ence of his teaching and example, many people began to live in a very real expectancy. Jesus might come any time. And when the day's work was over, one sought for assurance that his record was white and clean.

The Millerite Adventists met often in prayer together. Repeatedly they would spend the whole night in intensive study. These students of prophecy read and translated the Bible from its original texts. Some wrote in German, French, or Latin; others were astronomers and authoritative computers. They were called philomaths, and as recognized scholars they met other scholars in argument. They had at their disposal the best libraries in America, and they were fully acquainted with sanctioned writings at home and abroad on the subject of their investigation--the chronology of prophecy. Their documentary evidence is witness to their scholarship. But more than all else, they were of the number to whom it is said: "Behold, I have set before thee an open door, and no man can shut it." Even a Voice from the golden altar in heaven spoke to the Millerite age. The message was understood and was given at the appointed time. The Millerite movement was the preface to the hour of judgment.

Such was the spiritual atmosphere in which were analyzed and deciphered the important chronological problems and historical dates upon which Adventism of our generation has founded its teachings. We owe to the Millerites the interpretation of difficult chapters in prophecy, whose main features of exposition the Spirit of prophecy has also confirmed. Through their faith in the prophetic Word, the ~~and of the~~ 2300 years have been demonstrated as an acknowledged historical period. The decipherment was based upon principles of computation that were not only Biblical, but they were also astronomical and inherently adapted to the American continent. If the "seventh month movement" had occurred in Europe, or farther east, the 2300 years of Daniel would have ended on a different day of the month. The 1844 Adventists have left records showing that they understood this calendar fact, and, in the face of it, they chose the cor-

rect alternative. So also will it be clear to those who are observers of time service announcements over the air.

William Miller's Chronology

The chronological investigation of William Miller was along general lines only. The Biblical periods of prophecy were his specialty, and he himself did not therefore point out specific dates or days of the month. One of his great contributions was the revival of the year-day principle by which every prophetic period is calculated if in harmony with the historical school of interpretation. This principle was definitely understood in the time of Christ, but was largely lost and forgotten in the early centuries of apostasy. It was not fully recognized by Bede, the scholarly English monk of the seventh century. But when the time came for prophecy and history to meet again, men arose who recognized the coincidence between time and prophecy. And thus the fulfillment of every prophetic period has had its witnesses, who each proclaimed the year-day principle of prophetic computation. And more than all else, William Miller discovered that the year-day principle not only gives Bible history a definite chronological outline, but that by this same principle, the Biblical outline is linked with modern time. Let us state the law in the exact words of Mr. Miller's coadjutor: Each day of the prophetic period represents a true solar year. (Signs of the Times [Boston, 1843], April 26, p. 61, col. 1.)

The Millerites were challenged as to the meaning of this principle. Inquirers wished to know how long the "true solar year" is. The answer was given that it is "365 days, 5 hours and a fraction" long. In William Miller's day, the exact length of the solar year had not been known for a century as yet. Another query was this: "But does not Mr. Miller reckon some years at 360 and some 365 days?" The answer was an emphatic "No." (Id., p. 60, col. 3.) It was carefully explained that a prophetic year is always the equivalent of 360 prophetic days, but that each one of these "days" equals a true solar year. The proof for this marvelous equation is found in Numbers 14:34 and Ezekiel

very nature of our task demanded not only an extensive investigation of historical source materials, but a most careful study of various systems of chronology and of the astronomical reckoning of time; all of which calls for exactness of statement, as well as thorough documentation.

A series of comprehensive charts, graphs, and diagrams visualize and simplify all three presentations in confirmation of the conclusions offered, while the photostats and other documentary evidence, of necessity assembled, form a permanent General Conference asset. Since the Report was designed for ultimate distribution, it was deemed best by your Committee to submit it in form suitable for publication,--if and when accepted.

The Committee feels especially grateful for the unstinted assistance given by Mr. Glenn Draper, associate astronomer at the United States Naval Observatory, in checking all astronomical details, and to Miss Erna Born for much valued help in translation. Nor would we fail to mention the earnest, pioneering work of J.H. Wierts, in the astronomical field, and his urge for a thorough, substantiating investigation. And finally, let it be said, that in our researches, we have been deeply conscious of divine providences which we here gratefully acknowledge.

Respectfully submitted in behalf of the Committee,

L. E. Froom

Chairman.

Washington, D.C.
May 23, 1939.

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

A Comprehensive, Documented Study of the 2300-year Time Prophecy; the Progressive Development of its Three Structural Dates--the B.C. 457 Autumnal Beginning, the 31 A.D., Spring Crucifixion-Seal, and the 1844 A.D. Autumnal Ending, with Its True Tenth Day of the True Seventh Month--Their Fundamental Soundness and Scientific Accuracy.

PART I -- INTRODUCTORY STATEMENT OF PROBLEM AND PURPOSE

A. Scripture's Longest Time Prophecy. The 2300-year span is the longest of all the allotted time periods of inspired prophecy. It is the most complex of all, in its involvements, because it comprehends a series of subdivisions marked off by events whose synchronizing relationships cannot be disturbed without disrupting the whole divine scheme. The boundaries and divisions of this mighty period are timed by God's great celestial clock of the spheres which swing inerrantly through space, telling off the years, months, days, hours, and minutes with the undeviating precision of Infinity.

The terminal point of this great prophecy became the center of absorbing interest and reverent study back in the early decades of the 19th century. The close of the great 1260-year period--told off by the living God as the era of the Little Horn--having come during the time of the French Revolution (1789), the minds of earnest students of prophecy then turned simultaneously in different lands to the approaching end of the 2300-year prophecy of Daniel 8:14, as the time of God's long foretold hour of judgment.

A mighty movement sprang into being, with hundreds of public heralds drawn from the various churches, and tens of thousands of humble believers, all focusing their hopes and expectations within the years 1843 and 44 as the terminal point of this great span. This they believed to be sealed and certified by the crucifixion and the 70-week period. And they understood that the synchronous beginning of these two periods reached back to the 5th century before Christ,

when Persia ruled the known world and made provision for the return of God's oppressed ancient people to their own land, and the restoration of their earthly, typical sanctuary and its service.

The expanding advent movement staked everything upon the historical, chronological, and astronomical accuracy of the dates marking off this prophetic span, and the momentous events for which they stood--dates recorded historically by man, but created and governed by the movements of sun and moon which no man can advance or retard. These are kept under the control of the Omnipotent One Himself, in whose hands time and destiny lie, and who governs the very basis of man's time records by those fixed laws of the heavens ordained when our solar system came into being ~~in the beginning~~.

The highly perfected science of time, together with the modern increase of scientific and mechanical knowledge, has enabled astronomical experts, with their mastery of planetary motion, to mark off all past time. Full and complete tables are now available for checking the events called for by this 2300-year ~~master~~ prophecy, with the historical records and visual observations of the receding centuries.

B. The Propriety of This Restudy. The conclusions reached relative to the 2300-year prophecy in the great "7th month" phase of the advent movement, from August to October, 1844, are a matter of transcendent importance to us as Seventh-day Adventists, which we may, with every propriety, restudy at this time--for it is the exposition and application of this prophetico-historical truth that constitutes the one supremely distinctive and distinguishing contribution that Seventh-day Adventists make to the full-rounded system of Bible truth held by the Christian church of the centuries. In the ultimate, it is this prophetic truth that constitutes the authorizing warrant for our historical existence, and our special witness as a separate ecclesiastical body.

This foundational character of the sanctuary truth was clearly understood and expressly stated by leading writers in our earliest denominational literature,

as witness these editorial declarations of the Advent Review and the Review and Herald back in 1850 and 1851:

"The subject of the Sanctuary should be carefully examined, as it lies at the foundation of our faith and hope."[1] *

"This prophetic period [the 2300 days] has been, and still is, the main pillar of the Advent faith. It is, therefore, of the utmost importance that we have a correct view of the commencement and termination of this period, in order to understand our present position. B.C. 457 was the year presented, and clearly proved by Brother Miller, as the true date for the commencement of the 2300 days. It was published to the world by every Second Advent paper in the land, by books, and by public lectures, as the true date. The proof was so very conclusive that those who examined the point with candor embraced it at once. Learned opponents did not, and could not, show that we were incorrect in dating the 2300 days from B.C. 457. With this clearly ascertained date for the commencement of the main pillar of the 'original' Advent faith, lecturers went forth united to give the judgment hour cry."[2]

"The 2300 days was the main pillar of the Advent theory. At their termination the Sanctuary was to be cleansed. . . . That the 2300 days commenced B.C. 457, was made clear in 1843, 1844, and has since been settled in the Herald of 1850 and 1851, beyond a doubt. It has been shown that Christ was crucified A.D. 31, in the midst [middle] of the 70th week, therefore the 70 weeks terminated in the autumn of A.D. 34, and the 2300 days consequently terminated in the autumn of 1844."[3] [Brackets his.]

Over half a century later, Mrs. E.G. White, appointed messenger to the Advent Movement, penned this expressive statement:

"Satan is striving continually to bring in fanciful suppositions in regard to the sanctuary, degrading the wonderful representations of God and the ministry of Christ for our salvation into something that suits the carnal mind. He removes its presiding power from the hearts of believers, and supplies its place with fantastic theories invented to make void the truths of the atonement, and destroy our confidence in the doctrines which we have held sacred since the third angel's message was first given. Thus he would rob us of our faith in the very message that has made us a separate people, and has given character and power to our work."[4]

And, in subsequent writings, the sanctuary truth is frequently referred to by the same writer, as "the foundation of our faith,"[5] "the central pillar,"[6] etc.

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1 White, James, in tipped-in insert on inside cover of Advent Review, 48-page special, Auburn, 1850.
2 White, James, "Our Present Position," editorial, Review and Herald, Paris, Me., Dec., 1850, p. 13.
3 W[hite]., Review and Herald, Paris, Maine, June 9, 1851, p. 100.
4 White, Ellen G., "Special Testimonies," Series B, No. 7, p. 17. (Nov. 20, 1905.)
5 White, Ellen G., MS. 20, 1906.
6 White, Ellen G., Letter 26, 1897.

Again:

"The sanctuary in heaven is the very center of Christ's work in behalf of men. It concerns every soul living upon the earth. It opens to view the plan of redemption, bringing us down to the very close of time, and revealing the triumphant issue of the contest between righteousness and sin. It is of the utmost importance that all should thoroughly investigate these subjects, and be able to give to every one that asketh them a reason for the hope that is in them."[7] [Italics ours.]

