CANNOT ASTRONOMERS DATE THE CRUCIFIXION? *In: God Cares*, volume 1. Pacific Press Publishing Association, 1981, page 255. This chart may be found in *Uma Nova Era Segundo as Profecias de Daniel,* pages 276-277.

| Relationship between Solar, Julian and Gregorian Years | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | ← | | | 1 | | | | | |
| ← 2300 x 365,2422 = 840075 days | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 2300 x 364,2422 = 840057 days | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | Autumnal | | | | | Autumnal | | | | |
| | | | | | | | | | | | | | | | | | | Equinox | | | | | Equinox | | | | |
| 457 BC | | | | | | | | | | | | | | | | | | 457 BC | | | | | AD 1844 | | | | |
| September | | | | | | | | | | | | | | | | | | September | | | | | September | | | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | Jul | | | 10 | 12 | Jul. | | |
| | | | | | | | | | | | | | | | | | | | | | Oct. AD 1582 | | 22 | 23 | Gre. | | |

This chart shows the dates for the Autumnal Equinox, beginning of Autumn or Fall in A.D.1844, in the Gregorian Calendar, and the dates for the Autumnal Equinox in 457 B.C. in the Julian Calendar.

According to DE422/LE422 the ephemeris times were ET 14:25:43, on Sept.. 28, 457 B.C. and ET 22:57:11 on Sept. 22, A.D. 1844.

If you find it strange that in 457 B.C. we have September 28, remember that the dates for the Equinoxes and Solstices wander in the Julian Calendar owing to the fact that the Julian Year is 365.25 days and the Solar Year is 365.2422 days. The dates before the Gregorian Reform (Gregorian Year = 365.2425) on October 15, A.D. 1582 are Julian dates .

Since the date for the "Cleansing of the Sanctuary", October 22/23, A.D. 1844, is a month after the Autumnal Equinox, that is, after September 22/23, the "2300 evenings and mornings" period must start on October 28/29 in 457 B.C., a month after the Autumnal Equinox, that is, after September 28/29, as we are dealing with 2300 solar years, which harmonize with 28447 lunations in a lunisolar calendar. The free astronomy and calendar program Kalendis found at http://www.sym454.org/ can show equivalent B.C. and A.D. Julian and Gregorian dates..

| Synchronism | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Tishri 10 | | Lunisolar Years | | | | | | | Tishri 10 | |
| BC | | 2300 LUNISOLAR YEARS | | | | | | | AD | |
| ? | | Interval | | | | | | | ? | |
| | | 2300 | x | 365,25 | = | 840075 | Julian | Dif. | | |
| | | 2300 | x | 365,2425 | = | 840057,75 | Gregorian | Dif. | | |
| | | 2300 | x | 365,2422 | = | 840057,06 | Solar | Dif. | | |
| | | 2300 | x | 365 | = | 839500 | Egyptian | Dif. | | |
| | | 2300 | x | 360 | = | 828000 | Schematic | Dif. | | |
| | | 2300 | x | ? | = | ? | Lunisolar | Dif. | | |
| | | | | | | | | | | |

# BC-AD CALCULATION

"Given an initial epoch, one must consider how to record preceding dates. Bede, the eighth-century English historian, began the practice of counting years backward from A.D. 1 (see Colgrave and Mynors, 1969). In this system, the year A.D. 1 is preceded by the year 1 B.C., without an intervening year 0. because of numerical discontinuity, this "historical" system is cumbersome for comparing ancient and modern dates. Today, astronomers use +1 to designate A.D 1. then +1 is naturally preceded by year 0, which is preceded by year -1. since the use negative numbers developed slowly in Europe, this "astronomical" system of dating was delayed until the eighteenth century, when it was introduced by the astronomer Jacques Cassini (Cassini, 1740)."

A period of 10 years, starting in the beginning of the year 7 B.C., reaches the beginning of A.D. 4.

2300 – 457 = 1843

| BC to AD Transition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 1 | 2 | 3 | 4 | Historical System by Bede |
| -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | Astronomical System by Cassini |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | Illustrative Period |
| Ten-Year Period | | | | | | | | | | | Calculator Thermometer |

10 – 7 = 3 (wrong result because of the 1 BC – AD 1 historical convention.)

-456 + 2300 = 1844

-6 + 10 = 4 (correct result by using the -1, 0, +1 system)

This is easy to understand, but somewhat tricky. The setting of the end of the seventy weeks or 490 years to AD 33 or the 2300 years to 1843 is due to mistake about several details. Although this problem has been understood and corrected by the Millerites in 1844, it is still a source of perplexity to many people nowadays, who end up devising fancy ways of explaining this matter.

2. L. E. Doggett in the Explanatory Supplement to the Astronomical Almanac.

# TISHRI 10, 1844

## As Understood by the Millerites

## "THE LORD'S CHRONOLOGY

## ... the tenth day of the seventh month, or Oct. 22 or 23."

"**THE JEWISH YEAR -** The Jewish sacred year commences with the new moon in the Spring. According to the common Jewish Calendar, the present sacred year begun March 19, or 20, and Passover was April 4th; but if this was too early for **the barley in Judea**, then the year must have commenced one month later; that is about the 18th of April. We shall make out a list of the most important Jewish festivals, on this view, reckoning each month to begin about a day after the change of the moon.

| | |
|---|---|
| 1st month, Abib or Nisan, begins | April 18 |
| The Passover, | May 2 |
| Waving of the first fruits, | " " 4 |
| Pentecost, | June 23 |
| 7th month begins, (Blowing of Trumpets) | Oct. 13 |
| 10th day of the month, | " 23 |
| 15 day, (Feast of Tabernacles,) | " 28 |

As the moon changes in the evening of October 11th, <u>it will not be visible till the 13th</u>, and that is the most probable time for the commencement of the 7th month.

There are some who think the 7th month may begin with the new moon in November, but according to that the passover would have been June 1st, and we believe that cannot possibly be correct. The **Encyclopaedia of Religious Knowledg**e says the barley was ripe in April, and of course the feast of the passover could not be later than May 2nd. In an article on the Jewish year, published in **<u>the Cry of April 27, 1843, Bro. Whiting</u>** says: **'The rabbinical calculation makes the first day of Nisan commence with the new moon nearest the day on which the sun enters Aries, on the vernal equinox**. It ought, however, to be observed, that the Caraite Jews maintain that the rabbins have changed the Calendar, so that, to present the first fruits on the 16th of Nisan would be impossible if the time is reckoned according to the rabbinical calculation, since barley is not in the ear at Jerusalem till a month later. The accounts of many travellers confirm the position of the Caraites.'[Emphasis mine].

**We are, therefore, shut up to this conclusion, that the new moon of October begins the seventh month, and the anniversary of the day of atonement will be on <u>Oct. 23</u>.** We have given our reasons for believing that Christ will then come, the second time, to the salvation of them that love his appearing."[2] [Emphasis mine].

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1. Geo. Storrs. The Midnight Cry, October 3, 1844, page 102.

2. *The Midnight Cry*, October 11, 1844, pages 117, 127.

"TIME AT JERUSALEM. - If that is to be the standard, we may not see the tenth day till Oct. 23d, for the new moon was not till the morning of Oct. 12th at Jerusalem, and if it did not appear till the evening of the 13th, then the first day of the tenth month might, even, be as late as the 14th, and the tenth day might therefore be on the 24th. Let us, therefore, not cast away our confidence, if the Lord should not come on the 23d of this month. But let none presume upon the continuance of time beyond the 22d."[3] [Emphasis mine].

"BEHOLD HE COMETH,
ON THE TENTH DAY OF THE SEVENTH MONTH, WHICH ANSWERS TO THE 22D OR 23D OF OCTOBER"[4] [Emphasys mine].

"In New York, Philadelphia, Baltimore, and other places, the wicked manifested the same feeling, and on Sunday the 13th inst the Advent meetings in many places were broken up by them. This movement on their part was so sudden, simultaneous and extensive, with its manifestation on the first day of the Jewish seventh month - the new moon being probably seen in Judea on the second evening from its change when it would be one day and 17 hours old, and which corresponded with 11 A. M., in Boston - strengthened us in our opinion that this must be the month."[5] [Emphasis mine]. [Quoted in the *Committee Papers*, page 45, and by Andreasen; see the link to Grace Amadon file in the Andrews Library.]

"The whole attention was ultimately centered on the translation of the new moon of Tishri, upon a scientific basis, and upon one that would harmonize with the prophecy. The following statement from an editorial in the Midnight Cry, shows how closely the Adventists of that time reasoned in regard to the identity of the day, October 22:

'The new moon being probably seen in Judea on the second evening from its change, when it would be one day and 17 hours old, and which corresponded with 11 A. M. in Boston - strengthened us in our opinion that this must be the month.'

Before attempting to analyze the exact meaning of the quotation here given, it is essential to bear in mind just what is involved, astronomically, by the every-day language, 'change of the moon.' Though everyone uses this expression, it has direct application to certain astronomical events known as the four phases of the moon, which mark off her performance every 29 and 1/2 days. The new moon phase mentioned in the foregoing Midnight Cry editorial is, as noted, technically defined as conjunction, and represents that instant of time when the geocentric longitude of the sun and moon are equal, as measured from the center of the earth, the moon being between the earth and the sun."[6]

"A check was also made by the Millerites on this same conjunction in Jerusalem which was dated Oct. 12, 1h 45m, or 7 hours and 5 minutes later. But there the moon could not be seen in so short a time as the first sunset after conjunction, which would be a period of only 15 hours and 48 minutes. Therefore, the Adventists reasoned, the Jerusalem new moon would certainly be seen at the second sunset which was nearly 'one day and 17 hours' later than conjunction."[7]

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3. *The Midnight Cry*, October 19, 1844, page 132.
4. Ibidem, 134.
5. *The Midnight Cry*, October 31, 1844, page 141. Apud in: *The Advent Herald and Signs of the Times Reporter,* October 30, 1844, p. 93.
6. *General Conference of S.D.A Committee Papers*, Part V, 1941, pages 45-46.
7. Ibidem, 48.

[Time from conjunction at 1:45 A.M. on Oct 12 to moonset at 6:25 P.M. on Oct. 13, Jerusalem civil time.]

> "The supposed coincidence of the tenth day with the 22d or 23d, or any other day of October last, is altogether a matter of conjecture. Hence, all the inferences as to the trumpet having been blown on htat day, &c., hve no solid foundation. Suppose the resonings built on the typical import of the tenth day were true (yet they are not, by this insuperable difficulty), we do not know that Oct. 22d or 23d, was actually the tenth day of the seventh month."[8]

Remarks: *The Morning Watch* is the name for *The Midnight Cry* after Jan. 2, 1845. Probably this article was written by the editor N. N. Whiting, who did not accept the tenth day of the seventh month movement, as may be seen by reading Hale´s appeal to him in the *Advent Herald*, October 16, 1844, and in the *Midnight Cry,* October 12, 1844.

> "As it was believed that the types predicted the Advent of the Lord on the tenth day of the seventh month of the Jewish sacred year, it was necessary to harmonize the Jewish time with our present calendar, to ascertain what day, according to our reckoning, would synchronize with that day of the Jewish year. **According to the Rabbinical reckoning, it fell this year on the 23d of our September; and many of the religious editors and their correspondents have made themselves quite merry that the Adventists should have supposed it synchronized with the 22 of October, - "not one of the Adventists," as these learned men say, " having discovered the mistake**, " **From a full and careful review and examination of the question, we are still convinced that the true Jewish seventh month could only synchronize with our October, - commencing with the first appearance of the new moon on the 13th of that month**, and ending with the appearance of the new moon on the 11th of November."[9] [Emphasis mine].

8. *The Morning Watch*, March 6, 1945, page (illegible in my copy).
9. *The Advent Shield and Review*, January, 1845, Volume I - Number 2, page 273.

The following statements clarify the intentions of the Millerites concerning Tishri 1 = October 13/14 and Tishri 10 = October 22/23, in the Karaite system.

Tishri 1 = September 14/15
Tishri 10 = September 23/24

"They **commence** their year in the Fall and reckon this year, commencing with the new moon, **Sept. 14**, to be the year, 5605, from creation, and their next Jubilee would not occur till their year 5628."[10] [Emphasis mine].

"In this city, the Jews observed Monday, **Sept. 23d, as the tenth day of the seventh month**, but in this, of course, they follow the reckoning of the rabbinical Jews, and they are probably one month too early"[11] [Emphasis mine].

"We have told our readers that **the Jews in this city commenced their seventh month**, sacred time, or first month, civil time, **with the 14th or 15th of September**."[12] [Emphasis mine].

Rabbinic:
Tishri 01 = September 14/15
Tishri 10 = September 23/24

Karaite:
Tishri 01 = October 13/14
Tishri 10 = October 22/23

10. *The Midnight Cry*, October 3, 1844, pages 100-101.
11. *The Midnight Cry*, October 3, 1844, page 101.
12. *The Midnight Cry*, October 31, 1844, page 142.
13. The Advent Shiel*d and Review*, January, 1845, Volume I - Number 2, page 273.

| APRIL A. D. 31 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| | SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUN. |
| | | | | | | + | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | SABBATH | 1 |
| 10 SET APART | 11 | 12 | 13 | 14 SLAIN | 15 EATEN | | 16 | 17 |
| ABIB / NISAN A. D. 31 | | | | | | | | |

"He knew that His hour was come; He himself was the true paschal lamb, and **on the day the Passover was eaten He was to be sacrificed**."
Desire of Ages, page 642.

Time of the Passover. - The paschal lamb was slain in the late afternoon of Nisan 14, following the regular sacrifice, and **eaten, with unleavened bread, after sunset that same night, during the early hours of Nisan 15** (Ex. 12:6-14, 29, 33, 42, 51; 13:3-7; Num. 9:1-5; 33:3; Deut. 16:1-7...)
Seventh-day Adventist Bible Commentary, Volume V, page 533.

"Though the Passover may be properly listed as a separate "appointed meeting," a mo'ed, it may also be considered a part of the Feast of Unleavened Bread. The Passover lamb was slain on the 14th of the first month and **eaten that night, in the beginning of the 15th,** the first day of the Feast of Unleavened bread.
Seventh-day Adventist Bible Commentary, Volume I, page 801.

"Because Jewish days began at sunset, the afternoon on which the Passover lamb was slain came near the end of Nisan 14; **and the evening, when the lamb was eaten, was actually the beginning of Nisan 15**."
C. Mervyn Maxwell
God Cares, page 249 [103]

"Anciently, the day on which the Passover lamb was killed was followed immediately by the seven-day Feast of Unleaveaned Bread (Nisan 15 to 21). The Passover lamb, slain and roasted on Nisan 14, was actually **eaten after sunset, which was in the night (or forepart) of Nisan 15** (the first day of the Feast of Unleavened Bread). Hence the Hebrew Paschal season was one of eight days's duration".
Robert L. Odom
Sabbath and Sunday in Early Christianity, page 106
Review and Herald Publishing Association
Washington, D.C. 20012

12 The Lord said to Moses and Aaron in Egypt, 2 "This month is to be for you the first month, the first month of your year. 3 Tell the whole community of Israel that on the **tenth day of this month** each man is to take a lamb for his family, one for each household. 4 If any household is too small for a whole lamb, they must share one with their nearest neighbor, having taken into account the number of people there are. You are to determine the amount of lamb needed in accordance with what each person will eat. 5 The animals you choose must be year-old males without defect, and you may take them from the sheep or the goats. 6 Take care of them until the fourteenth day of the month, when all the people of the community of Israel must slaughter them at twilight. 7 Then they are to take some of the blood and put it on the sides and tops of the doorframes of the houses where they eat the lambs. 8 That same night they are to eat the meat roasted over the fire, along with bitter herbs, and bread made without yeast. 9 Do not eat the meat raw or cooked in water, but roast it over the fire—head, legs and inner parts. 10 Do not leave any of it till morning; if some is left till morning, you must burn it. 11 This is how you are to eat it: with your cloak tucked into your belt, your sandals on your feet and your staff in your hand. Eat it in haste; it is the Lord's Passover.
12 "On that same night I will pass through Egypt and strike down every firstborn—both men and animals—and I will bring judgment on all the gods of Egypt. I am the Lord. 13 The blood will be a sign for you on the houses where you are; and when I see the blood, I will pass over you. No destructive plague will touch you when I strike Egypt.
14 "This is a day you are to commemorate; for the generations to come you shall celebrate it as a festival to the Lord—a lasting ordinance. 15 For seven days you are to eat bread made without yeast. On the first day remove the yeast from your houses, for whoever eats anything with yeast in it from the first day through the seventh must be cut off from Israel. 16 On the first day hold a sacred assembly, and another one on the seventh day. Do no work at all on these days, except to prepare food for everyone to eat—that is all you may do.

The Holy Bible : New International Version. electronic ed. Grand Rapids : Zondervan, 1996, c1984, S. Ex 12:1-16

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1. *The Desire of Ages*, page 569.
2. Ibidem, 571.

# TENTH OF ABIB

The **tenth day** of Abib/Nisan was on the religious first day of the week or **Sunday**.

"It was on the **first day of the week** that Christ made His triumphal entry into Jerusalem. Multitudes who had flocked to see Him at Bethany now accompanied Him, eager to witness His reception. Many people were on their way to the city to keep the Passover, and these joined the multitude attending Jesus."[1] [Emphasis mine].