Concerning the propriety of such reverent investigation, as pertains to one of the major phases and datings of the sanctuary truth, Mrs. White, (~~in perhaps the most sublime of all her books,~~) gives this further impressive counsel:

"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."[8] [Italics ours.]

C. The Factors in the Study. The Problem before us--that (1) of determining why and how the Adventists of 1844 ultimately fixed with certainty upon the precise day October 22 as the exact terminus of the 2300 years, and (2) of evaluating the soundness of their reasoning and evidence--necessitates, first of all, the reassembling of the entire historical picture, through the compassing of the voluminous Millerite literature. It involves the reading of the many authorities cited or alluded to by the Millerite scholars, which were really the determining factor in their conclusions.

The validity of October 22, as the true equivalent of the 10th day of the 7th month of the appointed Jewish sacred year, depends, (1) upon the correct determination of the true beginning of the Biblical sacred year; (2) upon locating the true seventh month in that year; and (3) upon the correct reckoning of the true 10th day of that 7th month. But as the Millerites came to their conclusions concerning all three of these factors upon the basis of the Karaite Hebrew reckoning, it becomes necessary in order to determine the validity of those conclusions, for

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7 White, E.G., Review and Herald, Washington, D.C., Nov. 9, 1905, p. 10.
8 White, E.G., "The Desire of Ages," p. 571.

us to thoroughly understand the Karaite position. In other words, it is incumbent upon us not merely to know exactly what was believed, but why the positions taken were right intrinsically. The complex calendrical factors must all be worked through to conclusion in order to determine whether the evidence accepted by the Millerites was sound and invulnerable Biblically, historically, chronologically, and astronomically. Bach BHCA

In order to be certain as to the end-year, it is of course necessary to establish the beginning-year beyond successful overthrow. In fact, three great, inseparable dates form the far-flung terminal abutments and the central keystone of this matchless prophetic arch--the B.C. 457 autumnal beginning, the October 22, 1844, autumnal ending for the 2300-year span, and the 31 A.D. spring crucifixion that ties the span together. These were declared by the Millerite students to be inseparable links in the chain of prophetico-historico-astronomical evidence.

The scientific accuracy, therefore, of (1) the 457 date must be traced out on the basis of the synchronizing regnal dates, which have been duly attested, both historically and archaeologically, and which have been properly anchored by well-authenticated eclipses; (2) the astronomical and calendrical accuracy of the 31 A.D. spring-crucifixion--a position that was assumed at the time of the 7th month movement--and the technically astronomical aspects of the Millerite calculations for 1844, must likewise be demonstrated; and (3) the documented, historical portrayal of the early Millerite positions, on through to their ultimate and perfected form, with the precise reasons therefor, and their far-reaching involvements, must all be carefully worked out. Such is the threefold problem before us.

D. Importance of a Proper Solution. As a people, our position on the sanctuary truth touches not merely the Biblical aspect, but it is inseparably historical, chronological, and astronomical in its implications. It embraces not only an exposition of the prophetic time aspect that tallies with inflexible

historical events and their records, but it must comport with the undeviating movements of the sun and moon that measure time for man.

It involves, moreover, the right perception and interpretation of this epochal time-prophecy back in the very days of anticipated fulfilment at the inception of the advent movement. We spring, denominationally, from a recorded historical experience and commitment. As such, the essential positions then taken and since maintained, are either sound and true, or they are false and misleading. They either stand intact under the acid test of historical scrutiny, or they must collapse before a discomfiting exposure of all the facts.

The honor and integrity of Seventh-day Adventism is therefore bound up with the validity of the sanctuary truth, and the soundness of its prophetic foundation and historical fulfilment in the 2300-year prophecy of Daniel 8 and 9, with the related threefold message of Revelation 14. The sanctuary truth, with these correlated positions developed around the year 1844, constitutes the very keystone in the imposing arch of present truth presented to the world by this people.

Furthermore, our historical appearance as a movement at the precise time specified for heralding the required judgment hour message at the terminus of the 2300 years, was divinely timed in appearance, according to the demands of the prophecy. Any other chronological appearance in history would therefore invalidate it as failing to meet the clear time-requirement of the prophecy. But above all, it must not only appear historically at the time stipulated, but as already stated, it must stake its credibility and its authority, and consequently its right to the ear of mankind, upon the fundamental soundness of the historical fulfillment of the several specifications that constitute its authorizing mandate--the beginning, ending, and crucifixion-seal, at their appointed times. This whole question unavoidably involves, then, the integrity of these three key dates of the great 2300-year sanctuary prophecy. Moreover, the question involves the integrity of the Spirit of prophecy, because of its unequivocal declarations, both upon the general position and the specific dates.

The historically developed judgment-hour message, and the heavenly sanctuary truth which followed--with its Sabbath accompaniment--constitute the basic strata of the great platform of truth attested by the Spirit of prophecy. From the very outset, these have naturally been the object of bitter attack, and will be until the end. This is the firm, immovable platform from which we have been admonished never to step off. It is this to which we are to adhere steadfastly, not moving a peg nor a pin that ties it together as one perfect system of truth. Thus we read:

"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."[9]

It is therefore incumbent upon us to know thoroughly, and at first hand, the exact historical development of the positions we hold today. It is imperative for us to know the full and precise reasons for each of the three structural, historical landmarks of our interpretation of the 2300-year prophecy as developed under the great advent awakening of the first half of the nineteenth century, and climaxing in the 7th month movement of 1844.

E. <u>The Form of Presentation</u>. Parts II and III give a comprehensive survey of the development and involvements of the distinctively <u>historical</u> aspect of the 1844 interpretation of the 2300-year prophecy of Daniel 8:14, which reached its

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[9] White, E.G. ("A Firm Platform"), "Early Writings," Washington, D.C., 1925, pp. 258, 259. <u>Note</u>: The setting focuses this counsel specifically upon rejection, alteration, or abandonment of the historic messages and sanctuary truth under discussion in this study. [Written in 1858.]

peak of accuracy and force shortly before the great disappointment of October 22. Part III closes this historical aspect with a review of the aftermath, in which two distinct attitudes and two Adventist church bodies emerge. And this, for us, is the climax of all--for our denominational history begins at this point. The basic positions on the three key dates, championed in the autumn of 1844, have never been revised--nor have they needed revision--by the Seventh-day Adventist movement that eventuated, and which built its full-rounded superstructure of Biblical truth upon the incontrovertible historical foundations already laid. Our specific contribution as a subsequent movement has been the presentation of the heaven-sent light focused upon the nature of the event that took place upon and following that epochal date of October 22, which not only threw an unsurpassed luster upon the past experience, but gave tremendous significance and force to its future witness.

Be it clearly understood that this is not a study of the doctrinal aspect of the sanctuary truth, which is already available in numerous works, embracing the ministry of our High Priest in the sanctuary above, the two consecutive and definitely timed phases of that ministry, the nature of the judgment and its sequel, and its relation to mankind and to this physical earth. This study is limited solely to the historical and scientific proofs as to the soundness and accuracy of the great structural dates of the 2300-year sanctuary prophecy. And that, as will appear, fully meets the exacting requirements of history, chronology, and astronomy, as well as the inevitable demands of logic and the recognized laws of evidence.

Part IV in the series will demonstrate the technical soundness of the first of the three main historical pillars of the 2300-year sanctuary prophecy--the eclipse-checked accuracy of the B.C. 457 autumnal date as the 7th year of Artaxerxes, the initial year of the 2300-year span. Part V presents the astronomical verity of the 31 A.D. April-crucifixion in the "midst" of the 70th week, as the divinely-designated seal of the inseparable 70-week and 2300-day periods, with

their synchronous beginnings. It will also present certain supplemental and invaluable evidences, and technical facts, relative to the accuracy and scientific soundness of the October 22 date, as the true "10th day of the 7th month" ending of the 2300 years. Then will come, in Part VI, the Summation, Conclusions, and Affirmatory Statement that completes the presentation.

LeRoy Edwin Froom

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART II--CHRONOLOGICAL DEVELOPMENT UP TO OCTOBER 22, 1844. 1798-1816 (184.)

I. Original Miller Declaration. After William Miller's two-year period of intensive study of the prophecies, from 1816 to 1818, he spent several years in reviewing and checking upon his startling conclusion that the second advent of Christ was at hand, which would bring the end of this present world order. Finally he set down his deliberate conclusions in tabulated form in a handwritten statement of faith. However, this original "Statement of My Faith," dated September 5, 1822--which may be said really to mark the inception of the distinctive advent movement in North America--is without particularization, argument, or evidence regarding the crucifixion date, or its placement relative to the 70th week. It only anticipates the second advent in a general way as being at the end of the 2300 years "in, on, or before 1843."[1] It places the beginning of the 2300-year period back about B.C. 457 simply by implication rather than definite statement. See Exhibit A (1). It should be borne in mind that Miller reached his conclusions concerning the "year 1843" not simply the 2300-year prophecy alone, but upon the concurrent ending of a half dozen collateral lines of calculation, some of which largely dropped from the reckoning a little later.[2]

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[1] Photostat of original, dated "Hampton, Sept. 5th, 1822," in General Conference Advent Source Collection.

[2] See Section IV for tabulation.

1816-1831 (154)

II. Miller's 1831 Position. In a fuller autograph statement of faith, dated February 15, 1831--six months before beginning his public ministry in August, 1831--Miller specifies "1843 or 1847 at most" for the ending of the 2300-year and correlated periods.[1] With some uncertainty, he begins the 2300-year span tentatively with what he then believed to be the "20th year of the reign" of Artaxerxes, "about 455" B.C., and ends it "about 1845" A.D. See

Exhibit A (2). He also states that when Daniel's 1335 years are ended, they will "bring us down to 1843"--thus dating them from 508 A.D. However, an autograph Miller letter, dated August 9, 1831,--the month of his first sermon--fixes definitely and clearly upon B.C. 457 and 1843 as the terminal points for the 2300-year span, and couples with them the 1335 years from 508 to 1843 A.D., as a paralleling prophecy having exactly the same terminal date.[2] See Exhibit A (3).

This position on the 2300 years is consistently maintained and buttressed thereafter, as may be seen in Miller's first periodical articles in 1832;[3] in his 1836 permanent "Lectures," published in book form two years before other preachers began to join him;[4] and in the various advent periodicals as they began to be published, from 1840 onward.[5] Thus B.C. 457, the starting point of the 2300 years, becomes a fixed date in the advent movement,[6] attested by a galaxy of high authorities,[7] certified by various eclipse checks, and held undeviatingly by all Adventists until after the disappointment in 1844. So the Signs of the Times declares, editorially:

"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."[8]

This was the first of the three great structural dates to be correctly determined and maintained. See Exhibit A (2 & 3).

A scientific demonstration of the soundness and certainty of the 457 date, prepared by Dr. L.H. Wood, with graphs and tables, appears in Part IV of this Report. This is designed especially for those desiring or needing to go to the bottom of the scientific evidence confirming this historic position.

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1 Photostat in Advent Source Collection.
2 Letter to Hendryx, "Hampton, Aug. 9, 1831." (In Advent Source Collection.)
3 Articles Nos. 2 and 3, for (Brandon) Vermont Telegraph (Baptist paper), 1832. (Photostat of original mss. from which articles were printed in Advent Source Collection.)
4 Miller, Wm., "Evidence from Scripture and History of the Second Coming of Christ, about the Year 1843," Troy (N.Y.), 1836, pp. 49, 52, 76, 88.

5 Signs of the Times, Boston, Vol. 1, 1840, and onward; Midnight Cry, New York, Vol. 1, 1842, and onward.
6 See, for example, Advent Herald, Feb. 21, 1844, p. 23.
7 Usher, Ptolemy, Blair, Prideaux, Ferguson, Horne, Watson, Hales, Funck, Cappel, Whiston, etc; Signs of the Times, Jan. 25, 1843, p. 108; Jan. 1, 1845, p. 165.
8 Signs of the Times, Apr. 12, 1843, p. 44.

GENERAL NOTE: It is particularly to be noted that the documentation appearing hereafter is frequently but typical of a large body of supporting statements, often too numerous for tabulation, but which buttress or amplify the citations that do appear. Frequently it is the sum total of numerous allusions, direct statements, or emphases that determines the conclusion recorded, rather than any single statement.

III. Miller Calculation Involvements. The original Miller application of the 2300 years--from B.C. 457 to 1843 A.D.--fixes, however, upon a 33 A.D. crucifixion as the terminus of the 70th week,[1] on the authority of one group of chronologists and astronomers favoring that date, chiefly James Ferguson.[2] This position is followed by Miller and all of his associates up until the spring of 1844.[3] From the very outset, Miller recognized that, in studying Daniel's prophetic periods, he was dealing with Hebrew or Biblical sacred years, which extended from spring to spring, instead of from January to January, as with our present calendar year.

His "Jewish year 1843" (common or Rabbinical reckoning) is specified as from the vernal equinox on March 21, 1843, to the vernal equinox on March 21, 1844,[4] without fixing upon any definite time or day within the period for the anticipated advent.[5] This general position is followed, at first, in practically all early charts, periodical articles, and book statements from Miller's early associates.[6] See Exhibits B and A (3). Thus Miller says:

"I am fully convinced that some time between March 21st, 1843, and March 21st, 1844, according to the Jewish mode of computation of time, Christ will come, and bring all his saints with him; and that then he will reward every man as his work shall be."[7]

The early Adventist leaders take their stand irrevocably upon the postulate that the 70 weeks constitute the first part of the 2300 prophetic days, consistently maintaining that if this connection between the 70 weeks of Daniel 9 and

the 2300 days of Daniel 8 does not exist, their whole system of exposition is shaken to its very foundation; while if it does exist--as they affirm--then the system must stand as impregnable.[8] This position they steadfastly maintain, citing a notable group of antecedent expositors as evidence of its propriety and soundness. This proposition was, of course, an equally fundamental principle of Adventist interpretation, along with that of the correct beginning of the period.

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1 Miller, Wm., "Evidence," pp. 49, 52; Midnight Cry, Apr. 13, 1843, pp. 14,15.
2 Ferguson, William. (1710-1776.) Eminent astronomer of Scotland. Patron of George III. Most important work, "Astronomy Explained Upon Sir Isaac Newton's Principles, and Made Easy to Those Who Have Not Studied Mathematics," (Ed. by David Brewster), 5 volumes, 1823, pp. 334-337; Playfair, James, "System of Chronology," Edinburgh, 1784; et cetera.
3 Signs of the Times, Apr. 5, 1843, pp. 33-35; Dec. 20, 1843, p. 152. Appears continually; for example, Midnight Cry, Apr. 13, 1843, pp. 13-15.
4 Miller, Wm., Signs of the Times, Jan. 25, 1843, p. 147; Midnight Cry, June 15, 1843, p. 107.
5 Signs of the Times, Jan. 4, 1843, p. 121; Midnight Cry, Nov. 21, 1844, pp. 161, 162.
6 Charts: Signs of the Times, May 1, 1841, pp. 20, 21; June 11, 1841, p. 39; Apr. 26, 1843, p. 61; May 24, 1843, p. 92 (reprinted in Midnight Cry, June 8, 1843, p. 99); Midnight Cry, Nov. 18, 1842, p. 4; Mar. 17, 1843, p. 59; July 20, 1843, p. 175; Aug. 31, 1843, p. 14.
7 Signs of the Times, Jan. 25, 1843, p. 147.
8 Signs of the Times, Apr. 12, 1843, p. 44.

GENERAL NOTE: The citations appearing throughout, it will be observed, are taken principally from the leading Millerite periodicals published in Boston and New York. These are not only thoroughly representative, but much of the tract and pamphlet literature of the movement originally appeared in article form in these journals, and rightly represents the progressive development of their positions. These are supported, however, by the books and pamphlets of the movement.

IV. Paralleling Prophetic Outlines. At the outset there is proportionally heavy emphasis upon subsequently-abandoned paralleling prophetic periods which were presumably to end in Miller's original "year 1843,"--such as the 6000th year from creation;[1] the 7 times of the Gentiles (2520 years) dated from B.C. 677, and beginning with the reign of the Gentiles over the Jews;[2] the grand jubilee of jubilees (2450 years) from B.C. 607, commencing with the desolation of Judea;[3] and the two "days," or 2000 years, from B.C. 158--the year erroneously chosen

for dating the League between the Jews and Romans.[4] But especially is the 1335-year period, from 508 A.D. to 1843, stressed as next in determining value to the 2300 years in fixing the close of the prophetic periods at the expected second advent and destruction of the earth-sanctuary by fire.[5] In fact, it is called "a binder"--tied to the 2300 days, having and insuring a common time ending.[6] See Exhibit A.

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1 Midnight Cry, Feb. 22, 1844, pp. 243, 244.
2 Signs of the Times, Jan. 25, 1843, pp. 147-149; Midnight Cry, Feb. 24, 1843, pp. 3, 4; Feb. 22, 1844, pp. 243, 244.
3 Signs of the Times, Jan. 25, 1843, pp. 147-149; Midnight Cry, Feb. 24, 1843, pp. 3, 4.
4 Idem.
5 Signs of the Times, Jan. 25, 1843, pp. 147-149; Apr. 5, 1843, p. 33; Jan. 31, 1844, p. 195; Midnight Cry, Apr. 13, 1843, p. 15.
6 Midnight Cry, Apr. 13, 1843, p. 15.

V. Autumnal Types Noted. Early in May, 1843, Miller calls attention to the autumnal Hebrew festivals as typifying the second advent, in contrast to the vernal feasts as fulfilled at the first advent:

"All the ceremonies of the typical law that were observed the first month, or vernal equinox, had their fulfillment in Christ's first advent and sufferings; but all the feasts and ceremonies in the seventh month or autumnal equinox, can only have their fulfillment at his second advent."[1]

This printed statement is frequently cited thereafter, especially in the latter half of 1844, as the real initiation of the "7th month movement" idea.[2] Some even looked with interest upon the 7th month in 1843.[3] But this definite concept seems largely to lie dormant until the early part of 1844.

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1 Miller, Wm., Signs of the Times, May 17, 1843, p. 85.
2 For example, see Advent Herald, Sept. 18, 1844; Oct. 3, 1844, p. 101; Midnight Cry, Oct. 11, 1844, p. 115.
3 Midnight Cry, Oct. 31, 1844, p. 140.

VI. Associates Revise Terminal Date. As far back as April, June, and December, 1843,[1] and February, 1844,[2] --months before Miller's original date expires for the ending of the "Jewish year 1843" at the time of the vernal equinox in 1844--his associates (Joshua V. Himes, Sylvester Bliss, Josiah Litch,

Nathaniel Southard, Apollos Hale, and others) begin to shift Miller's original date for the ending of the 2300 years from the March equinox over to April, 1844.[3] See Exhibit C. Early in this period, a Signs of the Times editorial declares:

"Now there is a dispute between the Rabbinical, and the Caraite Jews, as to the correct time of commencing the year. The former are scattered all over the world, and cannot observe the time of the ripening of that harvest in Judea. They therefore regulate the commencement of the year by astronomical calculations, and commence with the first day of the new moon nearest the vernal equinox, when the sun is in Aries. The Caraite Jews on the contrary, still adhere to the letter of the Mosaic law, and commence with the new moon nearest the barley harvest in Judea; and which is one moon later than the Rabbinical year. The Jewish year of 1843 A.D., as the Caraites reckon it in accordance with the Mosaic law, therefore commenced this year with the new moon on the 29th day 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."[4]

And Himes, after the spring equinox, says the Jewish year has not yet expired:

"After its [the Jewish year 1843] commencement, he [Miller] gave it as his opinion that the Lord would come some time between the 21st of March, 1843, and the 21st of March 1844. This time has now passed by, and we are a few days beyond the time to which he believed the days might extend. . . .Although the Jewish year has not expired, but extends to the new moon in April, as we explained in our last, yet our time will be regarded by our opponents as having passed by.[5]

Miller was at first unaware of the departure from the Biblical mode of computing the beginning of the Hebrew sacred year, that had crept in among the Jews through the course of centuries. So he roughly placed the "Jewish year 1843" as from "equinox to equinox." But as pressure from opponents forced the Millerites to defend their position on the Jewish year, Miller's associates were compelled to study deeply into its history, with the result that they were led to make the first correction in their calculation as pertains to the exact time of beginning of the Jewish sacred year. The "Jewish sacred year" extends from spring to spring, it should be noted, and takes the number or dating, in our Gregorian calendar, of the Gregorian year with which the greatest number of months in the Jewish sacred year coincide. So the Jewish year 5604 largely corresponds with, and consequently takes the number of, 1843. This principle was clearly recognized and applied by the Miller leaders.[6]

2008 5604
1843 155
155 5759

This correction of the beginning of the Jewish sacred year was made deliberately, on the basis of the Karaite (or Caraite) reckoning for the Jewish sacred year, with its "new moon of barley harvest" Scripture specification for its first month, Nisan, as noted in a foregoing citation. The Karaite Jews--Karaite meaning "literal adherence to the law"--came into prominence under Anan in the 8th century of the Christian Era.[7] This was in protest to the departures of the Rabbanite Jews, (or Rabbinical, as the terms are used interchangeably), pertaining to the time stipulations of the Pentateuch for the appointed feasts of the sacred year, which, according to Scripture, began with the new moon of Nisan, nearest the time of barley harvest in Judea, and therefore usually fell in April.[8] The Rabbanite Jews, on the contrary, from the 4th century of the Christian era onward, regulated the year by a fixed calendar, and began the year with the first day of the new moon nearest the vernal equinox, when the sun is in Aries, the first sign. Consequently their passover moons largely fell in March, as the Millerites clearly understood.[9]

There was as much controversy between these two Jewish groups back in the Middle Ages, as between the Pharisees and Sadducees of Christ's day, only now the controversy centered in the barley harvest versus the vernal equinox as the basis for computing the sacred year. The practical importance of this question can scarcely be overestimated in its effect upon the advent movement, for if this beginning month is not correctly timed, then every succeeding festival, including the Day of Atonement, is dislocated from its divinely appointed place.[10]

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1 Midnight Cry, Apr. 27, 1843, p. 30; Signs of the Times, June 21, 1843, p. 123; Dec. 5, 1843, pp. 133-136.