The quotation above shows that the triumphal entry into Jerusalem was on a Sunday.

"Never before in His earthly life had Jesus permitted such a demonstration. He clearly foresaw the result. It would bring Him to the cross. But it was His purpose thus publicly to present Himself as the Redeemer. **He desired to call attention to the sacrifice that was to crown His mission to a fallen world. While the people were assembling at Jerusalem to celebrate the Passover, He, the antitypical Lamb, by a voluntary act set Himself apart as an oblation. It would be needful for His church in all succeeding ages to make His death for the sins of the world a subject of deep thought and study. Every fact connected with it should be verified beyond a doubt**. It was necessary, then, that the eyes of all people should now be directed to Him; the events which preceded His great sacrifice must be such as to call attention to the sacrifice itself. After such a demonstration as that attending His entry into Jerusalem, all eyes would follow His rapid progress to the final scene. [Emphasis mine].

The events connected with this triumphal ride would be the talk of every tongue, and would bring Jesus before every mind. After His crucifixion, many would recall these events in their connection with His trial and death. **They would be led to search the prophecies, and would be convinced that Jesus was the Messiah**; and in all lands converts to the faith would be multiplied."[2] [Emphasis mine].
*The Desire of Ages*, page571.

In Exodus 12:1-6, we read:

1. The LORD said to Moses and Aaron in Egypt,
2. "This month is to be for you the first month, **the first month of your year**.
3. Tell the whole community of Israel that **on the tenth day of this month** each man is to **take a lamb** for his family, one for each household.
4. If any household is too small for a whole lamb, they must share one with their nearest neighbor, having taken into account the number of people there are. You are to determine the amount of lamb needed in accordance with what each person will eat.
5. The animals you choose must be year-old males without defect, and you may take them from the sheep or the goats.
6. **Take care of them until the fourteenth day of the month**, when all the people of the community of Israel must slaughter them at twilight. (NIV) [Emphasis mine].

The above quotations show that Jesus set himself apart as the antitypical Lamb on the same day that the typical Passover lamb was chosen, the tenth day, and set apart until the fourteenth day of the first month called Abib or Nisan.

The lamb chosen on Sunday (Abib/Nisan 10 = April 21/22) by the disciples will be killed and prepared on the religious Thursday afternoon (Abib/Nisan 14 = April 25/26). After sunset (Abib/Nisan 15 = April 26/27), at night, in the beginning of the religious Friday, during the Passover meal Jesus will make the transition from type to antitype.

In the Desire of Ages, page 52, Ellen G. White says:

> **Christ was standing at the point of transition between two economies and their two great festivals.** He, the spotless Lamb of God, was about to present Himself as a sin offering, that He would thus bring to an end the system of types and ceremonies that for four thousand years had pointed to His death. **As He ate the Passover with His disciples, He instituted in its place the service that was to be the memorial of His great sacrifice.** The national festival of the Jews was to pass away forever. The service which Christ established was to be observed by His followers in all lands and through all ages. {DA 652.2}

On June 5, 1845, in the J*ubilee Standard*, Samuel S. Snow wrote in a long article called Prophetic Chronology:

> Thus, by clear and convincing proofs, entirely independent of each other, we have established the correctness of those several dates, viz, B. C. 457, for 'the going forth of the commandment,' A. D. 27, for the beginning of our Lord's public preaching, A. D. 27 for the crucifixion, and A. D. 34 for the commencement of the ministry of Paul. These proofs stand forth like so many independent witnesses in court, and, perfectly agreeing in their testimony, confirm us, so that a doubt is **criminal**, that we have the right chronology. **The 70 weeks, therefore, began on the 10th day of the 7th month B. C. 457**. From that point, 69 weeks, or 483 years, ended in the 7th month A. D. 27. when Jesus began the proclamation of the gospel of the kingdom of God, saying 'THE TIME IS FULFILLED.' Then $3^1/_2$ years after that, **on the 10th day of the first month A. D. 31, he rode into Jerusalem as King**, and caused the temple worship, or 'sacrifice and oblation', to cease. From that point $3^1/_2$ years, the last half of the week, extended to the 10th day of the 7th month A. D. 34, when of course the 70 weeks ended. Thus 490 years of the 2300 were fulfilled, and 1810 remained to be fulfilled. Where would they end? **On the 10th day of the *seventh month*, A. D. 1844**. [Emphasis mine].

Snow used the word "criminal". Ellen G. White uses the words "without excuse", "sinful neglect", "criminal indifference", "backsliding", "neglect", on pages 313 to 316 of *The Great Controversy*.

| | | | | | |
|---|---|---|---|---|---|
| Tishri 10 | Tishri 10 | Nisan 10 | Nisan 15 | Tishri 10 | Tishri 10 |
| 457 BC | AD 27 | AD 31 | AD 31 | AD 34 | AD 1844 |
| <483 lunisolar> | | Lamb Chosen | Lamb Eaten | | |
| <486.5 lunisolar> | | DA 569, 571 | DA 462 | | |
| <486.5 solar> | | | | | |
| <490 lunisolar> | | | | | |
| <2300 lunisolar years = 2300 solar years> | | | | | GC 398-400, 410 |

# SPIRIT OF PROPHECY STATEMENTS ON TIME FULFILLMENT

"In the upper chamber of a dwelling at Jerusalem, Christ was sitting at table with His disciples. They had gathered to celebrate the Passover. The Saviour desired to keep this feast alone with the twelve. He knew that His hour was come; He Himself was the true paschal lamb, **and on the day the Passover was eaten He was to be sacrificed.** He was about to drink the cup of wrath; He must soon receive the final baptism of suffering. But a few quiet hours yet remained to Him, and these were to be spent for the benefit of His beloved disciples.

The whole life of Christ had been a life of unselfish service. "Not to be ministered unto, but to minister," (Matt. 20:28), had been the lesson of His every act. But not yet had the disciples learned the lesson. **At this last Passover supper,** Jesus repeated His teaching by an illustration that impressed it forever on their minds and hearts.

The interviews between Jesus and His disciples were usually seasons of calm joy, highly prized by them all. **The Passover suppers** had been scenes of special interest; but upon this occasion Jesus was troubled. His heart was burdened, and a shadow rested upon His countenance."[1]

"Before the execution of this sentence the Lord through Moses gave direction to the children of Israel concerning their departure from Egypt, and especially for their preservation from the coming judgment. Each family, alone or in connection with others, was to slay a lamb or a kid "without blemish," and with a bunch of hyssop sprinkle its blood on "the two side posts and on the upper doorpost" of the house, that the destroying angel, coming at midnight, might not enter that dwelling. **They were to eat the flesh roasted, with unleavened bread and bitter herbs, at night,** as Moses said, "with your loins girded, your shoes on your feet, and your staff in your hand; and ye shall eat it in haste: it is the Lord's Passover."[2]

"That which led to this movement was the discovery that the decree of Artaxerxes for the restoration of Jerusalem, which formed the starting-point for the period of the 2300 days, went into effect in the autumn of the year B. C. 457, and not at the beginning of the year, as had been formerly believed. Reckoning from the autumn of 457, the 2300 years [SOLAR] terminate in the autumn of 1844. [SEE GC PAGES 410-411.]

Arguments drawn from the Old-Testament types also pointed to the autumn as the time [10/7] when the event represented by the "cleansing of the sanctuary" must take place [TISHRI 10]. **This was made very clear as attention was given to the manner in which the types relating to the first advent of Christ had been fulfilled.** [SEE GC PAGE 328]

The slaying of the passover lamb was a shadow of the death of Christ. Says Paul, "Christ our passover is sacrificed for us." [1 Cor. 5:7.] The sheaf of first-fruits, which at the time of the Passover was waved before the Lord, was typical of the resurrection of Christ. Paul says, in

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1. Ellen G. White. *The Desire of Ages*, page 642.
2. Ellen G. White. *Patriarchs and Prophets*, page 274.

speaking of the resurrection of the Lord, and of all his people, "Christ the first-fruits; afterward they that are Christ's at his coming." [1 Cor. 15:23.] Like the wave-sheaf, which was the first ripe grain [RIPE BARLEY] gathered before the harvest, Christ is the first-fruits of that immortal harvest of redeemed ones that at the future resurrection shall be gathered into the garner of God. [LUNAR]

These types were fulfilled, not only as to the event, but as to the time [14/01]. On the fourteenth day [NISAN 14] of the first Jewish month, the very day and month on which, for fifteen long centuries, the passover lamb had been slain, Christ, having eaten [NISAN 15] the passover with his disciples, instituted that feast which was to commemorate his own death as "the Lamb of God, which taketh away the sin of the world." That same night [NISAN 15] he was taken by wicked hands, to be crucified and slain. And as the antitype of the wave-sheaf, our Lord was raised from the dead on the third day, "the first-fruits of them that slept," [1 Cor. 15:20] a sample of all the resurrected just, whose "vile body" shall be changed, and "fashioned like unto his glorious body." [Phil. 3:21.]

In like manner, the types which relate to the second advent must be fulfilled at the time pointed out in the symbolic service. Under the Mosaic system, **the cleansing of the sanctuary, or the great day of atonement, [10/7] occurred on the tenth day of the seventh Jewish month (Lev. 16:29-34) [TISHRI 10],** when the high priest, having made an atonement for all Israel, and thus removed their sins from the sanctuary, came forth and blessed the people. So it was believed that Christ, our great High Priest, would appear to purify the earth by the destruction of sin and sinners, and to bless his waiting people with immortality. The tenth day of the seventh month, the great day of atonement, the time of the cleansing of the sanctuary, which in the year 1844 fell upon the 22d of October, was regarded as the time of the Lord's coming. This was in harmony with the proofs already presented that the 2300 days would terminate in the autumn, and the conclusion seemed irresistible." [3][Brackets and Emphasis mine].

"To accept this conclusion was to renounce the former reckoning of the prophetic periods. **The 2300 days had been found to begin when the commandment of Artaxerxes for the restoration and building of Jerusalem went into effect, in the autumn of 457 B.C. Taking this as the starting point, there was perfect harmony in the application of all the events foretold in the explanation of that period in Daniel 9:25-27.**

Sixty-nine weeks, the first 483 of the 2300 years, were to reach to the Messiah, the Anointed One; and Christ's baptism and anointing by the Holy Spirit, A.D. 27, exactly fulfilled the specification. In the midst of the seventieth week, Messiah was to be cut off. Three and a half years after His baptism, Christ was crucified, in the spring of A.D. 31. The seventy weeks, or 490 years, were to pertain especially to the Jews. At the expiration of this period the nation sealed its rejection of Christ by the persecution of His disciples, and the apostles turned to the Gentiles, A.D. 34. The first 490 years of the 2300 having then ended, 1810 years would remain. From A.D. 34, 1810 years extend to 1844. "Then," said the angel, "shall the sanctuary be cleansed." **All the preceding specifications of the prophecy had been unquestionably fulfilled at the time appointed.**"[4]

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3. Ellen G. White. *The Great Controversy*, pages 398-400.
4. Ibidem, 410.

**Zodiac mosaic at Beth Alpha, south of Nazareth, Israel, of 517 C.E. - These are the central square of the floor pavement in the ancient synagogue. The solar body represented by Helios is at the center, and in the four corners are personifications of each of the four seasons, with the Hebrew names of the months initiating each season. This zodiac is characteristic of images of the cosmos, which often portrays an emanating structure of the universe, and the cyclical movement of time.**

See the book *Oxford Archaeological Guides*, pages 181-182 and 194-195, Fourth Edition, Revised and Expanded. Oxford University Press, 1998, and http://archaeology.about.com/gi/dynamic/offsite.htm?site=http://ccat.sas.upenn.edu/rs/2/Judaism/bethalpha.html.
Search "Beth Alpha" in http://www.google.com.

(142) The fourth reason is that of all the **bodies in the heaven**, **the moon traverses the zodiac** in the least **appointed time**: it accomplishes its orbit in a **monthly interval**."
"(177) We must disclose another reason. Its nature is wondrous and highly prized for numerous reasons including the fact that it consists of the most elemental and oldest of the things which are encased in substances, as the **mathematicians** tell us, the right-angled triangle. For its sides, which exist in lengths of three and four and five, **combine to make up the sum twelve, the pattern of the zodiac cycle**, the doubling of the most fecund number six which is the beginning of perfection since it is the sum of the same number of which it is also the product." Philo

"(186) And for the twelve stones, whether we understand by them **months**, or whether we understand the like number of the **signs of that circle which the Greeks call Zodiac**, we shall not be mistaken in their meaning."
The Antiquities of the Jews, Book 3, Chapter 7, $ 7, (186).
"Now, the **twelve loaves** that were upon the table **signified the circle of the zodiac and the year**;"
The Wars of the Jews, Book 5, Chapter 5, $ 5 (217). Josephus

# THE MIDDLE OF THE SEVENTIETH WEEK

## Abib/Nisan 15 - Numbers 33:3-4

## The Day of Redemption - Gal. 3:13-14; Jo. 8:34-36

וַחֲצִי הַשָּׁבוּעַ יַשְׁבִּית זֶבַח וּמִנְחָה

and in the midst <02677> of the week <07620> he shall cause the sacrifice <02077> and the oblation <04503> to cease <07673>, (...). Daniel 9:27.[1]

וַחֲצִי = conjunction - noun masculine singular construct
חֲצִי
02677 chetsiy {khay-tsee'}
from 02673; TWOT - 719b; n m
AV - half 108, midst 8, part 4, midnight + 03915, middle 1; 125
1) half
  1a) half
  1b) middle

"When חֲצִי *hasi* ("midst") is in status constructus with a period of time (here weeks), it means always "midst" and not "half" (Ex. 12:29; Jos. 10:13; Jgs. 16:3; Jer. 17:11; Ps. 102:25; Ruth 3:8). The context of our passage does not yield the meaning of "half". It is concerned with a definite action (*yasbit* ["cause to cease"] in the imperfect). This is, according to the structure, related to *yikkaret* ("cut off"), implying the idea of suddenness. The nature of this act (sudden destruction) points therefore to a specific moment in time (midst of the week) rather than to a duration of time (half of the week)."[2]

"The important reference in Dan. 9:27 to "the middle of the week" apparently signifies the middle of the seven-year period..."[3]

"While Dan 9:26 is not definite in fixing the specific point when Messiah shall be cut off in the seventieth week, this point in time is specifically fixed in vs. 27 as "the middle of the week." The temporal expression "in the middle" means a specific point (i.e., midpoint) in the last week -- that is three and a half years from the beginning of the Messianic week and three and a half years before its termination."[4]

That is, beginning with the approximate midpoint of the seventieth week."[5]

"In Hebrew such an expression does not have to mean that precisely 50 percent of the prophetic week would pass before this event could occur as we think in western thought today. Regardless

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1. The numbers are Strong´s.

2. Jacques Doukhan. The Seventy Weeks of Daniel 9: An Exegetical Study. *The Sanctuary and The Atonement,* page 262.

3. R. Laird Harris, Gleason L. Archer, Jr. and Bruce K. Waltke. *Theological Wordbook of the Old Testament.* The Moody Bible Institute of Chicago.Word 719, Volume 1,page 314.

4. Brempong Owusu-Antwi. *An Investigation of the Chronology of Daniel 9:24-25*.

of how precise this language may or may not be, we may expect the Messiah to die sometime around the middle of the prophetic week that extended from A.D. 27 to A.D. 34."[6]

Shea avoids being as specific as Doukhan, but astronomical and typological lunisolar coordination proves Doukhan to be right in stressing the specific moment in time in what concerns Daniel 9:27.

Samuel Snow understood the meaning correctly when he wrote:

"We are therefore compelled to place the point of time at which Jesus began the proclamation of the gospel in Galilee, in the autumn of A. D. 27. Here ended that 69 weeks, and here began the week, during which the covenant was confirmed - see Dan. ix. 27. In the midst of the week Jesus caused the sacrifice and the oblation to cease by offering himself as a Lamb, without spot, to God upon the cross. The Hebrew word translated "midst" is by the Lexicon defined, "half, half part, middle, midst." The week was divided into two halves, and the event which was thus to divide it was the death of Christ."[7]

*True Midnight Cry*, Aug. 22, 1844, 1-4, first published at Haverhill, Mass., later in New York, and printed and reprinted in the various Adventist papers. {*Midnight Cry,* Oct. 3, 97, 98, 104; Oct. 10, 1844; Oct. 11, 117-120; Oct. 19, 133, 136.etc; *Advent Herald,* Oct 2, 68, 69; Oct. 9, 73, 76; Oct. 16, 88, 1844, etc.}

About *Shabua*:

הַשָּׁבוּעַ = definite article - noun masculine singular
שָׁבוּעַ
07620 shabuwa` {shaw-boo'-ah} or shabua` {shaw-boo'-ah} also
(fem.) sh@bu`ah {sheb-oo-aw'}
properly, pass part of 07650 as a denom. of 07651; TWOT - 2318d; n m
AV - week 19, seven 1; 20
1) seven, period of seven (days or years), heptad, week
1a) period of seven days, a week
1a1) Feast of Weeks
1b) heptad, seven (of years)
יַשְׁבִּית = hiphil imperfect 3 masculine singular
שָׁבַת
07673 shabath {shaw-bath'}
a primitive root; TWOT - 2323, 2323c; v
AV - cease 47, rest 11, away 3, fail 2, celebrate 1, misc 7; 71
1) to cease, desist, rest
1a) (Qal)
1a1) to cease
1a2) to rest, desist (from labour)
1b) (Niphal) to cease

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5. William H. Shea. The Prophecy of Daniel 9:24-27. *70 Weeks, Leviticus, Nature of Prophecy*, page 96.
6. *Ibidem*, 102.
7. *The True Midnight Cry,*Vol. I, Edited by S. S. Snow, and published by E. HALE, Jr., Haverhill, Ms., Aug. 22. 1844. No. 1., page 3.