2 Midnight Cry, Feb. 22, 1844, pp. 243, 244.

3 Midnight Cry, Mar. 21, 1844, p. 284; Apr. 4, 1844, p. 297; Apr. 25, 1844, p. 325; Advent Herald, Mar. 27, 1844, pp. 60, 61; Apr. 3, 1844, pp. 68, 69; Apr. 24, 1844, pp. 92, 93.

4 Signs of the Times, June 21, 1843, p. 123.

5 J.V.H.[imes], Midnight Cry, Apr. 4, 1844, p. 297.

6 Midnight Cry, Apr. 25, 1844, p. 325.

7 Poznañski, Samuel, "Karaite Literary Opponents of Saadia Gaon," Jewish Quarterly Review, London, 1908, Vol. X, pp. 22-41; "Ben Meir and the Origin of the Jewish Calendar," Jewish Quarterly Review, Oct., 1897; Hastings, "Encyclopedia of Religion and Ethics," (1913 ed.), Vol. III, Art., "Calendar (Jewish)."
Albîrunî, "Chronology of the Ancient Nations," (Tr. by Sachan), London, 1879, pp. 68,69.
Malter, Henry, "Saadia Gaon, His Life and Works;" Philadelphia, 1921, pp. 72, 81.

8 Jahn, "Biblical Archaeology," (Tr. by Upham), Andover, 1823, pp. 22,112; Michaelis, J.D., "Commentatio de Mensibus Hebraeorum," (Trans. by Bower), in Horne's "Introduction," Philadelphia, 1841, Vol. II, Part II, Ch. VII, p. 74, note; Buhle, J.G., "Economical Calendar of Palestine," (English trans.) in Calment's "Dictionary of the Bible," London, 1830, pp. 700--707; Scaliger, Julius, "De Emandatione Temporum," Lib. II. 107. Francofurti, MCXCIII.

9 Midnight Cry, Apr. 25, 1844, p. 325.

10 See further in Sec. VII, for Karaites.

VII. Karaite Reckoning Espoused. Running practically all through the two leading journals of the Millerite movement--the Signs of the Times (changed on Feb. 14, 1844, to Advent Herald) and the Midnight Cry--there is repeatedly stressed this time distinction between the Rabbanite and the Karaite reckoning for the true Jewish year--the Rabbanite spring festival being in March; the Karaite usually a month later, in April.[1] The Karaite calendar is deliberately adopted by the Millerite leaders, as it is based upon the conforms to the Biblical demand of a "barley-harvest new moon" for the first Jewish month, Nisan, and its Passover. The following extract is from a long editorial statement appearing both in the Advent Herald and the Midnight Cry, makes this apparent:

"That the Caraite Jews are correct, is plain from the 23d of Lev., which requires that the barley shall be ripe at the passover, on the fourteenth day of the first month, and which, at Jerusalem, is one whole moon later than the Rabbins keep the passover; and who pay no attention to this requirement of God. . . .It will thus be seen that the true Jewish year extends to the New Moon in April. Those who would pursue this farther, are referred to No. 16, Vol. 6, [Signs, Dec. 5, 1843] of this paper, where the structure of the Jewish year is more fully shown."[2]

This involved harmonizing the lunar months with the solar year, which accumulated over a month's difference every three years or so, and therefore necessitated the introduction of an additional moon, known as the intercalary month Ve-Adar (second Adar), between Adar, the last month of the Jewish sacred

year, and Nisan, the first or Passover month. From this point of time--the true first month,--the autumnal festivals of the seventh month are located.[3]

After the Roman dispersion of the Jews from Palestine, the Rabbins, in order to secure uniformity, changed the reckoning of their sacred year in the time of Hillel, about 360 A.D.--or 360 C.E. (Christian Era), as the Jews ordinarily tabulate it--from its natural, divinely commanded form from of old--regulated by the barley harvest and the observation of the new moon--to an artificial, astronomical form, influenced by the Roman ecclesiastical calendar, beginning their new year with the new moon on or nearest the vernal equinox.[4]

The Jews were forbidden by Rome to announce their festival days, and Christians who observed Easter on the 14th day, were guilty of "the 14th day heresy."[5] Following the Council of Nicea, ecclesiastical Rome began to assume the power to proclaim an Easter Sunday to follow as the next day after the ancient Jewish passover of the 14th day, which the church arbitrarily set to be the first full moon after the vernal equinox.[6] The subsequent calendrical reckonings of the Rabbinical Jews differ, therefore, from those prior to the fourth century. So, following the time of Hillel, the first month Nisan was wholly separated from the barley harvest factor, usually coming a month earlier than the Scriptural requirement, as later revived by the protesting Karaites.[7]

The Rabbanite calendar is therefore rejected by the Millerites as neither Biblical nor astronomically accurate as pertains to the new year, the passover, and the Day of Atonement.[8] The accounts of travelers confirmed the position of the Karaites. The evidence found in Buhle's old "Economical [or Agricultural] Calendar of Palestine" was one of the determining factors, together with Calman's then recent observations.[9] Parallel listings of both calculations of the "movable" Atonement feast ultimately appear in the Midnight Cry, tabulating September 23 for the Rabbanite date, and October 22 for the Karaite date, in the year 1844.[10] Even after the disappointment, adherence to the Karaite position on the reckoning of the year is still maintained. See Exhibit D.

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1 Midnight Cry, Apr. 27, 1843, p. 30.
2 Advent Herald, Mar. 20, 1844, pp. 52, 53; reprinted in Midnight Cry, Mar. 28, 1844.
3 Albîrûnî, "Chronology," pp. 62, 63.
4 Midnight Cry, Mar. 28, 1844, p. 289; Oct. 11, 1844, p. 117; Scaliger, "De Emendatione Temporum," pp. 108, 194; Horne, T.H., "Introduction to the Critical Study and Knowledge of the Holy Scriptures," Phila., 1841, Vol. II, p. 74.
Sidersky, David, "Astronomical Origin of Jewish Chronology," in Mémoires présentés par divers savants à L'Académie des Inscriptions et belles-lettres de l'Institut de France," Vol. XII, part 2, ch. II and III, secs. 21 and 22, pp. 623-626, Paris, 1913.
5 Scaliger, Joseph, "De Emendatione Temporum," lib. ii. 105; Eusebius, "Ecclesiastical History," Bk. V, chs. XXIII, XXIV, pp. 222, 223 (1847 London ed.); Graetz, Heinrich, "History of the Jews," (Tr. by Vogue and Bloch), Paris, 1888. Vol. III, p. 207.
6 Clavius, Christopher, "Romani Calendari A Gregorio XIII P.M. Restituti Explicatio," Tom. V, Moguntiae, MDCXII, Caput. III. 54.
7 Jahn, "Biblical Archaeology," pp. 22, 112.
8 Advent Herald, Mar. 20, 1844, pp. 52, 53.
9 Buhle, J.G. (Eng. trans.) in Calmet's "Dictionary of the Bible," London, 1830, pp. 700-707; Calman, E.S., American Biblical Expository, New York, April, 1840, pp. 399-415.
10 Advent Herald, Sept. 25, 1844, p. 60, with editorial card.

VIII. Crucifixion Date Shifted. After the spring disappointment, at the passing of the "Jewish year 1843" (in April, 1844), the "Jewish year 1844," instead of the former, becomes, in Adventist terminology, the corrected and accepted terminal point for the 2300 years, as witness the Midnight Cry:

"The Jewish year which synchronizes the nearest with A.D. 1843 must be a year, the greater part of which is contained within that year. This, therefore, must be the civil year commencing in October, 1842, and the ecclesiastical year ending April, 1844, nine months of each being included in A.D. 1843. The new moon in April being passed, we are consequently beyond 1843, not only Gentile, but Jewish, civil and ecclesiastical time, and are now in the year 1844, according to our chronology."[1]

The accuracy of this contention is attested by {Lopez' contemporary Jewish "Lunar Calendar."[2]

There then occurs a correspondingly necessary and logical shift of the ending of the 70 weeks from 33 over to 34 A.D.--which is in fact the true terminus.[3] This change was effected by shifting the crucifixion date either back a couple of years or forward to 34, as some were prone to do, on the authority of another

group of chronologists, while Ferguson[4] and the 33 A.D. authorities were abandoned because of their obvious error.[5] Two excerpts must suffice, but these clearly show that the abandonment of the 33 crucifixion date was occasioned by following the Karaite calendar position to its logical conclusion, which disannulled the 33 A.D. Friday passover, as will be discussed in Section IX, which follows. The first citation appeared in April, 1844, the second back in December, 1843:

"A correspondent wishes for an explanation of a statement. . .on the calculation of Ferguson in determining the date of the death of Christ. The statement is this--'Before the defect in Ferguson's calculation was discovered, the year 33 was considered the true date. It is now otherwise.' The writer asks, 'What is that mistake?' It is this: His calculation supposes that the Jews fixed their passover at the time of Christ's death, by the astronomical process now in use among the Jews. As this was not then in use, the basis of Ferguson's calculation is wanting, and of course it is defective." [6]

"It will be seen, therefore, if the Caraite Jews are correct (and the Mosaic law settles the question that the Passover cannot be observed till the barley harvest is ripe), that an astronomical calculation of the day of the week on which the first full moon after the vernal equinox in A.D. 33., would fall, cannot prove the day of the week on which the true Passover would be observed that year, and consequently cannot prove the year of the crucifixion. We said it could not prove the day of the week on which the true Passover would be observed: if the first full moon after the vernal equinox in 33 came on Friday, the next full moon would be 29 1/2 days later. But as the Jews reckoned from the first appearance of the moon, which is seen sometimes 29 and sometimes not till 30 [days] after the appearance of the previous moon, we should have no means of knowing whether the 14th day from its appearance would be on Saturday, 29 days from the 14th of the previous moon, or on Sunday, 30 days from the same period. If, therefore, the Caraite Jews are correct, while the calculations of Ferguson as to the day of the week on which would fall the first full moon after the vernal equinox, are perfectly correct, they give us no certain clue to the day of the week on which the true Passover came, and consequently cannot determine the year of the crucifixion." [7]

Contenders for this position held the crucifixion as still marking the end of the 70th week. Others, and evidently the majority, began to favor a 31 A.D. crucifixion date, placing the cross in the "midst" of the 70th week,[8] and cite Eusebius as a witness to the 31 date.[9] Still others in this transition period, not clear on the "midst"[10]--whether denoting the precise middle or a more elastic term--assumed the 34 A.D. terminus for the 70th week, independent of the time in the 70th week in which the crucifixion took place.[11] In any event, 34 was now the terminus of the 70th week, harmonizing with the grand terminus in 1844.

See Exhibit A.

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1 Midnight Cry, Apr. 25, 1844, p. 325.
2 Lopez, Moses, "A Lunar Calendar of the Festivals . . . Observed by the Israelites Commencing Anno Mundi 5566 and Ending in 5619," (1805 to 1859.) Newport, 1806.
3 Midnight Cry, Apr. 13, 1843, p. 15; June 27, 1844, p. 398; Signs of the Times, June 21, 1843, p. 123; Dec. 5, 1843, p. 136.
4 Ferguson, James, "Works of. . .Astronomy" (Trans. by Brewster), Vol. I, pp. 334-337, Edinburgh, 1823.
5 Signs of the Times, Dec. 5, 1843, p. 134; Midnight Cry, Feb. 22, 1844, pp. 243, 244; Apr. 11, 1844, p. 310; Advent Herald, March 20, 1844, pp. 52, 53; Mar. 27, 1844, pp. 60, 61; Apr. 10, 1844, p. 77.
6 Midnight Cry, Apr. 11, 1844, p. 310.
7 Signs of the Times, Dec. 5, 1843, p. 134.
8 Signs of the Times, Dec. 20, 1843, p. 148.
9 Idem; Eusebius, Pamphilus, "Ecclesiastical History," (Tr. by Cruse). London, 1847, Bk.VII, ch. xxxii, pp. 322,323.
10 Signs of the Times, Dec. 5, 1843, p. 131; Dec. 20, 1843, p. 148.
11 Midnight Cry, Feb. 22, 1844, pp. 243, 244.

IX. Seventh Month Movement. Beginning first in an article written February 16, 1843,[1] and continuing progressively throughout 1844, Samuel S. Snow stresses the autumnal Jewish seventh month, Tisri, as the true ending of the prophetic 2300-year span, dated from the seventh month of B.C. 457. In May, 1844, Snow writes:

"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 glorious 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."[2]

This position reaches its final printed form in the True Midnight Cry of August 22, 1844, first published at Haverhill, Mass., after the epochal Exeter campmeeting.[3] Snow's argument is built upon the Karaite true-reckoning for the sacred year--embracing both the 10th day of the 7th month ending, and a 31 A.D.

spring crucifixion. Regarding the right year (1844) as now settled upon the basis of the outline prophecy periods, he sets forth the specific day of the expected advent as October 22, in this true year, on the basis of the 10th day of the 7th month atonement type.[4] He definitely shifts the date of the cross from the end of the 70th week, in 34 A.D., as still held by some, back to the specified "midst" of the 70th week in the spring of 31 A.D.[5] For this he cites William Hales as his chief chronological authority,[6] along with the contrasting testimony of the Rabbanite and Karaite calendars--the Rabbanites affirming 33 A.D., and the Karaites declaring for 31 A.D., as the only Friday passover falling within the circle of years embracing Christ's public ministry.[7]

Support for Snow's position grew slowly but steadily.[8] Thus the second and third of the three great structural dates of the 2300-year span come to be correctly determined and consistently maintained by all participating in the seventh month movement--until after the disappointment on October 22. See Exhibit A (5).

The writings of the Christian Jewish scholar, Joseph Samuel C.F. Frey, exerted a marked influence upon Snow and his associates in fixing upon October 22, 1844, as the precise 10th day of the 7th month fulfilment of the atonement autumnal type, in parallel to the death of Christ as our great antitypical Passover Lamb, accomplished historically on the exact year, month, day, and even hour specified in prophecy.[9] Writing on Oct. 14, 1844, just before the disappointment, Himes states in the Advent Herald that he had had inserted, in several daily papers in Boston, an explanation of the Adventist expectation concerning October 22, in which these words appear:

"As the types of the Jewish law, the Passover, the waving of the sheaf of first fruits, and the Pentecost have been honored by the greatest events of the Christian dispensation, viz.: the death of Christ, 'our passover,' his resurrection, and the bestowment of the gifts of the Holy Ghost, this led us to the belief that as the work to be done by our Lord at his second coming, is typified by the transactions of another great typical institution of the same law, the national atonement, or cleansing of the people 'from all their sins before the Lord,' on the 10th day of the 7th month--he will then appear for the salvation of his people."[10]

It was the exactness of this Passover fulfilment that had won Frey to Christianity,[11] as he calculated the crucifixion year on the basis of the 70-week prophecy and year-day principle, and the month and day on the basis of the stipulated 14th day of the 1st month for the sacrifice of the typical passover.[12] This gave force to Snow's paralleling contention regarding the atonement day which had been previously intimated by Miller.

A scientific demonstration of the soundness and the certainty of the 31 A.D. spring crucifixion, prepared by Miss Grace Amadon, appears as Part V of this Report. This has been made available especially for those equipped with sufficient astronomical background to follow and evaluate the full evidence involved in the conclusions reached, which evidence has been checked by Mr. Glen Draper, of the United States Naval Observatory, and other experts.

Concerning the seventh month movement, Mrs. E.G. White makes this sweeping declaration:

"Of all the great religious movements since the days of the apostles, none have been more free from human imperfection and the wiles of Satan than was that of the autumn of 1844. Even now, after the lapse of many years, all who shared in that movement and have stood firm upon the platform of truth, still feel the influence of that blessed work, and bear witness that it was of God."[13]

It should be added, parenthetically, that these Adventist writers in 1844 were sedulous students of the scholars who had gone before them. They had mastered their writings, and constantly allude to and quote from them. Large volumes had been written, such as Faber, just on the 70 weeks alone,[14] and ponderous sets devoted much space to the discussion of Old and New Testament chronology, involving the 7th year of Artaxerxes, the year of the crucifixion, et cetera.[15] The thoroughness of the Millerite writers' acquaintance with the best authorities of the past was truly noteworthy, and deserves our admiration. They were familiar with and pressed upon such citations as this:

"There is no number in the Bible whose genuineness is better ascertained than that of the 2300 days. It is found in all the printed Hebrew editions, in all the MSS. of Kennicott and De Rossi's collations, and in all the ancient Versions, except the Vatican copy of the Septuagint, which reads 2400, followed by Symmachus; and some copies noticed by Jerom, 2200; both evidently literal errors in excess and defect, which compensate each other, and confirm the mean, 2300."[16]

As a related part of the 7th month movement position, Snow, Storrs, and Litch adjust the beginning of the 1335-year period from 508 to 509 A.D., in order to bring its close into harmony with the now generally accepted ending of the 2300 years in 1844, which is recognized as the grand, synchronous ending of all these interrelated prophetic periods.[17] See Exhibit A (4 & 5). This adjustment to 509 is specifically accepted as an integral part of the general 7th month movement position, and appears in all the leading papers,[18] the Advent Herald and Midnight Cry, for instance, stating, editorially:

"We refer the reader to Bro. Snow's argument. One thing, however, is evident; all those periods must terminate together, none of them are yet terminated, and the longer periods we should expect, would point to the termination of the shorter ones. We are therefore fully justified in expecting [in] the present Autumn the termination of all the prophetic periods."[19]

"The twenty-three hundred years of Daniel must very soon expire--the thirteen hundred five and thirty years will end at the same time, and Daniel will stand in his lot."[19]

The famous and effective 1843 cloth chart, and the various other antecedent charts published in the advent papers--which incorporated the 2520 years (7 times), the 2300 years, and the 1335 years, with their respective beginning dates, as all terminating in the "year 1843,"--were not used in the relatively brief great 7th month movement, as they were made before the correction and shift from the 1843 to the 1844 terminal as the end-date of all the outline periods involved.

Now, on August 22, 1844, Snow published this remarkable statement in the very heart of his True Midnight Cry, the document which really gave form and impetus to the 7th month movement:

"This event [the crucifixion] took place, according to Doctor Hales, one of the ablest and best chronologers, in the spring of A.D. 31. Ferguson has placed it in A.D. 33; but in order to prove it he assumes the Rabbinical mode of reckoning the year, which is not correct. They commence the year with the new moon in March; but the Caraites with the new moon in April.--The word Caraite signifies 'one perfect in the law.' These accuse the Rabbins of having departed from the law, and conformed to the customs of the heathen; and the charge is just, as they regulate their year by the vernal equinox, in imitation of the Romans; whereas the law says nothing of the vernal equinox; but required, on the 16th day of the first month, the offering of the first fruits of the barley harvest. But if the year be commenced according to the Rabbins with the new moon in March, the barley harvest could not possibly be ripe in 16 days from that time. The Caraites are therefore undoubtedly correct. Now our Lord was crucified on the day of the Passover, as is evident from John xviii.28. It was likewise the day before the Sabbath, as is

18:28

proved by John xix. 31. According to the Rabbinical reckoning, the Passover occurred on the day before the Sabbath in A.D. 33, and not for several years before or after. But according to the Caraite reckoning, the Passover occurred on that day in A.D. 31. Therefore, that was the year of the crucifixion. The covenant was confirmed half a week by Christ, and the other half by his apostles."[20]

In order to grasp the significance of Snow's strong and really revolutionary stand on a 31 A.D. crucifixion as a Karaite reckoning, it is necessary first to take a retrospective glance. After the passing of Miller's "year 1843," about the time of the spring equinox in 1844, this significant statement, among others, appeared during the discussion:

"For if the Jews commenced their years in the time of our Saviour, in accordance with their present calendar, Ferguson's calculation, which is based upon it, would prove the crucifixion to have been on the 3rd of April, A.D. 33: but if it was not then in use, it does not demonstrate that the crucifixion was in that year. On this point the whole question of 33 turns."[21]

The vital point of the argument in this quotation lies in the difference, which was even then becoming increasingly apparent, between the erroneous basis of Ferguson's conclusions concerning 33 as the death-year of Christ, and the only true basis of calculation which could be applied to the first century. This difference turns, in the ultimate, upon the complex stipulations of the modern Jewish calendar. From the united testimony of authorities on this question, three principal contrasts are to be noted between it and the Hebrew regulations operative in the time of Christ. These are:

1. The computed Rabbinical Jewish calendar of the 4th century onward, does not observe its New-Moon festivals on a Sunday, Wednesday, or Friday, or its Pascha on a Monday, Wednesday, or Friday. These "illicit days" are exempted according to the rules adu and badu.[22]

2. Since the time of its fixation, in the 4th century, the Rabbinical Jewish calendar has ignored the Mosaic law of the barley sheaf connected with the passover, and has a Nisan which begins principally in March, the Pascha always taking place at the time of the first full moon after the vernal equinox, before the harvest is ripe in Judea.[23]

3. The modern Jewish Passover, as Nisan 15, coincides with the full moon unless a day illicita interferes, which advances the feast one day.[24] The ancient command of "Passover on the 14th" is no longer observed. Nisan 15, as the day of the full moon, obliterates the divinely appointed astronomical interval between conjunction and the first day of Nisan.[25] (This latter feature will be more fully discussed in Part V, which see.)

Because these pronounced features of the Rabbanite calendar had, from the 9th century onward, been strenuously opposed by the Karaite scholars, the argument pertaining to the date of the crucifixion began ultimately to center around these three lines of difference, and were designated by the Adventists in the 7th month movement as contrasting Rabbanite and Karaite positions for a Friday passover during the ministry of Christ. And down through the centuries, this has indeed been the index finger to the problem. Consequently, from the viewpoint of calendar science, from the evidence of the moon's behavior in her relation to the earth, from the harmonizing of the solar and lunar equations governing the Hebrew year--which, by the command of God, was to conform both to the sun and also to the moon--and from the demands of the prophecies of Daniel as well as of history, as pertaining to the ministry of Christ, the thought of these 1844 students of prophecy was focused upon the year 31 A.D. as the only possible alternative for the previously-held 33 A.D. passion of Christ.

The year 30 was rejected, obviously, for the reason that it cuts short the working period of Christ by one passover, and because it does not fit the specifications of the prophetic "midst" of the week. (The question of the four passovers will likewise be discussed in Part V.) So, on the foundation of the Mosaic teaching, the 7th month leaders concluded that--

1. The Passover-Nisan is an April Nisan, when the "rain is over and gone;"
2. The barley ears must be ripe by the middle of Nisan, or about the 14th day; and,
3. The Passover festival can come on any day of the week, there being no days

illicita.

Ferguson's choice of the year 33, with April 3 as a Friday passover, was consequently rejected as Rabbanite in character, because occurring on the first full moon after the equinox, before the barley could possibly be ready for the festival offering. And if Ferguson's crucifixion-"Friday," as of April 3,[26]--though actually the day of a full moon, with her phasis on the eastern horizon at sunset--were placed in its proper relation to the 14th day of Nisan, the day on which the lambs were slain, that Friday, according to the testimony of the early Jewish writers in and before the time of Christ, was Nisan 13, the day before the regular passover of the Jews, and could not have been the day on which Jesus was crucified.[27]

Of this fact, the Karaites give evidence from computations which have crept into their modern system of calculation.[28] Calendar science also confirms this ancient rule relative to the Jewish passover, for if the full moons were placed on Nisan 14, then there would be some first days of Nisan in the interval which would actually precede the phasis, or first appearance, of the new moon.[29] According to Hales, "the true Paschal full moon was the day before,--Thursday,--when Christ celebrated the Passover with his disciples."[30]

The 7th month movement leaders were thus left with the year 31 A.D. as the Karaite year for a "Friday" passover, because of its relation to the ripening barley in April. That crucifixion April full moon occurred after sunset, near the end of the calendar day, on April 25, 31 A.D., or according to the astronomical "Julian day number," 1732195.[31] Another Jewish day had begun, and it was Thursday. At sunset of this day, the full moon, low on the eastern sky, faced the setting sun in the west--a sign that the evening of the passover had come. We have a testimony concerning this very position of the moon and sun, handed down to us since the days of Ptolemy Philadelphus, and included in a fragment from the "Canon Paschalis" of the learned Anatolius, bishop of Laodicea in the third century, A.D.

The authority quoted is Aristobulos, Eusebius passing on to posterity his remarkable statement:

> "'Aristobulos,' it is there said, 'maintained that at the paschal festival the sun as well as the moon must necessarily have passed the equinoctial point; that the day of the paschal festival began on the 14th of Nisan after the evening, when the moon stands diametrically opposed to the sun, as any one can see at the time of full moon. The sun then stands in the sign of the vernal equinox.'"[32]

The Karaites understood this ancient rule for the Pascha. And on this basis, and from the fact that they undeviatingly taught that the feast should always come in the time of the ripening barley, their name was used by Snow and his associates as authority for a Friday passover in the year 31.

In order to grasp this group of facts, it must be borne in mind that the persecution of the Rabbinical Jews in the fourth century brought great confusion to that group in regard to their festival days, which they were not allowed to announce.[33] And when finally, of necessity, they thereupon developed a computed system, it was molded under the distinct influence of the councils of the Catholic Church, who dictated the position of the 14th day of Nisan to be that of the first full moon after the spring equinox, as from this point the church regulated her own Easter feast.[34]

These facts in Jewish history were well known to Joseph Scaliger,[35] and also to Sir Isaac Newton,[36] whom the Millerite leaders had studied. But both of these chronologers erred in allowing five passovers to the years of Christ's ministry. Consequently their testimony, along with that of Ferguson concerning the day of the crucifixion, was deliberately and understandingly set aside by the men of the 7th month movement in locating the cross in the midst of Daniel's prophetic 70th week.

Never should it be forgotten in this connection, that, reaching clear back to the times of pagan Rome, the emperor, as Pontifex Maximus, ever claimed and exercised the power of control over the calendar.[37] And when we reach the period of the professed Christian Roman Emperors, beginning with Constantine, we observe the same control exercised in fixing the Christian festivals, particularly as regards Easter.[38] Constantine, presiding over and controlling the Council of Nicea in

325, there regulated and fixed--under the influence and at the behest of the Catholic bishops--the Easter feast to occur on the first "Lord's Day" following the first full moon, either on or after the vernal equinox, based upon the "Cycle of the Golden Numbers" (the 19-year cycle), as commanded by the Council of Nicea.[39] This was made obligatory by Roman civil law.[40]

This politico-ecclesiastical decision profoundly influenced the attitude of the Jews, and forced the fixation of their sacred calendar, particularly as regards the time of their passover, contrary to the express command of Jehovah.[41] The developing Catholic Church sought, in this way, to settle the 4th century controversy created by the "moon question" in relation to the passover. But Clavius plainly declares that both the day and date of the appointed "paschal rite" of the church is not the "true way."[42] These two factors--Christian and Jewish--consequently constitute the erroneous basis upon which many noted scholars have calculated a 33 A.D. crucifixion date. 33 A.D. is thus both the distinctively Catholic crucifixion date, and the much-sought Rabbinical Jewish Friday-passover that would coincide with a year in Christ's ministry.

Furthermore, the title and office of Pontifex Maximus, laid aside by the Roman emperors, was assumed by the Bishop of Rome. And the power to regulate the calendar persisted throughout the period of papal supremacy, as witness Gregory XIII and his famous "Gregorian calendar" reform, with its ten-day adjustment, effected through aid of the great scholars, Scaliger, Calvius, and Lillius. This did not affect, however, the consecutive serial days of the week ending with the Sabbath, which have continued undeviatingly through the centuries--Friday, October 15, 1582, taking the place of Friday, October 5, of the same year.[43]

Thus we see that the Little Horn's subtle manipulation of the "times and laws" of God, outlined in Daniel 7, extends out beyond the flagrant Sabbath aspect, to effect universally accepted ecclesiastical calendar changes, both Christian and Jewish, which in turn had to be discarded by the Millerite leaders before they could reach a true conclusion as to the 31 spring crucifixion in the midst of the

70th week[144]-- thus to establish the certainty of the 1844 autumnal terminus of the 2300 years.

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1 Midnight Cry, February 22, 1844, p. 243, 244; Advent Herald, April 3, 1844, p. 69; Midnight Cry, June 27, 1844, p. 397; Advent Herald, Aug. 14, 1844, p. 15; True Midnight Cry, Aug. 22, 1844, Haverhill, Mass., pp. 1-4; Midnight Cry, Oct. 10, 1844, pp. 106, 107.

2 Snow, S.S., Midnight Cry, May 2, 1844, p. 353.

3 Advent Herald, Aug. 21, 1844, p. 20; Midnight Cry, Oct. 31, 1844, p. 140.

4 True Midnight Cry, Aug. 22, 1844.

5 Idem; See also Eusebius, "Proof of the Gospel," Bk. 10, ch. 7, pp. 136, 137, (New York, 1920 ed.).

6 Hales, Wm. (Died 1821. Irish clergyman and scientific author). "New Analysis of Chronology and Geography, History, and Prophecy," London, 1830, Vol. II, p. 518. (Highly commended by Horne and Orme.)

7 True Midnight Cry, Aug. 22, 1844.

8 Midnight Cry, June 27, 1844, p. 398; Advent Herald, Aug. 21, 1844, p. 20.

9 Snow, S.S., True Midnight Cry, Aug. 22, 1844, p. 4; Advent Herald, Oct. 2, 1844, p. 71; Midnight Cry, Oct. 10, 1844, p. 105.

10 Advent Herald, Oct. 30, 1844, p. 94.

11 Frey, Joseph S.C.F., "Judah and Israel," New York, 1840, pp. 8,9.

12 Frey, "Scripture Types," New York, 1841, Vol. I, pp. 93--109; "Joseph and Benjamin . . . the Controversy between Jews and Christians," New York, 1841, Vol. II, pp. 194--199, 254--259.

13 "Great Controversy" (1931 ed.), p. 401.