1c) (Hiphil)
1c1) to cause to cease, put an end to
1c2) to exterminate, destroy
1c3) to cause to desist from
1c4) to remove
1c5) to cause to fail
2) (Qal) to keep or observe the sabbath

The Hiphil is the causative active.

זֶבַח = noun masculine singular
02077 zebach {zeh'-bakh}
from 02076; TWOT - 525a; n m
AV - sacrifice 155, offerings 6, offer 1; 162
1) sacrifice
1a) sacrifices of righteousness
1b) sacrifices of strife
1c) sacrifices to dead things
1d) the covenant sacrifice
1e) the passover
1f) annual sacrifice
1g) thank offering
וּמִנְחָה = conjunction - noun feminine singular
מִנְחָה
04503 minchah {min-khaw'}
from an unused root meaning to apportion, i.e. bestow; TWOT - 1214a; n f
AV - offering 164, present 28, gift 7, oblation 6, sacrifice 5, meat 1; 211
1) gift, tribute, offering, present, oblation, sacrifice, meat offering
1a) gift, present
1b) tribute
1c) offering (to God)
1d) grain offering

The following Bible texts from the New International Version, NIV, allow equating the expression "He shall cause the sacrifice and the oblation to cease" with the expiatory death of Christ and provide a chronological reference for the middle of the seventieth week, thus permitting us to evaluate the fullfilment and precision of the Seventy Weeks of Daniel 9:24-27 and the Two Thousand and Three Hundred Evenings and Mornings of Daniel 8:14:

1 Cor 1:23:

23 but we preach Christ crucified: a stumbling block to Jews and foolishness to Gentiles,

1 Cor 2:2:

2 For I resolved to know nothing while I was with you except Jesus Christ and him crucified.

1 Sam 3:14:

14 Therefore, I swore to the house of Eli, `The guilt of Eli's house will never be atoned for by sacrifice or offering.'"

Isa 53:10-11:

10 Yet it was the LORD's will to crush him and cause him to suffer, and though the LORD makes his life a guilt offering, he will see his offspring and prolong his days, and the will of the LORD will prosper in his hand.

11 After the suffering of his soul, he will see the light and be satisfied; by his knowledge my righteous servant will justify many, and he will bear their iniquities.

Eph 5:2:

2 and live a life of love, just as Christ loved us and gave himself up for us as a fragrant offering and sacrifice to God.

I Jn 2:1-2:

1 My dear children, I write this to you so that you will not sin. But if anybody does sin, we have one who speaks to the Father in our defense-- Jesus Christ, the Righteous One.

2 He is the atoning sacrifice for our sins, and not only for ours but also for the sins of the whole world.

Ps 40:1-17:

1 I waited patiently for the LORD; he turned to me and heard my cry.
2 He lifted me out of the slimy pit, out of the mud and mire; he set my feet on a rock and gave me a firm place to stand.

3 He put a new song in my mouth, a hymn of praise to our God. Many will see and fear and put their trust in the LORD.

4 Blessed is the man who makes the LORD his trust, who does not look to the proud, to those who turn aside to false gods.
5 Many, O LORD my God, are the wonders you have done. The things you planned for us no one can recount to you; were I to speak and tell of them, they would be too many to declare.
6 Sacrifice and offering you did not desire, but my ears you have pierced; burnt offerings and sin offerings you did not require.
7 Then I said, "Here I am, I have come-- it is written about me in the scroll.
8 I desire to do your will, O my God; your law is within my heart."
9 I proclaim righteousness in the great assembly; I do not seal my lips, as you know, O LORD.
10 I do not hide your righteousness in my heart; I speak of your faithfulness and salvation. I do not conceal your love and your truth from the great assembly.
11 Do not withhold your mercy from me, O LORD; may your love and your truth always protect me.
12 For troubles without number surround me; my sins have overtaken me, and I cannot see. They are more than the hairs of my head, and my heart fails within me.
13 Be pleased, O LORD, to save me; O LORD, come quickly to help me.
14 May all who seek to take my life be put to shame and confusion; may all who desire my ruin be turned back in disgrace.
15 May those who say to me, "Aha! Aha!" be appalled at their own shame.
16 But may all who seek you rejoice and be glad in you; may those who love your salvation always say, "The LORD be exalted!"
17 Yet I am poor and needy; may the Lord think of me. You are my help and my deliverer; O my God, do not delay.

Heb 10:5-10:

5 Therefore, when Christ came into the world, he said: "Sacrifice and offering you did not desire, but a body you prepared for me;
6 with burnt offerings and sin offerings you were not pleased.
7 Then I said, `Here I am-- it is written about me in the scroll-- I have come to do your will, O God.'"
8 First he said, "Sacrifices and offerings, burnt offerings and sin offerings you did not desire, nor were you pleased with them" (although the law required them to be made).
9 Then he said, "Here I am, I have come to do your will." He sets aside the first to establish the second.
10 And by that will, we have been made holy through the sacrifice of the body of Jesus Christ once for all.

Heb 7:18-22:

18 The former regulation is set aside because it was weak and useless
19 (for the law made nothing perfect), and a better hope is introduced, by which we draw near to God.
20 And it was not without an oath! Others became priests without any oath,
21 but he became a priest with an oath when God said to him: "The Lord has sworn and will not change his mind: `You are a priest forever.'"
22 Because of this oath, Jesus has become the guarantee of a better covenant.

Heb 7:26-27:

26 Such a high priest meets our need-- one who is holy, blameless, pure, set apart from sinners, exalted above the heavens.

27 Unlike the other high priests, he does not need to offer sacrifices day after day, first for his own sins, and then for the sins of the people. He sacrificed for their sins once for all when he offered himself.

Heb 8:3:

3 Every high priest is appointed to offer both gifts and sacrifices, and so it was necessary for this one also to have something to offer.

Heb 9:8-10:

8 The Holy Spirit was showing by this that the way into the Most Holy Place (**Holy Places**) had not yet been disclosed as long as the first tabernacle was **still standing**.

9 This is an illustration for the present time, indicating that the **gifts and sacrifices being offered** were not able to clear the conscience of the worshiper.

10 They are only a matter of food and drink and various ceremonial washings— external regulations **applying until the <u>time of the new order</u>**.

(The New Jerusalem Bible = which are in force until the time comes to set things right)

(The Interlinear Bible = until a time of setting things right being imposed)

(This “Time = Kairos = Moed = Appointed Time” points accurately and specifically to the day Christ was presenting his blood during the Lord´s Supper and later shedding it on the Cross, see Mat. 26:28; 1 Cor 11:25; Heb.7:22; 8:6; 9:14-20; 13:20. This is an important chronological point in fulfillment of Daniel 9:27. See D.A. 754-755, G. C. 347-348; 651-652 and D. A. 494-495)

Heb 9:26:

26 Then Christ would have had to suffer many times since the creation of the world. But now he has appeared once for all at the end of the ages to do away with sin by the sacrifice of himself.

Rom 5:6:

6 You see, **at just the right time**, when we were still powerless, Christ died for the ungodly.

1 Tim 2:6:

6 who gave himself as a ransom for all men-- the testimony given in its **proper time**.

Titus 2:13-14:

13 while we wait for the blessed hope-- the glorious appearing of our great God and Savior, Jesus Christ,
14 who gave himself for us to redeem us from all wickedness and to purify for himself a people that are his very own, eager to do what is good.

Gal 3:13-14:

13 Christ redeemed us from the curse of the law by becoming a curse for us, for it is written: "Cursed is everyone who is hung on a tree."
14 He redeemed us in order that the blessing given to Abraham might come to the Gentiles through Christ Jesus, so that by faith we might receive the promise of the Spirit.

Gal 4:4-5:

4 But **when the time had fully come**, God sent his Son, born of a woman, born under law,
5 **to redeem** those under law, that we might receive the full rights of sons.

Gal 4:10:

10 You are observing **special days** and **months** and **seasons** and **years**!

Col 2:14-17:

14 having canceled the written code, with its regulations, that was against us and that stood opposed to us; he took it away, nailing it to the cross.
15 And having disarmed the powers and authorities, he made a public spectacle of them, triumphing over them by the cross.
16 Therefore do not let anyone judge you by what you eat or drink, or with regard to a **religious festival**, a **New Moon** celebration or a **Sabbath day**.
17 These are a **shadow of the things that were to come**; the reality, however, is found in Christ. (Compare with Heb. 3:5 and 10:1)

Titus 2:13-14:

13 while we wait for the blessed hope-- the glorious appearing of our great God and Savior, Jesus Christ,
14 who **gave himself for us to redeem us** from all wickedness and to purify for himself a people that are his very own, eager to do what is good.

Gal 1:4:

4 who **gave himself for our sins to rescue us** from the present evil age, **according to the will of our God and Father,**

1 Cor 5:6-8:

6 Your boasting is not good. Don't you know that a little yeast works through the whole batch of dough?
7 Get rid of the old yeast that you may be a new batch without yeast-- as you really are. For Christ, our Passover lamb, has been sacrificed.

8 Therefore let us keep the Festival, not with the old yeast, the yeast of malice and wickedness, but with bread without yeast, the bread of sincerity and truth.

1 Cor 11:20-29:

20 When you come together, it is not the Lord's Supper you eat,
21 for as you eat, each of you goes ahead without waiting for anybody else. One remains hungry, another gets drunk.
22 Don't you have homes to eat and drink in? Or do you despise the church of God and humiliate those who have nothing? What shall I say to you? Shall I praise you for this? Certainly not!
23 For I received from the Lord what I also passed on to you: The Lord Jesus, on the night he was betrayed, took bread,
24 and when he had given thanks, he broke it and said, "This is my body, which is for you; do this in remembrance of me."
25 In the same way, after supper he took the cup, saying, "This cup is the new covenant in my blood; do this, whenever you drink it, in remembrance of me."
26 For whenever you eat this bread and drink this cup, you proclaim the Lord's death until he comes.
27 Therefore, whoever eats the bread or drinks the cup of the Lord in an unworthy manner will be guilty of sinning against the body and blood of the Lord.
28 A man ought to examine himself before he eats of the bread and drinks of the cup.
29 For anyone who eats and drinks without recognizing the body of the Lord eats and drinks judgment on himself.

Matt 26:1-2:

1 When Jesus had finished saying all these things, he said to his disciples,
2 "As you know, the Passover is two days away-- and the Son of Man will be handed over to be crucified."

Mark 14:12:

12 On the first day of the Feast of Unleavened Bread, when it was customary to sacrifice the Passover lamb, Jesus' disciples asked him, "Where do you want us to go and make preparations for you to eat the Passover?"

Luke 22:7-22:

7 Then came the day of Unleavened Bread on which the Passover lamb had to be sacrificed.
8 Jesus sent Peter and John, saying, "Go and make preparations for us to eat the Passover."
9 "Where do you want us to prepare for it?" they asked.
10 He replied, "As you enter the city, a man carrying a jar of water will meet you. Follow him to the house that he enters,
11 and say to the owner of the house, `The Teacher asks: Where is the guest room, where I may eat the Passover with my disciples?'

12 He will show you a large upper room, all furnished. Make preparations there."
13 They left and found things just as Jesus had told them. So they prepared the Passover.
14 When the hour came, Jesus and his apostles reclined at the table.
15 And he said to them, "I have eagerly desired to eat this Passover with you before I suffer.
16 For I tell you, I will not eat it again until it finds fulfillment in the kingdom of God."
17 After taking the cup, he gave thanks and said, "Take this and divide it among you.
18 For I tell you I will not drink again of the fruit of the vine until the kingdom of God comes."
19 And he took bread, gave thanks and broke it, and gave it to them, saying, "This is my body given for you; do this in remembrance of me."
20 In the same way, after the supper he took the cup, saying, "This cup is the new covenant in my blood, which is poured out for you.
21 But the hand of him who is going to betray me is with mine on the table.
22 The Son of Man will go as it has been decreed, but woe to that man who betrays him."

John 19:14;15:14:

14 It was the day of Preparation of Passover Week, about the sixth hour. "Here is your king," Pilate said to the Jews.
15 But they shouted, "Take him away! Take him away! Crucify him!" "Shall I crucify your king?" Pilate asked. "We have no king but Caesar," the chief priests answered.

Matt 27:46:

46 About the ninth hour Jesus cried out in a loud voice, "Eloi, Eloi, lama sabachthani?"-- which means, "My God, my God, why have you forsaken me?" **(See John 3:14-15; 7:6, 8,30; 8:28; 12:27, 32, 35).**

Matt 27:50-51:

50 And when Jesus had cried out again in a loud voice, he gave up his spirit.
51 At that moment the curtain of the temple was torn in two from top to bottom. The earth shook and the rocks split **(See Hebrews 9:8)**.

1 Cor 10:18-22:

18 Consider the people of Israel: Do not those who eat the sacrifices participate in the altar?
19 Do I mean then that a sacrifice offered to an idol is anything, or that an idol is anything?
20 No, but the sacrifices of pagans are offered to demons, not to God, and I do not want you to be participants with demons.
21 You cannot drink the cup of the Lord and the cup of demons too; you cannot have a part in both the Lord's table and the table of demons.
22 Are we trying to arouse the Lord's jealousy? Are we stronger than he?

In Egypt, in the time of Moses, the first month was named Abib.

Exod 12:1-6:

1 The LORD said to Moses and Aaron in Egypt,
2 "This month is to be for you the first month, the first month of your year.
3 Tell the whole community of Israel that on the tenth day of this month each man is to take a lamb for his family, one for each household.
4 If any household is too small for a whole lamb, they must share one with their nearest neighbor, having taken into account the number of people there are. You are to determine the amount of lamb needed in accordance with what each person will eat.
5 The animals you choose must be year-old males without defect, and you may take them

from the sheep or the goats.
6 Take care of them until the fourteenth day of the month, when all the people of the community of Israel must slaughter them at twilight.

Exod 13:4:

4 Today, in the month of Abib, you are leaving.

After the Babylonian Exile the month of Abib was called Nisan.

Esth 3:7:

7 In the twelfth year of King Xerxes, in the first month, the month of Nisan, they cast the pur (that is, the lot) in the presence of Haman to select a day and month. And the lot fell on the twelfth month, the month of Adar.

What is left for us to do?

1 Pet 2:5

5 you also, like living stones, are being built into a spiritual house to be a holy priesthood, offering spiritual sacrifices acceptable to God through Jesus Christ.

"While the disciples were contending for the highest place in the promised kingdom, Christ girded Himself, and performed the office of a servant, by washing the feet of those who had called Him Lord. He, the pure and spotless One, was about to offer Himself as a sin-offering for the world; and as He ate the Passover with His disciples, He put an end to the sacrifice which for four thousand years had been offered. In the place of the national festival which the Jewish people had observed, He instituted a memorial service, the ordinance of feet washing and the sacramental supper, to be observed through all time by His followers in every country. These should ever repeat Christ's act, that all may see that true service calls for unselfish ministry."[8]

""In the midst of the week He shall cause the sacrifice and the oblation to cease." In A.D. 31, three and a half years after His baptism, our Lord was crucified. With the great sacrifice offered upon Calvary, ended that system of offerings which for four thousand years had pointed forward to the Lamb of God. Type had met antitype, and all the sacrifices and oblations of the ceremonial system were there to cease."[9]

Dan 9:21:

21 while I was still in prayer, Gabriel, the man I had seen in the earlier vision, came to me in swift flight about the **time of the evening sacrifice**.

Matt 27:46:

46 About the **ninth hour** Jesus cried out in a loud voice, "Eloi, Eloi, lama sabachthani?"-- which means, "My God, my God, why have you forsaken me?"

The cessation of sacrifices and offerings would do away with the ministry of the Aaronic priesthood.

Heb 5:1:

1 Every high priest is selected from among men and is appointed to represent them in matters related to God, to offer gifts and sacrifices for sins.

Heb 8:3:

3 Every high priest is appointed to offer both gifts and sacrifices, and so it was necessary for this one also to have something to offer.

It was a threat to the Temple itself.

Zech 6:12-13:

12 Tell him this is what the LORD Almighty says: `Here is the man whose name is the Branch, and he will branch out from his place and build the temple of the LORD.

13 It is he who will build the temple of the LORD, and he will be clothed with majesty and will sit and rule on his throne. And he will be a priest on his throne. And there will be harmony between the two.'

John 2:19-22:

19 Jesus answered them, "Destroy this temple, and I will raise it again in three days."
20 The Jews replied, "It has taken forty-six years to build this temple, and you are going to raise it in three days?"
21 But the temple he had spoken of was his body.
22 After he was raised from the dead, his disciples recalled what he had said. Then they believed the Scripture and the words that Jesus had spoken.

Matt 23:37-39:

37 "O Jerusalem, Jerusalem, you who kill the prophets and stone those sent to you, how often I have longed to gather your children together, as a hen gathers her chicks under her wings, but you were not willing.
38 Look, your house is left to you desolate.
39 For I tell you, you will not see me again until you say, `Blessed is he who comes in the name of the Lord.'"