14 Faber, Geo. S., "Dissertation on the Prophecy Contained in Daniel ix. 24-27, Generally Denominated the Prophecy of the Seventy Weeks," London, 1811.

15 Horne, Prideaux, Usher, etc.

16 Hales, Wm., "New Analysis of Chronology," London, 1830, Vol. II, p. 512.

17 Midnight Cry, Feb. 22, 1844, pp. 243, 244; True Midnight Cry, Aug. 22, 1844, pp. 1-4; Advent Herald, Oct. 16, 1844, p. 86.

18 Midnight Cry, Mar. 21, 1844, p. 284; Sept. 12, 1844, p. 74; Oct. 12, 1844, p. 123; See also Advent Herald, Voice of Truth, etc.

19 Advent Herald, Oct. 16, 1844, p. 86; Midnight Cry, Sept. 12, 1844, p. 74.

20 True Midnight Cry, Aug. 22, 1844, p. 2, first published at Haverhill, Mass., and printed and reprinted in the various Adventist papers.

21 Advent Herald, March 27, 1844, p. 60.

22 Albîrûnî, "Chronology of Ancient Nations," London, 1879 (Trans. by Sachau), pp. 66, 144.

23 Scaliger, J., "De Emendatione Temporum," p. 107.

24 Compare Passover day with date of paschal moon. See any "Nautical Almanac."

25 Albîrûnî, "Chronology," p. 159; "American Jewish Year Book 5678" (for 100 year Calendar), Philadelphia, 1917. See tables for Nisan 15.

26 Ferguson, James, "Astronomy," Vol. I, p. 334, Edinburgh, 1823.

27 Harkaui, A., and Katzenelson, L., "Hebrew Encyclopedia" (Russian), St. Petersburg, Vol. IX, art. "Karaites."

28 Kokisoff, Jufuda, "Karaite Calendar," Odessa, 1880.

29 See Hypothesis I, Table II, in Part V, of this Report for full explanation.

30 Hales, Wm., "A New Analysis of Chronology," London, 1830, Vol. I, p. 100, Note.

31 See Table I, in Part V of this Report; "American Ephemeris and Nautical Almanac for the Year 1939," Washington, D.C., 1937, p. 808.

32 Caspari, C. E., "A Chronological and Geographical Introduction to the Life of Christ," (Trans. by Evans), Edinburgh, 1876, p. 8; Eusebius Pamphilus, "Ecclesiastical History" (Trans. by Crusé), London, 1847, Bk. VII, Ch. XXXII, pp. 322, 323.

33 Graetz, Heinrich, "History of the Jews" (Trans. by Wogue and Bloch), Paris, 1888, Vol. III, p. 207.

34 Clavius, Christopher, "Explanation of the Restored Roman Calendar," Moguntiae, 1612, ch. 3.

35 Scaliger, "De Emendatione Temporum," p. 106.

36 Newton, Sir Isaac, "Observations on Daniel and the Apocalypse," London, 1733, pp. 85-162. Note: From the discussion of Newton in reference to the prophecies, the year of Christ's ministry, and the luni-solar year of the Jews, it is evident that he closely followed Scaliger in his conclusions.

37 Peck, H.T., "Dictionary of Classical Literature and Antiquities," art., "Pontifex," p. 1300, New York, 1896; Lamont, Roscoe, "The Roman Calendar and Its Reformation by Julius Caesar," Washington, D.C., 1919, p. 6.

38 Clavius, "Explanation of Restored Roman Calendar," pp. 54-56.

39 Idem., p. 56; Lamont, "Roman Calendar," pp. 6-8, where Bull, dated "Tusculum, 1581" appears.

40 Justinian, "Corpus Juris Civilis" (Trans. by Scott), Cincinnati, 1932, Vol. 12, bk. I, Tit. I, secs. 2, 4 (3); Title xii, sec. 7; Vol. XVII, "New Constitution 131," ch. IV.

41 Sidersky, David, "Astronomical Origin of the Jewish Chronology," part 2, ch. IV, sec. 45, in "Mémoires . . . de à l'Académie . . . de France," Paris, 1913; Scaliger, "De Emendatione Temporum," pp. 105, 106.

42 Clavius, "Explanation," p. 56.

43 Lamont, "Roman Calendar," p. 8.

44 Sidersky, "Jewish Chronology," ch. III, sec. 30, p. 634, and 80-year Table of First Century on p. 628.

X. Entry Upon Tarrying Time. After passing the April, 1844, ending of the "Jewish year 1843," as the formerly understood terminus of the 2300-year span, on the basis of the Karaite reckoning, and pending the promulgation and general acceptance of the 7th month movement position, a marked settling down into a waiting attitude characterizes nearly all of the Millerite leaders and papers, based upon expressions in Habakkuk 2:3 and Matthew 25, on the "tarrying time," during which period there is little activity.[1] Leaders are slow about accepting the 7th month position, resting back upon this "tarrying time" phrase of the parable.

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1 Midnight Cry, Mar. 21, 1844, p. 280; Advent Herald, Apr. 24, 1844, pp. 92, 93; May 1, 1844, p. 97; Midnight Cry, June 6, 1844, p. 373; Advent Herald, July 17, 1844, p. 188; Aug. 14, 1844, p. 14; Aug. 21, 1844, p. 21; Midnight Cry, Oct. 3, 1844, p. 101; Signs of the Times, Aug. 6, 1843, p. 180.

XI. Movement Becomes All-Absorbing. From August, 1844, onward, the "tenth day of the 7th month movement," or "true midnight cry," steadily gains momentum and place among Adventist preachers and papers. In September and early October, the Snow True Midnight Cry article of August 22 is printed and reprinted both separately and in practically all Adventist journals.[1] Giving the "cry" becomes the all-absorbing burden, as all other aspects and corollaries pale into insignificance.[2]

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[1] Midnight Cry, Oct. 3, 10, 1844, etc; Advent Herald, Oct. 2, 9, 16, 1844, etc.
[2] Midnight Cry, Sept. 26, 1844, p. 96.

XII. Pioneers Capitulate Tardily. The most prominent Millerite leaders are the last to take their stand for the October 22 date. Miller finally capitulates on October 6, still holding, however, to his former "1843" terminus at the equinox in March, but making the applied "tarrying time," of Habakkuk 2:13 and Matthew 25, extend to October 22, as the expected day of the advent on the basis of the types. Miller is almost alone in failing to change from 1843 to 1844 for the terminal date of the 2300 and 1335 year periods, and in correcting the crucifixion date from 33 to 31 in the "midst" of the 70th week.

It should be clearly understood that the 7th month movement, so far as the general emphasis and support of the specific day, October 22, is concerned, was confined to a few weeks prior thereto.[1] The leaders, and the leading papers which voiced their attitude, were still markedly conservative, even when they began to espouse the Snow position, at first using such expressions as "about October 22 or 23," or "coincides nearly with October 22."[2]

Only Snow and those accepting his position are, from August onward, positive in conviction, and specific and aggressive as to specifying the day. The majority are hesitant. It is ultimately the gripping consciousness of actually living within the fateful seventh month, with its attendant experiences, that brings the great hose of Adventist preachers and people to final acceptance and intensive support of the October 22 date.[3]

[1] Midnight Cry, June 27, 1844, p. 397; Advent Herald, Sept. 11, 1844, pp. 45, 47; Sept. 18, 1844, p. 52; Midnight Cry, Oct. 10, 1844, p. 108; Oct. 12, 1844, pp. 122-127.
[2] Midnight Cry, Oct. 3, 1844, pp. 98, 102; Oct. 19, 1844, p. 133.
[3] Advent Herald, Oct. 30, 1844, p. 93; Midnight Cry, Oct. 31, 1844, pp. 140, 141.

XII. Basis of Precise Calculation. Following the Biblically and astronomically sound original Karaite reckoning for the true Jewish sacred year, the Adventist leaders fix upon October 22 as the true 10th day of the true 7th month by applying this direct and simple formula: As the true "first month" began with the appearance of the new moon in April, 1844, so the true "seventh month" in that year must begin with the appearance of the corresponding new moon after its change on the evening of October 11, the new moon becoming visible on the 13th, as every current calendar informed them. Therefore, they declared, the 10th day of the 7th month would fall upon October 22, New England-time reckoning.[1] See Exhibit E. Here is a typical statement:

"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 October 22. 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]

The time calculations for the specific day were complicated by the fact that not only does the Jewish sacred year differ from our Gregorian year--running from April to April, instead of from January to January--but the Jewish or Biblical day is from sunset to sunset, instead of our arbitrary civil reckoning from midnight to midnight. All calculations must therefore accord with Biblical reckoning, and then be translated into our present Gregorian calendar, civil-time reckoning.

See!

It is also desirable to remember that the Jewish day takes the number or dating of the civil day with which it corresponds for the greatest number of hours; and in modern times from the astronomical point of view, it is the coincident day in which the sun crosses the meridian at midday.[3]

This Millerite conclusion is reached with remarkable cogency, soundness, and exactness. Three consecutive civil days stand out in indissoluble connection in their process of reckoning: First, October 11, with its change of the moon, or conjunction, in the evening; next, October 12, with its first appearance of the new moon crescent in New England; and third, October 13, as the first day of Tisri, the true first day of the seventh month of the sacred year. See Exhibits F and H.

October 11 the Millerite leaders got from the astronomical dating of the common, local almanacs--such as the American, Farmer's, Great Western, New Troy,[4] etc.--and the moon's position in relation to the earth for the year. October 12 they designated for the appearance of the new moon, on the testimony of Hales, Geminus,[5] and others.[6]

From the very fact that the moon's position was then nearest the earth, that is, in perigee--and the only new moon of the entire year that was in perigee--and her motion therefore the most rapid in her course, they rightly adopted the acknowledged ancient and modern reckoning, allowing one day only for her translation, that is, between conjunction and the first appearance of the new moon in perigee. See Exhibit G. This conclusion was also in accordance with the rules of modern astronomical research as regards the phasis, or first appearance, of an autumnal new moon, which allows about 22 or 23 hours for visibility, whereas the new moon in October, 1844, had nearly 24 hours between conjunction and the first sunset.[7] Hence, the 13th of October (or 1st of Tisri), would necessarily be the day immediately following this sunset observation of the new moon--or October 13, Boston civil time reckoning. Consequently, the 10th day of Tisri could come only on October 22, or in the astronomical nomenclature, Julian day number 2394862.[8]

It should ever be remembered that the interval between the vernal and autumnal conjunctions (which conjunctions determine the passover and atonement feasts), was always a fixed interval--the number of days in the intervening months never changing, as no intercalary months or days ever intruded into this period. From spring conjunction, or moled (Jewish term for "mean conjunction"),[9] to the fall

conjunction, there are always exactly 177 days,[10] and from the passover (Nisan 1) to and including the day of atonement (Tisri 10), 173 days.[11] (Fuller discussion of these fixed periods will appear in Part V.) Thus the principle of calculation was relatively simple, and the likelihood of error greatly reduced.