Matt 24:1-2:

1 Jesus left the temple and was walking away when his disciples came up to him to call his attention to its buildings.
2 "Do you see all these things?" he asked. "I tell you the truth, not one stone here will be left on another; every one will be thrown down."

Matt 24:15:

15 "So when you see standing in the holy place `the abomination that causes desolation,' spoken of through the prophet Daniel-- let the reader understand--

Matt 26:61-68:

61 and declared, "This fellow said, `I am able to destroy the temple of God and rebuild it in three days.'"
62 Then the high priest stood up and said to Jesus, "Are you not going to answer? What is this testimony that these men are bringing against you?"
63 But Jesus remained silent. The high priest said to him, "I charge you under oath by the living God: Tell us if you are the Christ, the Son of God."
64 "Yes, it is as you say," Jesus replied. "But I say to all of you: In the future you will see the Son of Man sitting at the right hand of the Mighty One and coming on the clouds of heaven."
65 Then the high priest tore his clothes and said, "He has spoken blasphemy! Why do we need

any more witnesses? Look, now you have heard the blasphemy.
66 What do you think?" "He is worthy of death," they answered.
67 Then they spit in his face and struck him with their fists. Others slapped him
68 and said, "Prophesy to us, Christ. Who hit you?"

Matt 27:40:

40 and saying, "You who are going to destroy the temple and build it in three days, save yourself! Come down from the cross, if you are the Son of God!"

Matt 27:51:

51 At that moment the curtain of the temple was torn in two from top to bottom. The earth shook and the rocks split.

Acts 6:13-7:1:

13 They produced false witnesses, who testified, "This fellow never stops speaking against this holy place and against the law.
14 For we have heard him say that this Jesus of Nazareth will destroy this place and change the customs Moses handed down to us."

15 All who were sitting in the Sanhedrin looked intently at Stephen, and they saw that his face was like the face of an angel.

Acts 7:1:

1 Then the high priest asked him, "Are these charges true?"

Acts 7:44-53:

44 "Our forefathers had the tabernacle of the Testimony with them in the desert. It had been made as God directed Moses, according to the pattern he had seen.
45 Having received the tabernacle, our fathers under Joshua brought it with them when they took the land from the nations God drove out before them. It remained in the land until the time of David,
46 who enjoyed God's favor and asked that he might provide a dwelling place for the God of Jacob.
47 But it was Solomon who built the house for him.
48 "However, the Most High does not live in houses made by men. As the prophet says:
49 "`Heaven is my throne, and the earth is my footstool. What kind of house will you build for me? says the Lord. Or where will my resting place be?
50 Has not my hand made all these things?'
51 "You stiff-necked people, with uncircumcised hearts and ears! You are just like your fathers: You always resist the Holy Spirit!
52 Was there ever a prophet your fathers did not persecute? They even killed those who predicted the coming of the Righteous One. And now you have betrayed and murdered him--
53 you who have received the law that was put into effect through angels but have not obeyed it."

See Hebrews 8:1-2; 9:8, 11; 10:20

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8. The Signs of the Times, 05-16-00 AT Ministry, 06.
9. The Great Controversy -PG- 327-328.

# CHRONOLOGICAL AND TYPOLOGICAL CENTRALITY OF THE CROSS

See The Great Controversy, pages 328, 347-348, 398-400, 423, 429, 489, 651-652.

"Thus far every specification of the prophecies is strikingly fulfilled, and the beginning of the seventy weeks is fixed beyond question at 457 B.C., and their expiration in A.D. 34. From this data there is no difficulty in finding the termination of the 2300 days. The seventy weeks--490 days-having been cut off from the 2300, there were 1810 days remaining. After the end of 490 days, the 1810 days were still to be fulfilled. From A.D. 34, 1810 years extend to 1844. Consequently the 2300 days of Daniel 8:14 terminate in 1844. At the expiration of this great prophetic period, upon the testimony of the angel of God, "the sanctuary shall be cleansed." Thus the time of the cleansing of the sanctuary--which was almost universally believed to take place at the second advent-was definitely pointed out."[1]

"The kingdom of grace was instituted immediately after the fall of man, when a plan was devised for the redemption of the guilty race. It then existed in the purpose and by the promise of God; and through faith, men could become its subjects. Yet it was not actually established until the death of Christ. Even after entering upon His earthly mission, the Saviour, wearied with the stubbornness and ingratitude of men, might have drawn back from the sacrifice of Calvary. In Gethsemane the cup of woe trembled in His hand. He might even then have wiped the blood-sweat from His brow and have left the guilty race to perish in their iniquity. Had He done this, there could have been no redemption for fallen men. But when the Saviour yielded up His life, and with His expiring breath cried out, "It is finished," then the fulfillment of the plan of redemption was assured. The promise of salvation made to the sinful pair in Eden was ratified. The kingdom of grace, which had before existed by the promise of God, was then established.

Thus the death of Christ--the very event which the disciples had looked upon as the final destruction of their hope --was that which made it forever sure. While it had brought them a cruel disappointment, it was the climax of proof that their belief had been correct. The event

## Astronomy and Redemption

| Creation | Old Covenant | New Covenant | New Earth | Church |
|---|---|---|---|---|
| Gen. 1:14-19 | Ex. 12:1-51 | 2 Sam. 23:1-5 | Is. 66:22-23 | Gen. 15:5 |
| Gen. 2:1-3 | Ex. 13:1-16 | Jer. 31:31-37 | Re. 21:1-23 | Gen. 37:9 |
| Gen. 3:15 | Ps. 74:16-17 | Jer. 33:14-26 | Re.22:1-7 | Songs 6:10 |
| Gen. 15:4-5 | Ps. 75:2 | Jer. 23:5-6 | | Dan. 12:3 |
| Gen. 8:22 | Ps. 81:3-5 | Heb. 1:1-4 | | Re. 12:1-2, 6, |
| Ex. 20:8 | Ps. 89:1-52, | Heb. 8:6-13 | | 13-14, 17 |
| Job 9:6-10 | Ps. 89:34-37 | Heb. 11:1-3 | | 13:5-7 |
| Job 38:31-33 | Ps. 104:19 | | | |
| Is. 13:10 | Ps. 119:89-91 | | | |
| Is. 40:26 | Ps. 132:12 | | | |
| | Ps. 136:5-9 | | | |
| | Ps. 139:16 | | | |
| | Ps. 148:1-14 | | | |

that had filled them with mourning and despair was that which opened the door of hope to every child of Adam, and in which centered the future life and eternal happiness of all God's faithful ones in all the ages."[2]

"That which led to this movement was the discovery that the decree of Artaxerxes for the restoration of Jerusalem, which formed the starting point for the period of the 2300 days, went into effect in the autumn of the year 457 B.C., and not at the beginning of the year, as had been formerly believed. Reckoning from the autumn of 457, the 2300 years terminate in the autumn of 1844. (See Appendix note for page 329.) [Solar]

Arguments drawn from the Old Testament types also pointed to the autumn as the time when the event represented by the "cleansing of the sanctuary" [Tishri 10] [Lunar] must take place. This was made very clear as attention was given to the manner in which the types relating to the first advent of Christ had been fulfilled.

The slaying of the Passover lamb was a shadow of the death of Christ. Says Paul: "Christ our Passover is sacrificed for us." 1 Corinthians 5:7. The sheaf of first fruits, which at the time of the Passover was waved before the Lord, was typical of the resurrection of Christ. Paul says, in speaking of the resurrection of the Lord and of all His people: "Christ the first fruits; afterward they that are Christ's at His coming." 1 Corinthians 15:23. Like the wave sheaf, which was the first ripe grain [Barley ripening] gathered before the harvest, Christ is the first fruits of that immortal harvest of redeemed ones that at the future resurrection shall be gathered into the garner of God. [Agriculture]

These types were fulfilled, not only as to the event, but as to the time. On of the fourteenth day of the first Jewish month, [Abib or Nisan 14] the very day and month on which for fifteen long centuries the Passover lamb had been slain, Christ, having eaten [Nisan 15 - see D. A. 642; P. P. 273-4] the Passover with His disciples, instituted that feast which was to commemorate His own death as "the Lamb of God, which taketh away the sin of the world." That same night [Nisan 15] He was taken by wicked hands to be crucified and slain. And as the antitype of the wave sheaf our Lord was raised from the dead on the third day, "the first fruits of them that slept," a sample of all the resurrected just, whose "vile body" shall be changed, and "fashioned like unto His glorious body." Verse 20; Philippians 3:21.

In like manner the types which relate to the second advent must be fulfilled at the time pointed out in the symbolic service. Under the Mosaic system the cleansing of the sanctuary, or the great Day of Atonement, occurred on the tenth day of the seventh Jewish month (Leviticus 16:29-34), when the high priest, having made an atonement for all Israel, and thus removed their sins from the sanctuary, came forth and blessed the people. So it was believed that Christ, our great High Priest, would appear to purify the earth by the destruction of sin and sinners, and to bless His waiting people with immortality. The tenth day of the seventh month, the great Day of Atonement, the time of the cleansing of the sanctuary, which in the year 1844 fell upon the **twenty-second of October,** was regarded as the time of the Lord's coming. This was in harmony with the proofs already presented that the 2300 days would terminate in the autumn, and the conclusion seemed irresistible."[3] [Brackets Mine]

"The law of God is as sacred as himself. It is a revelation of his will, a transcript of his character, the expression of divine love and wisdom. The harmony of creation depends upon the perfect conformity of all beings, of everything, animate and inanimate, to the law of the Creator. God has ordained laws for the government, not only of living beings, but of all the operations of

nature. Everything is under fixed laws, which cannot be disregarded. But while everything in nature is governed by natural laws, man alone, of all that inhabits the earth, is amenable to moral law."[4] [Emphasis mine].

Commenting an article in *Ministry*, February, 1957, p. 9, M. L. Andreasen says the following:

"In his explanation of Christ's work in the sanctuary, he does not refer to or mention Daniel 8:14: "Then shall the sanctuary be cleansed." Without this text, Christ's work in the sanctuary becomes meaningless. He does not mention 457 B.C. or the 70 weeks, or the middle of the week which pinpoints the time of the sacrifice on the cross, and is "...as a nail in a sure place, " (Isaiah 22:23) to which we fasten the whole chronological scheme in prophecy and which also justifies the date, 1844. Remove or change these dates, and Adventists are without an anchor for the chronological system climaxing in 1844, and are unable to justify their existence as a people who are to proclaim this most important message to the world for this time: "Fear God, and give glory to him; for the hour of his judgment is come." Revelation 14:7. Every one of these dates the author leaves out, and what remains, in the words of Dr. Barnhouse, "is flat, stale and unprofitable."*Eternity Extra*, September, 1956, p. 4"[5]

*The Signs of the Times,* Dec. 5, 1843, pages 132-136, carries an important editorial article "The Midst of the Week", by Himes or Bliss, based on Hales.

"John's ministry began in the latter part of A.D. 26, and ended with the **autumn of A.D. 27.** Here commenced the week of the confirmation of the covenant, i.e., the establishment of the gospel as a divine system, by the mighty works of Christ. Three years and a half from this point brings us to the **spring of A.D. 31** when our Lord was crucified in the 'midst' [i.e., middle] of the week.' Three years and a half more (the last half of the week), during which the word or covenant was confirmed by them who had heard the Lord, (Heb. 2:3) brings us down to the **autumn of A.D. 34**. ... I believe this argument to be based on correct premises, and to be perfectly sound. What then is the conclusion? It must certainly be this: That as the 70 weeks ended in the autumn of A.D. 34, the remaining part of the 2300 days, i.e., 1810, being added, brings us to the **autumn of A.D.1844.** ... But I am confident, from the light I have received from God's blessed word, in those types which He has given in mercy, for His children to understand, that our King and Saviour will appear in His glory in the seventh month of the Jewish sacred year."[6]

Commenting on these aspects, Timm says:

"Another significant step in the process of refining the Millerite chronology was the publication of an article dealing with the expression "the midst of the week" (Dan 9:27) in the Signs of the Times on December 5, 1843. Though essentially an extensive compilation, interspersed with only a few commentaries, the article was crucial in providing several quotations from William Hales (1747 - 1831), stressing the view that Christ died in the middle (not at the very end) of the last of the seventy weeks, in the year A.D. 31 (instead of A.D. 33). The fact that both the date of the crucifixion and its setting within the seventy weeks were moved backwards at the same time was crucial to avoid any major alteration in the basic Millerite time-setting for beginning and ending the 2300 days."[7]
*The Sanctuary and the Three Angel´s Messages* 1844-1863: Integrating Factors in the Development of Seventh-day Adventist Doctrines.

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1. The Great Controversy, 328.
2. *Ibidem*, 347-348.

In the end of the footnote 9, on page 53 of Timm´s dissertation, we also find the following statement:

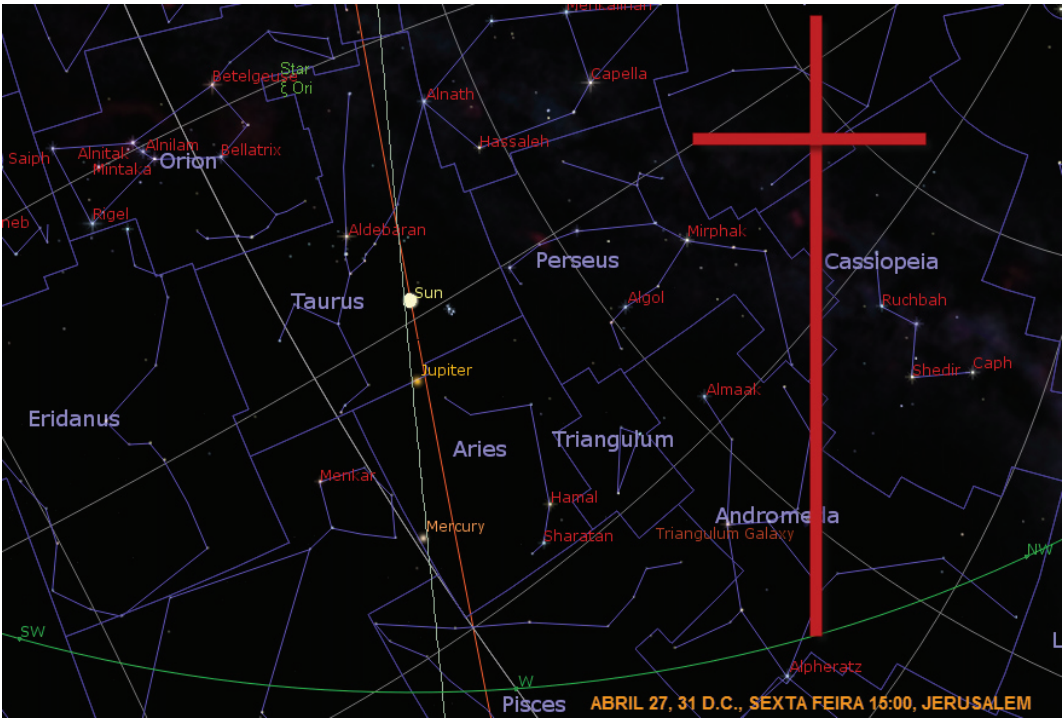
"Joseph Bates explained that those Adventist authors who believed that Christ was crucified in the midst of the seventieth week of Daniel 9:27 suggested that the 2300 days would end in the *autumn*, while those who held that Christ was crucified anywhere but in the midst of that week were of the opinion that the 2300 days would end in the *spring* (Bates, Vindication, 83)."

Now, lets read Heb 9:14-18:

14 How much more, then, will the blood of Christ, who through the eternal Spirit offered himself unblemished to God, cleanse our consciences from acts that lead to death, so that we may serve the living God!

15 For this reason Christ is the mediator of a new covenant, that those who are called may receive the promised eternal inheritance-- now that he has died as a ransom to set them free from the sins committed under the first covenant.
16 In the case of a will, it is necessary to prove the death of the one who made it,
17 because a will is in force only when somebody has died; it never takes effect while the one who made it is living.
18 This is why even the first covenant was not put into effect without blood. [Emphasis mine]

ON THE CROSS THE LIVING GOD, JESUS CHRIST, THE MEDIATOR OF THE NEW COVENANT, THE ETERNAL SPIRIT AND MEN MEET IN AN EVERLASTING COVENANT, IN THE TRANSITION FROM THE OLD COVENANT TO THE NEW COVENANT, IN FULFILLMENT OF DANIEL 9:27, JEREMIAH 31:31-37, GENESIS 1:14; 8:20-9:17, PSALM 104:19; 81:3-5; 89:34-37.




3. *Ibidem*, 398 - 400.

4. Patriarchs and Prophets, page 52.
5. M. L. Andreasen. *Letters to the Churches*, Leaves of Autumn Books, page 39.
6. Samuel Sheffield Snow. *Midnight Cry,* May 2, 1844, 353.

7. Alberto Ronald Timm. *A Dissertation for the degree of Doctor of Philosophy*, June 1995, Volume 1. Andrews University Seventh-day Adventist Theological Seminary, page 31.

## RABBINIC DATES AND APPROXIMATE RESULTANT DATES
(JUST FOR CYCLIC ILLUSTRATION)

| PRESENT DATES IN ANY SOURCE ON THE RABBINIC CALENDAR | | | | CYCLICLY PROJECTED DATES TO THE YEARS NEAR CHRIST'S DEATH | | | | |
|---|---|---|---|---|---|---|---|---|
| GREGORIAN | RABBINIC | RESULTANT | RESULTANT | JULIAN | PROJECTED | RESULTANT | RESULTANT | FOTHERING-HAM'S |
| YEAR | TISHRI 1 | NISAN 1 | NISAN 14 | YEAR | TISHRI 1 | NISAN 1 | NISAN 14 | NISAN 14 |
| 1984 | SEP. 27 | APR. 03 | APR.16 | 27 | SEP. 21 | MAR. 28 | APR. 10 | APR. 10 |
| 1985 | SEP. 16 | MAR. 23 | APR.05 | 28 | SEP. 10 | MAR. 17 | MAR. 30 | MAR. 30 |
| 1986 | OCT. 04 | APR. 10 | APR.23 | 29 | SEP. 28 | APR. 04 | APR. 17 | APR. 18 |
| 1987 | SEP. 24 | MAR. 31 | APR.13 | 30 | SEP. 18 | MAR. 25 | APR. 07 | APR. 07 |
| 1988 | SEP. 12 | MAR. 19 | APR.01 | 31 | SEP. 06 | MAR. 13 | MAR. 26 | MAR. 27 |
| 1989 | SEP. 30 | APR. 06 | APR.19 | 32 | SEP. 24 | MAR. 31 | APR. 13 | APR. 14 |
| 1990 | SEP. 20 | MAR. 27 | APR.09 | 33 | SEP. 14 | MAR. 21 | APR. 03 | APR. 03 |
| 1991 | SEP. 09 | MAR. 16 | MAR.29 | 34 | SEP. 03 | MAR. 10 | MAR. 23 | MAR. 24 |
| See sources on the Rabbinic Calendar | | | | | | | | |

| IN A.D. 1984 TISHRI 1 = SEPTEMBER 27 GREGORIAN OR SEPTEMBER 14 JULIAN | | | | | | | | | | | | | | | | | | 09/1984 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | | | | | | | 27 | G |
| 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | | | | | | | | | | 14 | J |
| | | | | | | | | | | | | | | | | | | | |
| 95 | | | | | | | 87.93 | 87 | ----------< | | | | | | | | 1 | | |
| 714795 | | | | | | | | 714787 | | | | | | | | | 1 | | |

1984 - 27 = 1957 years
1957 X 365.25 = 714974.25 days
1956 X 365.25 = 714429 days
714429 + 366 = 714795 days
714795 / 235 = 103 cycles
103 x 235 = 24205 lunations
24205 X 29.53059 = 714787.93 days
1957 x 365.2422 = 714778.9854
24205 x 29.53059 = 714787.931, difference = 9 days
6 x 29.53059 (lunar month) = 177.1835 days from Nisan 1 to Tishri 1.

Present date for Tishri 1 - 714788 days - 177 days = approximate Nisan 1 in the days of Christ, if we follow the present Rabbinic Calendar, which was initially organized by Hillel II in 358/359 A.D. This Rabbinic Calendar disagrees with the calendar systems in the books Babylonian Chronology by Parker and Dubberstein and The Chronology of Ezra 7 by Siegfried H. Horn.

In The Evidence of Astronomy and Technical Chronology for the Date of Crucifixion, in The Journal of Theological Studies 35 (1934): 146-162, J. K. Fotheringham's dates are a projection of the present Rabbinic calendar cycle backwards. Fotheringham has Nisan 1 in March in the year 31 A.D., while Parker and Dubberstein has Nisan 1 in April and in all the previous corresponding cyclic years, that is in 12 A.D, 8 B.C., 27 B.C. etc.

One reason the present astronomers ignore the year 31 in their attempts to find the year of the death of Christ is because of the influence of the Fotheringham's projected dates.

If you want to understand the Rabbinic Calendar go to the following sites and download the calendar programs available there freely:

http://aish1.com/aishluach.exe
http://www.geocities.com/royh_il/software.htm

# CHRIST´S DEATH YEAR POSSIBILITIES

## FRIDAY = NISAN 14 OR 15 FROM A. D. 28 TO A.D 34

Apparent Geocentric Conjunction in Longitude ,Times in TDT, according to DE406/ LE406. Delta T is about 10000 seconds (166 m or 2 h and 47 m) in the 0030´s, so UT = TDT - 10000 seconds.

A.D. 28 - Impossible, but the year is too early.
Conjunction: JDE 1731358.63780 28 March 15 Monday **3h 18m** 25.778s TDT

| MARCH | | | | | | | | | | | | | | | | | | | APRIL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 01 | 02 | |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| | | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | |
| | | | NISAN | | | | | | | | | | | | | | | | | |

A.D. 28 - Possible, but the year is too early.
Conjunction: JDE 1731388.21073 28 April 13 Tuesday **17h 03m** 26.673s TDT

| APRIL | | | | | | | | | | | | | | | | | | | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 01 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | **15** | 16 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 29 - Impossible
Conjunction: JDE 1731712.66040 29 March 4 Friday 3**h 50m** 58.439s TDT

| MARCH | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M |
| 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 29 - Impossible
Conjunction: JDE 1731742.34859 29 April 2 Saturday **20h 21m** 58.008s TDT

| APRIL | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T |
| 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 30 - Possible with Nisan 1 = March 24/25. It is doubtful because A.D. 30 corresponds cyclically with B.C. 465, which has Nisan 1 in April.

Conjunction: 1732096.36030 30 March 22 Wednesday **20h 38m** 49.792s TDT

| MARCH | | | | | | | | | | APRIL | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

The crescent is too low at the sunset of March 23. Nisan 15 on Friday is impossible.

A.D. 30 - Impossible

Conjunction: JDE 1732126.02094 30 April 21 Friday **12h 30m** 09.645s TDT

| APRIL | | | | | | | | | | MAY | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 31 - Impossible

Conjunction: JDE 1732450.54978 31 March 12 Monday **1h 11m** 40.612s TDT

| MARCH | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 31 - Possible, if Friday = Nisan 15.

Conjunction: JDE 1732480.10143 31 April 10 Tuesday **14h 26m** 03.169s TDT

14h 26m TDT = 11h 39m UT = 13h 39m LT (Jerusalem)

| APRIL | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| P | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| J | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | **15** | 16 | 17 |
| M | | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | NISAN | | | | | | | | | | | | | | | | |

P = Parker & Dubberstein J = Juarez M = Maxwell

A.D. 32 - Impossible
Conjunction: JDE 1732834.45409 32 March 29 Saturday **22h 53m** 53.438s TDT

| MARCH | | | APRIL | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T |
| 29 | 30 | 31 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 32 - Impossible
Conjunction: JDE 1732863.91339 32 April 28 Monday **9h 55m** 17.202s TDT

| APRIL | | | MAY | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| 28 | 29 | 30 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 33 - Possible, if Friday = Nisan 14. PDBC has Nisan 1 = Apr. 18/19.
Conjunction: JDE 1733189.06417 33 March 19 Thursday **13h 32m** 24.696s TDT
The month starts before the Equinox which was on March 22.

| MARCH | | | | | | | | | | | | | APRIL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 | 17 | 18 |
| | | | NISAN | | | | | | | | | | | | | | | | |

The crescent is too low at the sunset of March 19. Nisan 15 on Friday is impossible.

A.D. 33 - Required by PDBC and Year 63 B.C. Impossible. Nisan 15 on Sunday.
Conjunction: JDE 1733218.41976 33 April 17 Friday **22h 04m** 27.035s TDT

| APRIL | | | | | | | | | | | | | | MAY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 01 | 02 | 03 | 04 | 05 | 06 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 34 - Possible, but the year is too late.
Conjunction: JDE 1733543.76420 34 March 9 Tuesday **6h 20m** 27.223s TDT
Schaefer, Sky and Telescope, April, 1989, page 374, note 3.

| MARCH | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S |
| 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | **15** | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

A.D. 34 - Possible
Conjunction: JDE 1733573.10910 34 April 7 Wednesday **14h 37m** 06.322s TDT

| APRIL | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M |
| 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | **15** | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

Newton delayed the beginning of the month, when he defended Friday = Nisan 14.

Most Protestant writers and a few Catholic writers defend April 07, A.D. 30.
The Seventh-day Adventist Church defends April 27, A.D. 31.
Most Catholic writers and a few Protestant writers defend April 03, A.D. 33.
See also *Lunar visibility and the crucifixion,* by Bradley E. Schaefer, in *The Quarterly Journal of the Royal Astronomical Society*, Vol. 31, No. 81 (March 1990), page 57.

# Ellen G. White's Dating of Christ's Death

For Ellen G. White, Christ was crucified in the spring of A.D. 31; the time of the Passover corresponded to the close of March or the beginning of April; he died on a Friday; on the day the Passover was eaten. Ellen G. White claims perfect harmony in the application of the events, so let´s analyze and find out the perfect harmony:

> "To accept this conclusion was to renounce the former reckoning of the prophetic periods. The 2300 days had been found to begin when the commandment of Artaxerxes for the restoration and building of Jerusalem went into effect, in the autumn of 457 B.C. Taking this as the starting point, there was **perfect harmony** in the application of all the events foretold in the explanation of that period in Daniel 9:25-27. Sixty-nine weeks, the first 483 of the 2300 years, were to reach to the Messiah, the Anointed One; and Christ's baptism and anointing by the Holy Spirit, A.D. 27, exactly fulfilled the specification. In the midst of the seventieth week, Messiah was to be cut off. Three and a half years after His baptism, **Christ was crucified, in the spring of A.D. 31**. The seventy weeks, or 490 years, were to pertain especially to the Jews. At the expiration of this period the nation sealed its rejection of Christ by the persecution of His disciples, and the apostles turned to the Gentiles, A.D. 34. The first 490 years of the 2300 having then ended, 1810 years would remain. From A.D. 34, 1810 years extend to 1844. "Then," said the angel, "shall the sanctuary be cleansed." All the preceding specifications of the prophecy had been unquestionably fulfilled at the time appointed."[8] [Emphasis mine].

> "Then, said the angel, "He shall confirm the covenant with many for one week [seven years]." For seven years after the Saviour entered on His ministry, the gospel was to be preached especially to the Jews; for three and a half years by Christ Himself; and afterward by the apostles. "In the midst of the week He shall cause the sacrifice and the oblation to cease." Dan. 9:27. In the spring of A. D. 31, Christ the true sacrifice was offered on Calvary. Then the veil of the temple was rent in twain, showing that the sacredness and significance of the sacrificial service had departed. The time had come for the earthly sacrifice and oblation to cease."[9]

> "There were three annual feasts, the Passover, the Pentecost, and the Feast of Tabernacles, at which all the men of Israel were commanded to appear before the Lord at Jerusalem. Of these feasts the Passover was the most largely attended. Many were present from all countries where the Jews were scattered. From every part of Palestine the worshipers came in great numbers. The journey from Galilee occupied several days, and the travelers united in large companies for companionship and protection. The women and aged men rode upon oxen or asses over the steep and rocky roads. The stronger men and the youth journeyed on foot. **The time of the Passover corresponded to the close of March or the beginning of April**, and the whole land was bright with flowers, and glad with the song of birds. All along the way were spots memorable in the history of Israel, and fathers and mothers recounted to their children the wonders that God had wrought for His people in ages past. They beguiled their journey with

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8. The Great Controversy, 410.
9. The Desire of Ages, 233.

song and music, and when at last the towers of Jerusalem came into view, every voice joined in the triumphant strain,--

> "Our feet shall stand
> Within thy gates, O Jerusalem. . . .
> Peace be within thy walls,
> And prosperity within thy palaces." Ps. 122: 2-7."[10]

"That was a never-to-be-forgotten Sabbath to the sorrowing disciples, and also to the priests, rulers, scribes, and people. At the setting of the sun on the evening of the **preparation day** the trumpets sounded, signifying that the Sabbath had begun. The Passover was observed as it had been for centuries, while He to whom it pointed had been slain by wicked hands, and lay in Joseph's tomb. On the Sabbath the courts of the temple were filled with worshipers. The high priest from Golgotha was there, splendidly robed in his sacerdotal garments. White-turbaned priests, full of activity, performed their duties. But some present were not at rest as the blood of bulls and goats was offered for sin. They were not conscious that type had met antitype, that an infinite sacrifice had been made for the sins of the world. They knew not that there was no further value in the performance of the ritual service. But never before had that service been witnessed with such conflicting feelings. The trumpets and musical instruments and the voices of the singers were as loud and clear as usual. But a sense of strangeness pervaded everything."[11]

"In the beginning the Father and the Son had rested upon the Sabbath after Their work of creation. When "the heavens and the earth were finished, and all the host of them" (Gen. 2:1), the Creator and all heavenly beings rejoiced in contemplation of the glorious scene. "The morning stars sang together, and all the sons of God shouted for joy." Job 38:7.

Now Jesus rested from the work of redemption; and though there was grief among those who loved Him on earth, yet there was joy in heaven. Glorious to the eyes of heavenly beings was the promise of the future. A restored creation, a redeemed race, that having conquered sin could never fall,--this, the result to flow from Christ's completed work, God and angels saw. With this scene the day upon which Jesus rested is forever linked. For "His work is perfect;" and "whatsoever God doeth, it shall be forever." Deut. 32:4; Eccl. 3:14. When there shall be a "restitution of all things, which God hath spoken by the mouth of all His holy prophets since the world began" (Acts 3:21), the creation Sabbath, the day on which Jesus lay at rest in Joseph's tomb, will still be a day of rest and rejoicing. Heaven and earth will unite in praise, as "from one Sabbath to another" (Isa. 66:23) the nations of the saved shall bow in joyful worship to God and the Lamb."[12]

"In the upper chamber of a dwelling at Jerusalem, Christ was sitting at table with His disciples. They had gathered to celebrate the Passover. The Saviour desired to keep this feast alone with the twelve. He knew that His hour was come; He Himself was the true paschal lamb, and **on the day the Passover was eaten He was to be sacrificed.** He was about to drink the cup of wrath; He must soon receive the final baptism of suffering. But a few quiet hours yet remained to Him, and these were to be spent for the benefit of His beloved disciples."[13] [Religious Friday = Nisan 15, since the Passover is eaten on the fifteenth].

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10. *Ibidem*, 75-76.

11. *Ibidem,* 774.

"These types were fulfilled, not only as to the event, but as to the time. On of the fourteenth day of the first Jewish month, the very day and month on which for fifteen long centuries the Passover lamb had been slain [Religious Thursday, Nisan 14], Christ, having eaten [Religious Friday Night, starting Nisan 15] the Passover with His disciples, instituted that feast which was to commemorate His own death as "the Lamb of God, which taketh away the sin of the world." That same night [Night beginning Nisan 15] He was taken by wicked hands to be crucified and slain. And as the antitype of the wave sheaf our Lord was raised from the dead on the third day, [Sunday morning]."the first fruits of them that slept," a sample of all the resurrected just, whose "vile body" shall be changed, and "fashioned like unto His glorious body." Verse 20; Philippians 3:21."[14] [Brackets mine].

"The night of the first day of the week had worn slowly away. The darkest hour, just before daybreak, had come. Christ was still a prisoner in His narrow tomb. The great stone was in its place; the Roman seal was unbroken; the Roman guards were keeping their watch. And there were unseen watchers. Hosts of evil angels were gathered about the place. Had it been possible, the prince of darkness with his apostate army would have kept forever sealed the tomb that held the Son of God. But a heavenly host surrounded the sepulcher. Angels that excel in strength were guarding the tomb, and waiting to welcome the Prince of life."[15]

From the information above, we must look for a Friday = Nisan 15 in March or in April.

Conjunction in Longitude (New Moon) in March, A.D. 31:

A.D. 31 - Impossible
Conjunction: JDE 1732450.54978 31 March 12 Monday **1h 11m** 40.612s TDT

| MARCH | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

This yields a Nisan 14 on a Tuesday or Wednesday and a Nisan 15 on a Wednesday or Thursday.

So, the month of March does not meet the conditions.Only in April there is the possibility of a Nisan 15 on a Friday (April 27).

A.D. 31 - Possible, if Friday = Nisan 15.
Conjunction: JDE 1732480.10143 31 April 10 Tuesday 14h 26m 03.169s TDT

14h 26m TDT = 11h 39m UT = 13h 39m LT (Jerusalem)

APRIL, A.D. 31

12. *Ibidem*, 769 - 770.
13. *Ibidem, 642*.
14. *The Great Controversy*, 399.
15. *The Desire of Ages*, 779.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | |
| P | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 | 17 | 18 | |
| J | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | **15** | 16 | 17 | |
| M | | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 | |
| | | | NISAN | | | | | | | | | | | | | | | | | |
| P = Parker & Dubberstein J = Juarez M = Maxwell | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

Therefore, we may conclude that E. G. White supports the date April 27, A.D. 31, for the death of Christ. Further confirmation is given by the date October 22/23 in 1844, the end of the 2300 years, by considering the number of days elapsed in 1813.5 years. Ellen G. White departed from Snow´s position.

Samuel Snow did not understand this point in 1844, since he wrote in 1845:

"The argument of Ferguson, that the death of our Lord must have occurred in A. D. 33, is not valid. It is based upon the assumption that the Rabbinical Jews are correct in their mode of reckoning the year. Were that true, the argument would be perfect and irrefutable. The crucifixion was evidently on Friday, the day before the Sabbath. See John xix. 31; Matt. Xv. 42. It was also on the day of the passover; John xviii. 28. Now, admitting the Rabbinical Jews to be correct, we find by astronomical calculation, that the passover full moon occurred on Friday, in the year 33, and not for several years before or after.

But the Caraite Jews accuse the others of corrupting the Law in this matter, in other words, of adopting the customs of the heathen in their mode of reckoning time. And on examination we find the charge to be just. The Law imperatively required the presentation of the first-fruits´ sheaf, or handful, as a wave-offering, on the 16th day of the first month. But if the year be commenced, according to the Rabbinical Jews, with the new moon in March, it would be impossible to obey this requisition of the Law. For the grain would not be ripe in the first month. The Caraites, who adhere rigidly to the Law, usually commence the year one moon later than do the others; the one class regulating their year by the vernal equinox, after the manner of the Romans, - the other by the ripening of the barley harvest, according to the requirements of the Mosaic Law. The Caraite computation is consequently correct; and the argument of Ferguson, based upon the Rabbinical reckoning, falls to the ground. The death of our Lord was not, therefore, in A. D. 33.

But let us see if it was not in A. D. 31. In the first place let us understand and remember, that the Passover was always either, on the day in which the moon came to the full, or the day following. This would depend upon the point of commencement of the month. The Jews began their months with the first visible appearance of the new moon. When its change took place early in the morning it would be visible the same evening, and the first day of the month would be the day following. And as there are between fourteen and fifteen days from the change of the moon to the full, and the Passover was always the fourteenth day of the month, it would, in this case, occur on the very day of the full moon. But when the moon changed at the later hour in the day, it could not be visible the same evening. In that case the first day of the month would be the second day after the moon´s change, and, consequently, the fourteenth day of the month would be the day following the full. We find upon examination that this must have been

the case with the Caraite first month, A. D. 31.

We find also, that in A. D. 33 the full moon was on the 3d day of April. From one full moon to another are about 29 ½ days. The Caraite passover in that year would be on the 3d day of May. As the lunar months fall behind the solar 11 days every year, so, in reckoning backward from A. D. 33 to A.D. 31, there must be an addition of 11 days to each year, making, for the two years 22 days. We see, then, that as in A.D. 33 the full moon was on the 3d of May, it must have occurred on the 25th of May in A. D. 31. The true Passover day must therefore have been either the 25th or 26th of May in that year.

"Again, in the Appendix to Townsend´s arrangement of the New Testament will be found a very accurate table, exhibiting the time of the occurrence of the passover (according to the Rabbinical Jews,) during our Saviour´s life. In that table it is placed for A.D. 31, Tuesday, April 25th. Assuming this as undoubtedly correct, we shall find that 29 ½ days which make a lunar month, extend to Thursday, May 25th. And as there is a small excess over 29 ½ days in a lunar month, and also over 11 days to a year in the precession of the moon´s changes, it came to the full in the latter part of the day. Consequently the passover was on the day following, which was Friday. We come, then, to this conclusion, that *our Lord was crucified, on Friday, May 26th, A. D. 31*."[16] [Emphasis mine].

There are several mistakes in his statements, because he was relying on wrong data. He did not have the resources we have today. For example, April 25th is Wednesday and May 26th is Saturday. Probably he came to a wrong conclusion on account of this.

A.D. 31, MAY, NISAN 15 IS IMPOSSIBLE
Conjunction: 1732509.70277 31 May 10 Thursday **4h 51m** 59.484s TDT

| MAY | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | NISAN | | | | | | | | | | | | | | | | | |

A.D. 33 - Possible, if Friday = Nisan 14 (Ferguson)
Conjunction: JDE 1733189.06417 33 March 19 Thursday **13h 32m** 24.696s TDT

| MARCH | | | | | | | | | | | | | APRIL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | **14** | 15 | 16 | 17 | 18 |
| | | | NISAN | | | | | | | | | | | | | | | | |

The crescent is too low at the sunset of March 19. Nisan 15 on Friday is impossible.

A.D. 33 - Impossible
Conjunction: JDE 1733218.41976 33 April 17 Friday **22h 04m** 27.035s TDT

| APRIL | | | | | | | | | | | | | | MAY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 01 | 02 | 03 | 04 | 05 | 06 |
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | NISAN | | | | | | | | | | | | | | | | |

16. *Jubilee Standard*, May 29, 1845, page 93.

SCHEMATIC DISTRIBUTION OF LUNATIONS IN METONIC CYCLES (For precision, visibility checking is required.)

365.2422 days ÷ 29.53059 days = 12.368266 lunations in one solar year.

(7) Tishri 1 and (1) Nisan 1 schematic correspondences in the Julian Calendar. The arrows stand for Veadars.

| 457 B.C. | 456 | 455 | 454 | 453 | 452 | 451 | 450 | 449 | 448 | 447 | 446 | 445 | 444 | 443 | 442 | 441 | 440 | 439 | 438 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day | 7 10/19 | 1 04/15 | 7 10/09 | 1 04/03 | 7 09/27 | 1 04/22 | 7 10/16 | 1 04/11 | 7 10/05 | 1 03/31 | 7 09/24 | 1 04/19 | 7 10/13 | 1 04/08 | 7 10/02 | 1 03/28 | 7 09/21 | 1 04/16 | 7 10/10 |
| Month | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 |
| Month | | | | | | | | | | | | | | | | | | | |
| | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 |
| | 12 | 12 | 13 | 12 | 12 | 13 | 12 | 12 | 13 | 12 | 13 | 12 | 12 | 13 | 12 | 12 | 13 | 12 | 13 |
| | 12 | 24 | 37 | 49 | 61 | 74 | 86 | 99 | 111 | 123 | 136 | 148 | 160 | 173 | 185 | 197 | 210 | 222 | 235 |
| | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | | | | | | |
| | -15.47385 | 32.71221 | 21.83709 | -18.56862 | 0.00000 | 18.65547 | -21.75024 | 26.43582 | 15.5607 | -24.84501 | 23.34105 | -17.06466 | 31.1214 | 20.24628 | -20.15943 | 28.02663 | 17.15151 | -23.2542 | 24.93186 |
| | 14,05674 | 3,18162 | -7,6935 | 10,96197 | 0,08685 | -10,87512 | 7,78035 | -3,09477 | -13,96989 | 4,68558 | -6,18954 | 12,46593 | 1,59081 | -9,28431 | 9,37116 | -1,50396 | -12,37908 | 6,27639 | -4,59873 |
| | | | | | 0,00000 | | | | | | | | | | | | | | |

CYCLE

10 20 30 40 50 60 70 80 90 100 110 120

1844

19 Y x 12 L = 228 Lun. 228 + 7 = 235 Lun.
235 lunations x 25 cycles = 5,875 lunations
5,875 lun. + 142 lun. = 6,017 lunations
486.5 years x 365.2422 days = 177,690.33 days
177,690.33 ÷ 29.53059 = 6,017.1615 lunations

12 x 29,53059 = 354,36708
13 x 29,53059 = 383,89767

354,36708 - 365,2422 = - 10,87512 (falls)
383,89767 - 365,2422 = 18,65547 (rises)

235 lunations x 121 cycles = 28,435 lunations
28,435 lun. + 12 lun. = 28,447 lunations

2,300 years x 365.24222 days = 840,057.06 days
840,057.06 ÷ 29.53059 = 28,447.012 lunations

Kaluach 3

File Print Today Deta... Civil Hebrew Add event Eve... Location Options Help

Day details

16 Iyyar 3791
27 April 31

Day 31 of the Omer

Year details

3791 years from the creation of the world
Shelemah - complete (both cheshvan and kislev 30 days)
Simple - 12 months in the year
Year 10 of cycle 200 of the lunar (small) cycle
Year 11 of cycle 136 of the solar (big) cycle

Ma'aser Sheni (tithe for Jerusalem)
Year four of the shmita cycle

27 April 31 — Iyyar April-May 3791 — Iyyar 16

| Shabbat | Friday | Thursday | Wednesday | Tuesday | Monday | Sunday |
|---|---|---|---|---|---|---|
| 14 5:22p-6:40p 3<br>Tazria-Metzora<br>Day 18 of the Omer | 13 2<br>Day 17 of the Omer | 12 1<br>Rosh Chodesh 2<br>Day 16 of the Omer | | | | |
| 21 5:27p-6:45p 10<br>Acharei Mot-Kedoshim<br>Day 25 of the Omer | 20 9<br>Day 24 of the Omer | 19 3:32a-6:26p 8<br>Day 23 of the Omer<br>Taanit BH"B | 18 7<br>Day 22 of the Omer | 17 6<br>Day 21 of the Omer | 16 3:37a-6:24p 5<br>Day 20 of the Omer<br>Taanit BH"B | 15 4<br>Day 19 of the Omer |
| 28 5:31p-6:50p 17<br>Emor<br>Day 32 of the Omer | 27 16<br>Day 31 of the Omer | 26 15<br>Day 30 of the Omer | 25 14<br>Pesach Sheni<br>Day 29 of the Omer | 24 13<br>Day 28 of the Omer | 23 3:26a-6:28p 12<br>Day 27 of the Omer<br>Taanit BH"B | 22 11<br>Day 26 of the Omer |
| 5 5:35p-6:55p 24<br>Behar-Bechukotai<br>Shabbat Mevarchim<br>Day 39 of the Omer | 4 23<br>Day 38 of the Omer | 3 22<br>Day 37 of the Omer | 2 21<br>Day 36 of the Omer | 1 20<br>Day 35 of the Omer | 30 19<br>Day 34 of the Omer | 29 18<br>Lag B'Omer<br>Day 33 of the Omer |
| | | 10 29<br>Yom Kippur Katan<br>Day 44 of the Omer | 9 28<br>Day 43 of the Omer | 8 27<br>Day 42 of the Omer | 7 26<br>Day 41 of the Omer | 6 25<br>Day 40 of the Omer |

| | | | | |
|---|---|---|---|---|
| Zmanim | Alot Hashachar 3:21a | Chatzot Hayom 11:35a | Tzeit Hakochavim 6:37p | The molad is on: |
| Friday | Misheyakir 4:06a | Mincha Gedolah 12:08p | Chatzot Halayla 11:35p | Wednesday night |
| Apr 27, 31 | Hanetz Hachama 4:58a | Mincha Ketanah 3:26p | | 7 hours |
| | Sof Zman Shema 8:16a | Plag Hamincha 4:49p | Daylight Hours 13:13:33 | 27 minutes |
| | Sof Zman Tefillah 9:22a | Shkiat Hachama 6:11p | Sha'a Zmanit 1:06:07 | 17 parts |

Ready — Today: 29 Elul 5771 — Today: 28 September 2011 — Jerusalem, Israel — Standard time

I have a fully detailed and documented study about the critera and development process of the Rabbinical Calendar which I intend to publish for a better understanding of prophetic and historical issues.

Kaluach 3

File Print Today Deta... Civil Hebrew Add event Eve... Location Options Help

Day details

16 Sivan 3791
26 May 31

Beha'alotcha
Zechariah 2:14 - 4:10
Knissat Shabbat: 5:49p
Tzeit Shabbat: 7:11p

Year details

3791 years from the creation of the world
Shelemah - complete (both cheshvan and kislev 30 days)
Simple - 12 months in the year
Year 10 of cycle 200 of the lunar (small) cycle
Year 11 of cycle 136 of the solar (big) cycle

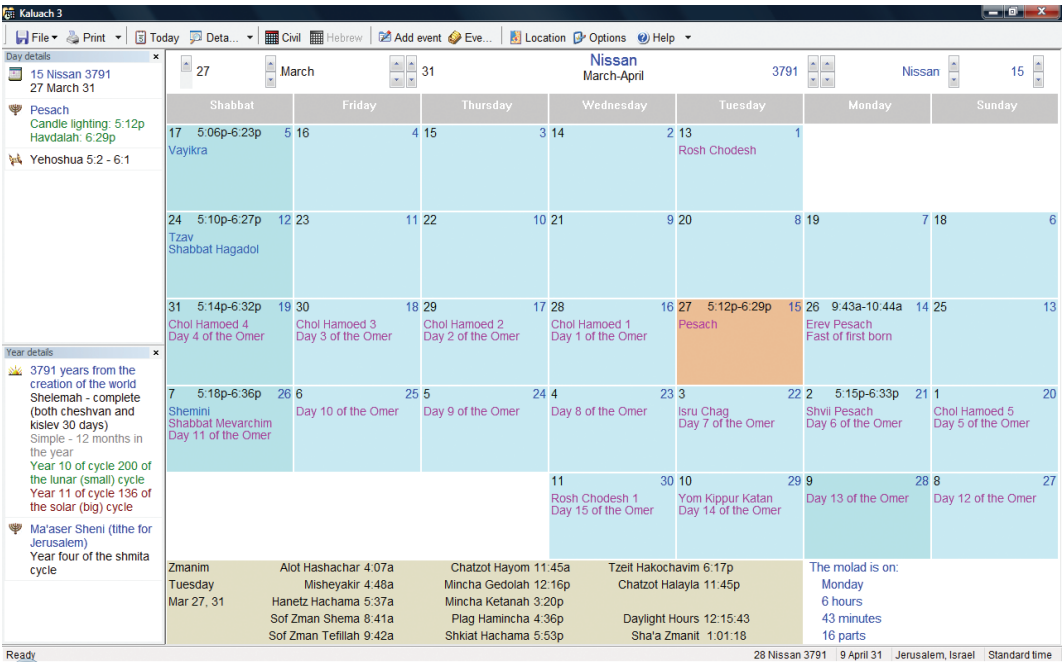
Ma'aser Sheni (tithe for Jerusalem)
Year four of the shmita cycle

26 May 31 — Sivan May-June 3791 — Sivan 16

| Shabbat | Friday | Thursday | Wednesday | Tuesday | Monday | Sunday |
|---|---|---|---|---|---|---|
| 12 5:40p-7:00p 2<br>Bamidbar<br>Day 46 of the Omer | 11 1<br>Rosh Chodesh<br>Day 45 of the Omer | | | | | |
| 19 5:44p-7:06p 9<br>Naso | 18 8 | 17 7<br>Isru Chag | 16 5:42p-7:03p 6<br>Shavuot | 15 5<br>Erev Shavuot<br>Day 49 of the Omer | 14 4<br>Day 48 of the Omer | 13 3<br>Day 47 of the Omer |
| 26 5:49p-7:11p 16<br>Beha'alotcha | 25 15 | 24 14 | 23 13 | 22 12 | 21 11 | 20 10 |
| 2 5:53p-7:15p 23<br>Shelach Lechah<br>Shabbat Mevarchim | 1 22 | 31 21 | 30 20 | 29 19 | 28 18 | 27 17 |
| 9 5:57p-7:20p 30<br>Korach<br>Rosh Chodesh 1 | 8 29 | 7 28<br>Yom Kippur Katan | 6 27 | 5 26 | 4 25 | 3 24 |

| | | | | |
|---|---|---|---|---|
| Zmanim | Alot Hashachar 2:46a | Chatzot Hayom 11:31a | Tzeit Hakochavim 6:57p | The molad is on: |
| Shabbat | Misheyakir 3:37a | Mincha Gedolah 12:06p | Chatzot Halayla 11:31p | Thursday |
| May 26, 31 | Hanetz Hachama 4:33a | Mincha Ketanah 3:36p | | 8 hours |
| | Sof Zman Shema 8:02a | Plag Hamincha 5:03p | Daylight Hours 13:56:52 | 12 minutes |
| | Sof Zman Tefillah 9:11a | Shkiat Hachama 6:30p | Sha'a Zmanit 1:09:44 | |

Ready — Today: 29 Elul 5771 — Today: 28 September 2011 — Jerusalem, Israel — Standard time




Jewish Calendar Resources:
http://aish1.com/aishluach.exe
http://www.geocities.com/royh_il/software.htm
http://www.torahcalendar.com/MOON.asp?JDN=2393908&TDAY=1
http://www.torahcalendar.com/Calendar.asp
http://www.shirhadash.org/calendar/hcal.html
http://www.sodhaibur.com
http://www.sym454.org/

This Hebrew Calendar shows the fifteenth on the 27th of March, but closer examinations with more precise programs and analysis of the visibility conditions favor the fifteenth on the 28th of March. What is important to notice, however, is that a Friday, Nisan 15th is impossible in March/31.

“"In the midst of the week He shall cause the sacrifice and the oblation to cease." In A.D. 31, three and a half years after His baptism, our Lord was crucified. With the great sacrifice offered upon Calvary, ended that system of offerings which for four thousand years had pointed forward to the Lamb of God. Type had met antitype, and all the sacrifices and oblations of the ceremonial system were there to cease.

The seventy weeks, or 490 years, especially allotted to the Jews, ended, as we have seen, in A.D. 34. At that time, through the action of the Jewish Sanhedrin, the nation sealed its rejection of the gospel by the martyrdom of Stephen and the persecution of the followers of Christ. Then the message of salvation, no longer restricted to the chosen people, was given to the world. The disciples, forced by persecution to flee from Jerusalem, "went everywhere preaching the word." "Philip went down to the city of Samaria, and preached Christ unto them." Peter, divinely guided, opened the gospel to the centurion of Caesarea, the God-fearing Cornelius; and the ardent Paul, won to the faith of Christ, was commissioned to carry the glad tidings "far hence unto the Gentiles." Acts 8:4, 5; 22:21.

Thus far every specification of the prophecies is strikingly fulfilled, and the beginning of

the seventy weeks is fixed beyond question at 457 B.C., and their expiration in A.D. 34. From this data there is no difficulty in finding the termination of the 2300 days. The seventy weeks--490 days-having been cut off from the 2300, there were 1810 days remaining. After the end of 490 days, the 1810 days were still to be fulfilled. From A.D. 34, 1810 years extend to 1844. Consequently the 2300 days of Daniel 8:14 terminate in 1844. At the expiration of this great prophetic period, upon the testimony of the angel of God, "the sanctuary shall be cleansed." Thus the time of the cleansing of the sanctuary--which was almost universally believed to take place at the second advent-was definitely pointed out."[17]

The determination of the year A.D. 31 is vital in fixing the beginning (457 B.C.) and the end (A.D.1844) of the 2300 years.

"That which led to this movement was the discovery that the decree of Artaxerxes for the restoration of Jerusalem, which formed the starting point for the period of the 2300 days, went into effect in the autumn of the year 457 B.C., and not at the beginning of the year (see pages 168, 391, 328), as had been formerly believed. Reckoning from the autumn of 457, the 2300 years terminate in the autumn of 1844. (See Appendix note for page 329.) (Autumn to Autumn = Solar Years)

Arguments drawn from the Old Testament types also pointed to the autumn as the time when the event represented by the "cleansing of the sanctuary" (TISHRI 10) must take place. This was made very clear as attention was given to the manner in which the types relating to the first advent of Christ had been fulfilled.

The slaying of the Passover lamb was a shadow of the death of Christ. Says Paul: "Christ our Passover is sacrificed for us." 1 Corinthians 5:7. The sheaf of first fruits, which at the time of the Passover was waved before the Lord, was typical of the resurrection of Christ. Paul says, in speaking of the resurrection of the Lord and of all His people: "Christ the first fruits; afterward they that are Christ's at His coming." 1 Corinthians 15:23. Like the wave sheaf, which was the first ripe grain gathered before the harvest, (Barley, Agriculture, Season, Solar Year; Lunisolar: Deut. 33:14) Christ is the first fruits of that immortal harvest of redeemed ones that at the future resurrection shall be gathered into the garner of God.

These types were fulfilled, not only as to the event, but as to the time. On the fourteenth day of the first Jewish month (NISAN 14) (Lunar Months), the very day and month on which for fifteen long centuries the Passover lamb had been slain, Christ, having eaten (NISAN 15) the Passover with His disciples, instituted that feast which was to commemorate His own death as "the Lamb of God, which taketh away the sin of the world." That same night He was taken by wicked hands to be crucified and slain. And as the antitype of the wave sheaf our Lord was raised from the dead on the third day, "the first fruits of them that slept," a sample of all the resurrected just, whose "vile body" shall be changed, and "fashioned like unto His glorious body." Verse 20; Philippians 3:21.

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17. The Great Controversy, 327-328.

In like manner the types which relate to the second advent must be fulfilled at the time pointed out in the symbolic service. Under the Mosaic system the cleansing of the sanctuary, or the great Day of Atonement, occurred on the tenth day of the seventh Jewish month (TISHRI 10) (Leviticus 16:29-34), when the high priest, having made an atonement for all Israel, and thus removed their sins from the sanctuary, came forth and blessed the people. So it was believed that Christ, our great High Priest, would appear to purify the earth by the destruction of sin and sinners, and to bless His waiting people with immortality. The tenth day of the seventh month, the great Day of Atonement, the time of the cleansing of the sanctuary, which in the year 1844 fell upon the twenty-second of October, was regarded as the time of the Lord's coming. This was in harmony with the proofs already presented that the 2300 days would terminate in the autumn, and the conclusion seemed irresistible."[18]

The centrality and crucial importance of the middle of the seventieth week in understanding the prophetic periods of Daniel 8:14 and Daniel 9:24-27 is clearly pointed out by Ellen G. White.

The lunisolar characteristics of the Jewish calendar are also pointed out above.

| | | | | |
|---|---|---|---|---|
| TISHRI 10 | | NISAN 15 | | TISHRI 10 |
| OCT. 28/29<br>457 B.C. | | APR. 26/27<br>A.D. 31 | | OCT. 22/23<br>A.D. 1844 |

18. *Ibidem*, 398-400.

In paragraph 34 of the Article "Day of Atonement and October 22, 1844" on pages 132-137, in the book "*Selected Studies on Prophetic Interpretation*" published by the BRI, Shea says:

> "To summarize: This means that in the fall of 1843 1 Tishri fell in the C position or around September 21 (9-21).

Shea's arguments about the A, B, C positions in relation to the Millerites , a C (low) position in 1843, does not hold because we have this statement from 1843:

> "Now there is a dispute between the Rabinical, and the Caraite Jews, as to the correct time of commencing the year. . . . The Caraite Jews on the contrary, still adhere to the letter of the Mosaic, and commence with the new moon nearest the barley harvest in Judea; and which is one moon later than the Rabinical year. **The Jewish year of A D 1843, as the Caraites reckon it in accordance with the Mosaic law, therefore commenced this year with the new moon on the 29th of April**, and the Jewish year 1844, will commence with the new moon in next April, when 1843 and the 2300 days, according to their computation, will expire." (*Signs of the Times*; June 21, 1843; p. 123)

If Nisan 1 is in April 29 (a high or late date) Tishri 1 will also be on a high or late date, six months later.

This shows that 1843 was an A (high) position and 1844 a B (mid) position for the Millerites. This is in agreement with the charts I present for the beginning of the period, where in 457 B.C. we must have Tisri 1 in October.

This confirms that for the Millerites 457 BC, which corresponds to 1843, should have an A (high) position. That is, Tishri 1 in October 19/20. Not a C (low) position as Shea defends.

It seems, unfortunately, that Shea was influenced by Froom´s Exhibit C, in *The Prophetic Faith of Our Fathers*, Volume IV, page 790, where Froom uses April 1, the Rabbinical date, instead of April 29, the Karaite date, in 1843. This is another of the many serious mistakes made by Froom. Froom is attributing to the Karaites a Rabbinical date. He misunderstood the Millerites. If he had paid attention to his quotation of *The Signs of Times*, June 21, 1843, p. 123, on page 796 of Volume IV, as identified by footnote 23, he could have prevented this mistake. Froom is left without the possibility of *any* excuse.

Let´s see what Damsteegt, has to say about this matter:

> "According to this method, the Jewish year of 1843 commenced on April 1, 1843 and terminated on March 20, 1844, a period which fell within the limits of Miller´s year. The other method was the Karaite reckoning and was derived from the Karaite Jews, a small group who "still adhere to the letter of the Mosaic law, and commence [the year] with the new moon nearest the barley harvest in Judea… which is one moon later than the Rabinical [*sic*] year." The Karaites stressed Lev. 23:10, 11, which required the Jews to bring a sheaf of the first fruits of their ceremony which, quite obviously, could only be observed when the barley was ripe in Judea. On this basis, the Karaite Jewish year 1843 commenced on April 29, 1843 and terminated on April 17, 1843."[19]

The quotation above shows that, fortunately, not everybody has been misled by some of Froom´s Exhibits.

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19. P. Gerard Damsteegt. *Foundations of the Seventh-day Adventist Message and Mission.* Grand Rapids: William B. Eerdmans Publishing Company, 1977. page 85.

# March 11, 1941

## MLA COLLECTION

(In the GC Archive and probably in the Amadon file in the Andrews University Library)

My first experience that made me wonder was the fact that in the division of work, giving to each member of the committee his work to do, I was assigned Miss Amadon as my co-worker. I was somewhat perplexed when I came ready to work, to find that the chairman had arranged for Miss Amadon to work for him, and I was left out. The committee had voted that Miss Amadon and I work. That vote has not been rescinded, nor has any explanation or apology been made. I wondered if that were to be a sample of the attitude to be taken.

It had been definitely agreed that the committee should look for the truth wherever it might be found, that we would have no pre-conceived opinion, nor any theory that must be sustained. It was distinctly stated that we were not to set out to prove that Christ was crucified at any particular time. We were simply after the truth, wherever it might lead. To this there was hearty agreement. The work started out well, and promised results.

Personally I was thrown somewhat off my guard by the ease with which certain problems were solved. There seemed to be no difficulty to prove that we were right, and had been so without knowing how right we were. The Millerites were all agreed that Oct. 22 was the date. Oct 13 was settled upon as the correct beginning of the seventh month movement, the barley harvest was discovered as the correct measure for the Passover moon, and all seemed well.

The first doubt that crept into my mind that all was not as rosy as it might seem, was when the statement was made and emphasized that Oct 22 was agreed upon by all the Millerites as the correct date for the ending of the 2300 days. I had read that some held to Oct 23, but when the question was raised it was brushed aside with the statement that a few that held it were not representative men but fanatics whose word should not be taken seriously. I pondered those statements, as I doubted their correctness. I went to the office of Elder Froom to get documents bearing on the case. He was loth to let me have them, stating that such research was founded in doubt, that he had gone all through the documents time and time again, and that my request to look for myself was grounded in disbelief in him. But I got the journals requested.

Going through the journals I found what I had been led to believe was the truth, that there was no unanimity about the date Oct 22, until the very last one of the leading papers advocated Oct 23. I found furthermore that some of the dates that we had been led to believe read Oct 22 in reality read Oct 23; that certain events happening the last Sunday before the Oct 22 date had been inaccurately reported, and that even the nature of the last Sunday meeting had been misunderstood.

When this was brought before the committee, the matter was again made light of, and again it was stated that only a few fanatics believed in Oct 23. When the matter was urged as being more than merely one or two statements that were in question, the chairman with some warmth stated; "Then you don´t believe Sister White."

A little later in a conversation with Elder Froom in the lobby of the old Seminary building

I brought up the matter of a thorough search for all the data dealing with Oct. 22 or 23. He stated then that he was not interested in that, that he would not make such a search or have any part in it.

This brought a new phase into the work of the committee. It was henceforth not to be a search for truth, but a direct search to establish opinions already held. I did not become a member of the committee on that basis.

Voluminous reports were brought into the committee from time to time, but all that was asked of the com was to proofread what had been written. We were not given the facts on which the conclusion were reached. We were merely given the conclusions to which certain members had come. At no time that I remember was any problem brought to the com, for its decision. There were no pro and con statements, no asking for advice. The com read proof on what was brought in, and such discussions as were had were based upon conclusions already reached. We were not told that Scaliger says so, but Schurer says so, and Sister White says so. Everything was made to appear to be harmonious, and we, or at least I, got the impression that for example, there was never any questions of difference among the Karaites. Only as some other member of the committee stumbled upon some contrary facts were differences ever taken up. The facts were never laid on the table, contrary opinions, contradictions. These were doubtless discussed by the members concerned, but did not come before the com. The com was told certain things in regard to the beginning of the Jewish year. After a while, something different was told without giving any of the reasons for the change. When once upon a time I raised the question on a certain point, that the statement was not in harmony with what had been said some time before, the quick reply was given: "Have you heard me use that argument the last month? We have learned better now." There is indeed no objection to changing one´s mind. There is objection to leaving the com in the dark as to the causes for such change, and go on the proposition that members should note that a different argument is now being used, and the old not mentioned, and that this should constitute all the information any member would need. It was a matter of some discouragement to find it stated again and again that we could not expect to know as much as those who had given special study to a certain problem - which indeed is correct - but with the implication that it was for us to accept the statements of those who had studied, and were not to raise pertinent or impertinent questions. I was told so often that I did not know that others had spent days and months and years, the implication again being obvious.

To the best of my knowledge and belief very little research has been made by the committee during the time of its existence. There had been research by members of the com., much and valuable research, but the com. as such has done very little. This I think, lies in the difference of opinion between members as to what constitutes research. Personally I am not interested in spending my time reading proof on the conclusions of others. I want all the facts, pro and con, placed before me. Then I will decide, in counsel with others, what conclusion is the right. We had had papers, many of them, but they have one and all contained only the conclusions arrived at, not the process with all the opposing factors highlighted. I want not merely the fact stated that the Passover can never come in March or early April. I want the fact definitely emphasized that Sister White says that the time of the Passover corresponded to the close of March or the beginning of April, DA 76. To state the first and not call attention to the second on the plea that the writer did not consider the statement to mean what others think it does, is to place the com at a disadvantage. It puts the burden on members of the com to find such statements, rather than have the problem stated by the one reporting. It puts the burden of interpretation where it should not lie. I don´t want anyone to interpret for me to the point where certain statements

are not even brought to our attention. After several of such occurrences have taken place the conviction gains ground that decisions that might vitally affect certain conclusions are not brought to us, and that what is done in one case may be done in others. If the same method of procedure is followed in other matters, it raises the questions if there are other vital statements that should have been brought to the committee that have not been. Such does not make for confidence or harmony. Nothing must be kept from the com.

This lends point to the statement of Elder Kern that Elder Washburn had written him that he was in possession of a letter from Elder Froom asking him not to write to Brother Kern as he would confuse his mind. Have we come to the point where a member of the com will write to another person not to write to a member concerning a problem, as it will tend to confuse his mind? Last week I read my first letter from Elder Washburn. Will Elder Washburn now get a letter that he better not write to me lest I become confused? Or is it only certain members of the com that will be confused and not others? Does this explain why the matter of Sister White´s position was not brought before the com for counsel before it was decided that it did not apply. Cooperation in the com cannot be had on such procedure.

My conception of research work is that all the facts be placed before the com, and that the com is to decide what procedure is to be followed. I am not interested in conclusions merely. I am interested in the facts, and in all the facts. I do not want the chairman of this or any other research com to correspond with certain men, and at the same time counsel cessation of correspondence with the same man by another member of the com on the plea that it will confuse the man. Only on the proposition that such action and such attitude be definitely abandoned can any further work be done. I am ready to go ahead, but the basis must be such that it will constitute research in the true sense of the word. I do not wish to have to maintain a constant watch to see that nothing is withheld. I want whoever reports to give us the facts, pro and con. Then the com is to decide what is to be used, and what not. No one or two members are to decide what is pertinent and what is not. Only by having all the fact placed before are we ready to decide. And whoever is to be responsible for the final report must know all the facts pertinent to the question. The com must function differently from merely passing on conclusions reached by others.

[MLA = Milian Lauritz Andreasen (An-dree-uh-sen) (1876*-1962†)].

# RESOURCES TO USE AND POSSIBILITIES TO CHECK

**Solex 11.0 7:** http://chemistry.unina.it/~alvitagl/solex/

**Cartes du Ciel, SkyChart:** http://www.ap-i.net/skychart/en/development_version

**AlmSun 3.14:** http://tgv.neostrada.pl/astroen

**Voyager 4.5:** http://www.carinasoft.com

**Sky View Café 5.2.7.217:** http://www.skyviewcafe.com/skyview.php

**Alcyone Ephemeris 4.2:** http://www.alcyone.de

**Newmoontab.zip:** http://www.moshier.net/

| | -457 | -456 | 30 | 31 | 1843 | 1844 |
|---|---|---|---|---|---|---|
| SPRING March | Spring Equinox TT | Spring Equinox TT | Spring Equinox TT | Spring Equinox TT | Spring Equinox TT | Spring Equinox TT |
| | Spring Equinox UT | Spring Equinox UT | Spring Equinox UT | Spring Equinox UT | Spring Equinox UT | Spring Equinox UT |
| | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar |
| March / APRIL | Nisan Conjunction TT | Nisan Conjunction TT | Nisan Conjunction TT | Nisan Conjunction TT | Nisan Conjunction TT | Nisan Conjunction TT |
| | Nisan Conjunction UT | Nisan Conjunction UT | Nisan Conjunction UT | Nisan Conjunction UT | Nisan Conjunction UT | Nisan Conjunction UT |
| | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT |
| | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT |
| | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT |
| | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT |
| | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT |
| | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT |
| FALL September | Fall Equinox TT | Fall Equinox TT | Fall Equinox TT | Fall Equinox TT | Fall Equinox TT | Fall Equinox TT |
| | Fall Equinox UT | Fall Equinox UT | Fall Equinox UT | Fall Equinox UT | Fall Equinox UT | Fall Equinox UT |
| | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar | Sky View Café Calendar |
| September/ OCTOBER | Fall Conjunction TT | Fall Conjunction TT | Fall Conjunction TT | Fall Conjunction TT | Fall Conjunction TT | Fall Conjunction TT |
| | Fall Conjunction UT | Fall Conjunction UT | Fall Conjunction UT | Fall Conjunction UT | Fall Conjunction UT | Fall Conjunction UT |
| | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT | First Sunset New Moon UT |
| | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT | First Sunset Crescent UT |
| | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT | Second Sunset New Moon UT |
| | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT | Second Sunset Crescent UT |
| | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT | Third Sunset New Moon UT |
| | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT | Third Sunset Crescent UT |

# SOLAR AND LUNAR THEORIES AND LINKS

## Calculation Precision and Astronomy Links

"However, modern calculations rule out a role for this eclipse because it could not have been seen from Jerusalem - certainly not during any phase when it could redden the Moon.

The last bit of umbra left the lunar disk when the Moon was still only 2 degrees to 5 degrees above the eastern horizon. (The uncertainty stems primarily from uncertainties about the uniformity of the Earth's rotation and the Moon's orbital acceleration during the last 2,000 years.)"[1]

Results of the July Moonwatch

> "To analyze an eclipse observation it is necessary to compute the celestial coordinates of both the sun and the moon with high precision. **With the sun the computation presents little difficulty**. Toward the end of the 19th century Newcomb produced a detailed theory of the motions of the earth and the other inner planets around the sun; his theory is still used in computing the data in Astronomical Almanac and similar ephemerides. When the apparent positions of the sun as seen from the earth, computed from Newcomb's theory, are checked against the positions computed from a dynamical, integrated ephemeris, they show no significant differences throughout the historical period.
>
> **With computing the celestial coordinates of the moon however, there are problems**. Modern lunar theory, largely the work of Earnest W. Brown of Yale University at the turn of the century, would be able to provide a highly accurate lunar ephemeris for any day in the historical past if only the moon's rate of recession from the earth could be determined precisely.
>
> This may eventually be possible, **but astronomers today are unable to compute the coordinates of the moon 2,000 years ago to closer than a tenth of a degree**. That rather large uncertainty upsets calculations bearing on the changing rate of the earth's rotation in the past. It does not, however, prevent ancient eclipse data from yielding useful information."[2]

A tenth of a degree = 6 minutes.

Chapront in Lunar Tables, page 15, has for longitude 0.084 degrees (= 5.04 minutes) in the year 1, which agrees with the statement above .

Ptolemy discovered evection, as discussed in the Almagest.
Tycho Brahe discovered variation and annual inequality.
Kepler established Kepler's Laws.
Newton established the universal gravitation in 1687.

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1. LeRoy Doggett, *U. S. Naval Observatory;* Bradley Schaefer, *NASA - Goddard Space Flight Center*, April 1989. Sky & Telescope, page 37-44.

2. F. Richard Stephenson. *Historical Eclipses*. Scientific American, page 162.

Mayer, in 1770, published the first lunar tables that were sufficiently accurate for determining position and time at sea. (Oliver, page 154). For further details visit:

http://csep10.phys.utk.edu/astr161/lect/history/newtongrav.html

## Semi-Analytical Ephemerides:

Bureau Des Longitudes, Paris:
By Michelle Chapront-Touzé and Jean Charpront, for the Moon.
ELP 2000 - 82B (1988) uses 37873 terms
ELP 2000 - 82 (1983) uses 35227 terms
ELP 2000 - 85 (1988) uses 1324 terms (long ephemeris)
Lunar Tables and Programs from 4000 B.C. to A.D 8000 = ELP 2000 - 85
Astronomical Algorithms, by Jean Meeus, uses 165 terms

MPP01, a new solution for planetary perturbations in the orbital motion of the Moon.
P. Bidart. Astronomy and Astrophysics, 366, 351-358 (2001) - January (IV) 2001

ELP/MPP02, new analytical solution. Fitted to DE405, DE406.
These theories can be further studied in:

ftp;//syrte.obspm.fr/pub/polac/2_lunar_solutions/1_elp82b/
ftp;//syrte.obspm.fr/pub/polac/2_lunar_solutions/2_elpmpp02/
http://www.bdl.fr/ephem/ephepos/
Bureau Des Longitudes

http://www.imcce.fr/ephem/ephepos/ephepos_f1.html
Institut De Mécanique Céleste Et De Calcul Des Ephémerides

http://www.skyviewcafe.com
This program uses VSOP87D and ELP2000-82. It has a nice world map and calendar.
http://www.alcyone.de/
Alcyone Ephemeris generates many useful tables and charts.

## Numerical Integration Ephemerides:

*Long:*

DE102/LE51 for 44 centuries, 1411 BC – 3002 AD (created in 1983)
DE406/LE406 (-3000 Feb 23 – +3000 May 06) (created in1997/8)
*Short:*
DE200/LE200 (1981) (Used in the Astronomical Almanac from 1986 to 2002)
DE405/LE405 (AD Apr. 29, 1559 – AD Feb. 2, 2200) (Created on May-June of 1997 and used in the Astronomical Almanac since 2003)

Standish and Newhall of the Jet Propulsion Laboratory in Pasadena, California, have developed (May 22 1995) a new solar/lunar theory named DE403/LE403 which has evolved to DE405/LE405, which is the state of the art.

On July 21, 1969, a reflector was set up on the moon by the astronauts of the Apollo 11 mission.

Optical, radar, laser (VLBI - Very Long Baseline Interferometry) and space-craft observations have been analyzed to determine the starting conditions for the numerical integration of the Development Ephemerides of NASA´s Jet Propulsion Laboratory .

HORIZONS – EPHEMERIS GENERATOR
http://ssd.jpl.nasa.gov/cgi-bin/eph
http://ssd.jpl.nasa.gov/horizons

## SOLAR THEORIES:

Le Verrier´s Solar Tables (1858)
S. **Newcomb**, Tables of the Sun (Astronomical Papers of the American Ephemeris, VI, Part I; Washington, 1895) (1898)

### Bureau Des Longitudes:

Bretagnon VSOP82 (1982) (32285 terms?), fitted to DE200/LE200
Bretagnon, VSOP87 (1988) (32285 terms)
Bretagnon, VSOP87-A (17535 terms)
Bretagnon, VSOP87-B (15040 terms)
Bretagnon, VSOP87-C (21076 terms)
Bretagnon, VSOP87-D (13723 terms)
Bretagnon, VSOP87-E (20002 terms)

Planetary Programs and Tables from -4000 to +2800 by Bretagnon and Simon
Tables for the Motion of the Sun and the Five Bright Planets from -4000 to + 2800
Astronomical Algorithms by Meeus (1991) (2430 terms)
These are sold by Willmann-Bell Inc. at
http://www.willbell.com

Analytical Solution VSOP2000 - Moisson, X, Bretagnon, P.
Celest. Mech. Dyn. Astron. 80, 205-213 (IMCCE), 2001

### Jet Propulsion Laboratory**:**

DE 96, **102**, 108, 111, 118, 200, 403, 405, **406, 408, 421, 422, 423, 431.**

**DE422** : Created September 2009; includes nutations and librations.
Referred to the International Celestial Reference Frame.
Covers JED 625648.5, (-3000 DEC 07) to JED 2816816.5, (3000 JAN 30).

Intended for the MESSENGER mission to Mercury.
**Extended integration time to serve as successor to DE406.**
Fit to ranging data from MGS and Odyssey through 2003.
(See Konopliv et al., 2010.)

ftp://ssd.jpl.nasa.gov/pub/eph/planets/README.txt
ftp://ssd.jpl.nasa.gov/pub/eph/planets/SunOS/

DE431: Available from August 15, 2013
ftp://ssd.jpl.nasa.gov/pub/eph/planets
13201 B.C. to 17191 A.D
(Presently the best long ephemeris)

## LUNAR THEORIES:

Newton´s Lunar Theory (1702)
www.ucl.ac.uk/sts/nk/newton.htm

Tables of the Moon by Peter Andreas Hansen (1857)

Ernest W. **Brown**; An Introductory Treatise on the Lunar Theory, Cambridge University Press (1896), Dover Publications (1960)
Yale University (Basis for ephemeris from 1923 to 1954)

Improved Lunar Ephemeris 1952-1959; (**ILE**) (Guided the Apollo Missions)
W. Jones Eckert and H. K. Clark
Nautical Almanac Office, Washington 1954
Lunar Ephemeris j=2 (IAU, 1968)

LE 44, **51**, 55, 62, 200, 403, **405**, **406, 408, 409, 421, 422, 423, 431.**

ELP 2000/82 (Chapront - Touzé and Chapront, 1983) (35.227 terms)
ELP 2000/82B (1988) (37.873 terms)
ELP 2000/85 (Chapront, 1988) (1324 terms) (Lunar Tables)
Astronomical Algorithms by Meeus, 1991 (165 terms)
MPP01, a new solution for planetary perturbations in the orbital motion of the Moon
P. Bidart
bidart@danof.obspm.fr

Astronomy and Astrophysics
A&A 366, 351-358 (2001)

The adjustment of constants and orbital parameters to numerical integrations of the Jet Propulsion Laboratory DE403 and DE406 are under construction.

### *The full JPL Ephemeris (text downloaded from the Web)*

"This is the full precision state-of-the-art ephemeris. It provides the highest precision and is the basis of the Astronomical Almanac.

JPL is the Jet Propulsion Laboratory of NASA in Pasadena, CA, USA (see http://www.jpl.nasa.gov ). Since many years this institute which is in charge of the planetary missions of NASA has been the source of the highest precision planetary ephemerides. The currently newest version of JPL ephemeris is the DE405/DE406. As most previous ephemerides, it has been created by Dr. Myles Standish.

According to a paper (see below) by Standish and others on DE403 (of which DE406 is only a slight refinement), the accuracy of this ephemeris can be partly estimated from its difference from DE200:

With the *inner planets*, Standish shows that within the period 1600 – 2160 there is a maximum difference of 0.1 – 0.2" which is mainly due to a mean motion error of DE200. This means that the absolute precision of DE406 is estimated significantly better than 0.1" over that period. However, for the period 1980 – 2000 the deviations between DE200 and DE406 are below 0.01" for *all* planets, and for this period the JPL integration has been fit to measurements by radar and laser interferometry, which are extremely precise.

With the *outer planets*, Standish's diagrams show that there are large differences of several " around 1600, and he says that these deviations are due to the inherent uncertainty of extrapolating the orbits beyond the period of accurate observational data. The uncertainty of Pluto exceeds 1" before 1910 and after 2010, and increases rapidly in more remote past or future.

With the *moon*, there is an increasing difference of 0.9"/cty$^2$ between 1750 and 2169. It comes mainly from errors in LE200 (*L*unar *E*phemeris). The differences between DE200 and DE403 (DE406) can be summarized as follows:

```
1980 – 2000 all planets < 0.01",
1600 – 1980 Sun – Jupiter a few 0.1",
1900 – 1980 Saturn – Neptune a few 0.1",
1600 – 1900 Saturn – Neptune a few ",
1750 – 2169 Moon a few ".
```

(see: E.M. Standish, X.X. Newhall, J.G. Williams, and W.M. Folkner, *JPL Planetary and Lunar Ephemerides, DE403/LE403*, JPL Interoffice Memorandum IOM 314.10-127, May 22, 1995, pp. 7f.)

The DE406 is a 200 Megabyte file available for download from the JPL server ftp://navigator.jpl.nasa.gov/ephem/export or on CD-ROM from the astronomical publisher Willman-Bell, see http://www.willbell.com.

Emapwin and a program to read the DE406/LE406 and DE431:
http://www2c.biglobe.ne.jp/~takesako/cal/emapwin_eng_1.21.htm
http://www.kotenmon.com/cal/emapwin_eng.htm
http://en.wikipedia.org/wiki/Draconic_month
Solex 11.07 program which uses the DE406/LE406 and DE421:
http://chemistry.unina.it/~alvitagl/solex/
AlmSun 4.22.83 uses DE422 which updates DE406 and DE408.
http://tgv.neostrada.pl/astroen (AlmSun)
http://www.ap-i.net/skychart/en/download
http://www.ap-i.net/skychart/en/development_version
http://www.skyviewcafe.com/
http://www.icoproject.org/accut.html

Many programs by a real expert and new moons table using DE406/LE406:
http://www.moshier.net/
http://www.moshier.net/newmoontab.zip
http://moshier.net/
ftp://ssd.jpl.nasa.gov/pub/eph/planets/SunOS/de406/

The following programs may be used to check Horn´s Egyptian/Jewish/Julian conversion table on page 155 of *The Chronology of Ezra 7*:

US Naval Observatory application:
http://aa.usno.navy.mil/data/docs/JulianDate.html
http://aa.usno.navy.mil/data/docs/JulianDate.php
http://www.onlineconversion.com/julian_date.htm

Almagest Ephemeris Calculator:
http://www2.arnes.si/~gljsentvid10/almagestephemeris.htm
http://www.staff.science.uu.nl/~gent0113/astro/almagestephemeris.htm
http://aegyptologie.online-resourcen.de/Date_Converter_for_Ancient_Egypt.

Calendrical Calculations, with many calendars. Click on the Calendar Applet:
http://emr.cs.iit.edu/home/reingold/calendar-book/index.shtml
http://emr.cs.iit.edu/home/reingold/calendar-book/Calendrica.html

Bureau des longitudes, several theories available for calculating the positions of the solar system bodies:
http://www.imcce.fr/ephemeride_eng.html

**Jewish Calendar:**
http://www.aish.com/literacy/reference/AishLuach_(Luach_means_-Calendar-_in_Hebrew).asp
http://aish1.com/aishluach.exe

http://www.kaluach.com/?page_id=22
http://www.geocities.com/royh_il/software.htm
http://www.torahcalendar.com/MOON.asp?JDN=2393908&TDAY=1
http://www.torahcalendar.com/Calendar.asp
http://www.shirhadash.org/calendar/abouthcal.html
http://www.chabad.org/
http://www.sodhaibur.com
http://emr.cs.uiuc.edu/home/reingold/calendar-book/index.shtml
http://emr.cs.iit.edu/home/reingold/calendar-book/Calendrica.html
http://www.sym454.org/
http://individual.utoronto.ca/kalendis/lunar/index.htm
http://individual.utoronto.ca/kalendis/index.html
http://individual.utoronto.ca/kalendis/kalendis.htm

The following programs are less precise, but have good interface for beginners:

Astronomy by Calculations 2.0: A very nice shareware:
http://jadi.chez.tiscali.fr/logiciels/logiciel_en.htm
http://174.123.20.5/download/astronomy-by-calculations-v2-0-1673.html

**Eclipses:**
Espenak (uses Newcomb and Brown) or Meeus:
http://www.sunearth.gsfc.nasa.gov/eclipse
http://xjubier.free.fr/
http://xjubier.free.fr/en/site_pages/eclipses.html
http://xjubier.free.fr/en/site_pages/lunar_eclipses/5MCLE/xLE_Five_Millennium_Canon.html
http://xjubier.free.fr/en/site_pages/solar_eclipses/5MCSE/xSE_Five_Millennium_Canon.html
http://transit.savage-garden.org/en/lunar.html
http://www.kotenmon.com/star/emap/index.html
http://www.kotenmon.com/star/lmap/index.html
http://user.online.be/felixverbelen/

**Applets:**
http://astro.unl.edu/naap/lps/animations/lps.html
http://astro.unl.edu/naap/motion3/animations/sunmotions.html
http://astro.unl.edu/classaction/animations/coordsmotion/siderealSolarTime.html
http://www.forgefx.com/casestudies/prenticehall/ph/eclipse/eclipses.htm
http://www.iol.ie/~geniet/eng/moonfluct.htm
http://www.geoastro.de/
http://astro.unl.edu/naap/motion2/animations/ce_hc.html
http://astro.unl.edu/naap/pos/animations/kepler.html
http://astro.unl.edu/naap/ssm/animations/ptolemaic.html

http://upload.wikimedia.org/wikipedia/commons/thumb/e/eb/Orbit1.svg/2000px-Orbit1.svg.png
http://astro.unl.edu/classaction/animations/lunarcycles/mooninc.html
http://www.jgiesen.de/GeoAstro/GeoAstro.htm#collection
http://www.jgiesen.de/GeoAstro/GeoAstro.htm
http://www.jgiesen.de/daylight/index.htm
http://www.jgiesen.de/GeoAstro/register.htm
http://www.fourmilab.ch/earthview/pacalc.html

**Delta T:**
http://www.staff.science.uu.nl/~gent0113/deltat/deltat.htm
http://eclipse.gsfc.nasa.gov/SEhelp/deltaT.html
http://astro.unl.edu/naap/motion1/animations/seasons_ecliptic.html

**Visibility:**
http://astro.ukho.gov.uk/moonwatch/nextnewmoon.html
http://moonsighting.com/moon.html
http://aa.usno.navy.mil/faq/docs/crescent.php
http://www.usno.navy.mil/USNO/astronomical-applications/astronomical-information-center/cres-moon-islamic
http://www.saao.ac.za/public-info/sun-moon-stars/moon-index/lunar-crescent-visibility/first-visibility-of-lunar-crescent/

**Geographical maps:**
http://www.mapquest.com
http://www.fourmilab.ch/earthview/vplanet.html

http://www.fourmilab.ch/cgi-bin/uncgi/Earth/action?opt=-p&img=NOAAtopo.evif

http://www..jerusalemmap.com/cgi-bin/map/subquik1.cgi?22&55&340&Jerusalem&%20Jericho%20Road
http://www.mapquest.com/maps/map.adp?latlongtype= degrees&latdeg=31&latmin=46&latsec=48&longdeg=35&longmin=14&longsec=20
http://www.heavens-above.com/countries.asp
http://www.nationalgeographic.com/maps/
http//earth.google.com/
http//earth.google.com/sky/skyedu.html
http://maps.google.com.br/
http://www.google.com/earth/index.html

Babylonian Tablets:
http://www.livius.org/cg-cm/chronicles/chron00.html
http://www.caeno.org/

# BIBLIOGRAPHY

An exhaustive bibliography, with more information than those provided in the text body, footnotes and appendixes, will be included in a future expanded and improved edition, if God wills and means are available.

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