Because every Jewish or Biblical day, extending from sunset to sunset, includes parts of two civil days, which are counted from midnight to midnight, the Jewish day takes the number or dating of the civil day with which it coincides for the greatest number of hours. In Boston, only 22 hours and 55 minutes elapsed between conjunction on Elul 29 (the last day of the 6th Jewish month, or Oct. 11), and the sunset-beginning of Tisri 1 (the 1st day of the 7th month, or Oct. 13)--thus they are really less than one full 24-hour day apart, although dated the 11th and 13th respectively. (A fuller discussion of this, too,--and related features--will appear in Part V.) This seemingly puzzling anomaly becomes simple and understandable through the study of Exhibits H and I. All becomes clear when the inevitable relationship between Jewish and civil time is grasped. It is similar in principle to the "3 days and nights" of Christ's entombment, which was in reality but one full day and parts of two others.

No intricate mathematical or astronomical calculation was necessary, so the Adventist position was easily understood by the common people. Nevertheless, a scholarly mastery of the astronomical and chronological aspects of the question was a conspicuous characteristic of Millerite leadership and literature. It was because of this that their arguments could not be gainsaid by the scholars of the time.

Definite note is taken, in the Midnight Cry of October 3, of the fact that the Rabbanite Jews had already observed September 23 as the 10th day of the 7th month,[13] and that this was doubtless a month too early. In the same journal on October 11, we read:

"The day [of atonement] is observed by the Jews more than any other in the year, though they observe it one month earlier than the true time, as we think it evident from the fact that barley is not ripe in Judea on the 16th day of the first month, as they reckon time; but the law of Moses required a sheaf to be waved before the Lord on that day."[14]

No Adventists looked for the second advent on September 23, the Rabbanite date, because for a year and a half they had all been following the Karaite reckoning for the sacred year--both for the Jewish year 1843, and for 1844--which reckoning placed the first Jewish month in April, and in consequence the seventh month in October--and therefore not in September.

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1 Advent Herald, Sept. 25, 1844, p. 60; Midnight Cry, Oct. 11, 1844, p. 117; Oct. 3, 1844, p. 101; Signs of the Times, Dec. 5, 1843, pp. 134,135; Midnight Cry, Oct. 31, 1844, p. 141; Advent Shield, Jan., 1845, pp. 276-279.

2 Midnight Cry, Editorial, Oct. 11, 1844, p. 117.

3 Schram, Robert, "Kalendareographische und Chronologische Tafeln," Leipsig, 1908, Cf. discussion of Julian day numbers.

4 "American Almanac and Repository of Useful Knowledge for the Year 1844," Boston, published by David H. Williams, 1843; "The Great Western Almanac for 1844," published by Jos. McDowell, (calculations by Charles F. Egelmann), Philadelphia, 1843; "The Farmer's Diary and Western Almanac for the Year 1844," (calculations by Horace Martin), Bath, N.Y., 1843; etc.

5 Gemini, "Elementa Astronomiae" (Trans. by Manitius) Lipiae, 1898, p. 129.

6 Midnight Cry, Oct. 31, 1844, pp. 140, 141.

7 Fotheringham, J.K., Journal of Philology (XXIX) 57, 1903, London, pp. 105, 106; Hevelius, "Selenographia," Gedanum, p. 275.

Important

8 Note: In 1582, at the same time that Gregory XIII was revising the calendar for the centuries ahead, Joseph Justus Scaliger undertook the great task of laying out a calendar for the ages past, extending his system 4713 years before Christ. In this reckoning he gives each day a number, and these are known by astronomers as the "Julian day numbers." In this manner every day for past, present, or future is accounted for. According to this system, the Julian day number for

Oct. 22 = 2394862
Oct. 13 = 2394853

See "American Ephemeris and Nautical Almanac for the year 1939," Washington, D.C., 1937, p. 811.

9 Sidersky, David, "Astronomical Origin of Jewish Chronology," in "Mémoires présentés par divers savants à l'Académie des Inscription et belles-lettres de l'Institut de France," Vol. XII, part 2, Paris, 1913, ch. I, sec. 2, p. 603, note 1.

10 Sidersky, "Astronomical Origin of the Jewish Chronology," in "Mémoires par divers savants," Vol. XII, part 2, p. 607, ch. I, sec. I, Table on Jewish year; ch. I, sec. 8, p. 612, Paris, 1913; Scaliger, "De Emendatione Temporum," p. 85.

11 Woolhouse, W.S.B., art. "Hebrew Calendar," Encyclopedia Brittannica, 11th ed. Note: Inasmuch as the passover came at the time of barley harvest, and the month of March was the month of the latter rain that matured this harvest, it is evident that the month of Nisan began with the first new moon following the vernal equinox. At times it became necessary to introduce an intercalary month in the lunar year to make this possible. The interval, however, from the fourteenth day of the first month (the passover) up to and including the tenth day of the seventh month (the day of atonement), never varied, always being one hundred seventy-three days.

14 day of Passover
10 day of Atonement. 173 Days.

The months of Hesvan, Kisleu, and Tebet sometimes varied as to whether they had twenty-nine or thirty days. Thus the number of days from the day of atonement around through the winter to the passover varied at times as much as thirty-two days. But the interval between the passover and the day of atonement was always constant although about 6 days less than the number of days between the equinoxes. Unless the new moon happened to fall less than 6 days after the vernal equinox, this constant interval would make the first of Tisri come at the time of the first new moon following the autumnal equinox. The arbitrary Rabbinical position of fixing the various festivals according to a perpetual calendar permitted the paschal new moon on certain years to fall before the time of the vernal equinox, and this would bring the new moon for the first of Tisri fully two weeks, at times, before the autumnal equinox. But this is neither the Karaite position, nor is it the true Biblical position.--H.L.W.

12 Computed from tables of German "Jahrbuch" for 1844, pp. 58, 59; French "Connaissance des Temps" (for 1844), pp. 42, 43; "American Ephemeris Nautical Almanac for 1844;" "British Ephemeris;" (Fotheringham, J.K., Journal of Philology (XXIX) 57, 1903, London, pp. 105, 106; Hevelius, "Selenographia," Gedanum, p. 275.)

13 Midnight Cry, Oct. 3, 1844, p. 101.

14 Midnight Cry, Oct. 11, 1844, p. 118.

XIV. Full Ultimate Commitment. The final issues of practically all the leading Adventist papers before the great day of expectation now stress their absolute confidence in the October 22 expectation, and the chronological involvements heretofore specified.[1] The solemnity produced by this consciousness, during the last ten days preceding the crisis hour, is profound in its sobering and energizing effect. The leading Adventist spokesmen said, We are now actually living within the fateful 7th month![2] The Snow and Storrs articles predominate in all Millerite papers, and editorial endorsements give full support. The Midnight Cry, for example, was issued on October 10, 11, 12, and 19--each with either the Snow or Storrs articles, or both. There were then no papers until after the "Day" had passed.

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1 Advent Herald, Oct. 2, 1844, pp. 68, 69; Oct. 9, 1844, pp. 73,76; Oct. 16, 1844, p. 88; 2nd ed., p. 81; Midnight Cry, Oct. 3, 1844, pp. 97,98,104; Oct. 11, 1844, pp. 117-120; Oct. 19, 1844, pp. 133, 136.

2 Midnight Cry, Oct. 19, 1844, p. 133.

LeRoy Edwin Froom

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART III--OCTOBER 22 CRISIS AND AFTERMATH

XV. Conflicting Authorities Blamed. The issues of the Adventist periodicals immediately following the Disappointment of October 22, acknowledge their keen disappointment, assert a mistake in calculation because of the element of human fallibility in the records, and review the advent history up to the time of the Disappointment.[1] They staunchly re-affirm belief in the Karaite basis of reckoning as to the true 7th month,[2] but now begin to stress the necessary allowance of a "few days" leeway and a "little delay" for possible inaccuracy as to the precise day,[3] while censuring as obviously "undependable" the authorities upon which their various calculations had formerly been based, relative to the crucifixion year. See Exhibit J (2). So Himes writes: "We are now satisfied that the authorities on which we based our calculations cannot be depended upon for definite time."[4] And Bliss, seeking to explain the past and to justify their present difficult position, says:

"We must therefore acknowledge that we were either premature in those dates, or that human chronology is not perfectly accurate. In arriving at our chronological conclusions, we have followed those chronologies which have been considered as the most authentic. There is however a disagreement among the several chronologers respecting the dates of the several events from which we have reckoned the prophetic periods; but which is all harmonized within the circle of a few years. Those chronologers which we have followed have placed the date of the respective events at the earliest point within this circle. But as other chronologers have assigned to them a later point of time, we are justly entitled to all the time which is in dispute among them, before our position can in any way be materially affected, or its chronological bearings tested."[5]

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1 Midnight Cry, Oct. 31, 1844, pp. 140, 141; Nov. 7, 1844, p. 150; Dec. 26, 1844, p. 204.

2 Midnight Cry, Oct. 31, 1844, pp. 141, 142; Advent Shield, Jan. 1845, pp. 278,279.

3 Advent Herald, Oct. 30, 1844, p. 93; Midnight Cry, Oct. 31, 1844, p. 141; Nov. 21, 1844, p. 163; Dec. 5, 1844, p. 180.

4 Midnight Cry, Nov. 7, 1844, p. 150.

5 Advent Shield, art., "The Seventh Month Movement," January, 1845, p. 283.

XVI. Two Attitudes and Church Bodies Eventuate. Following shortly upon the great Disappointment, two leading divergent groups of Adventists eventuate: (a) the Sabbathkeeping Adventists and (b) the non-Sabbathkeeping Adventists.

A. The first group--the smaller one--holds to the integrity of the October 22, 1844, focal point, and its inseparable supporting dates for the 2300-year period ending on that day.[1] Finding and following the light on the sanctuary that explained the nature of their mistake, our pioneers--for such these were--held that the three structural dates were sound and immovable, but that the sanctuary which had then begun to be cleansed was the heavenly sanctuary, and this through Christ's entry upon the final judgment phase of His High-Priestly ministry. Such is the early record of Ellen Harmon in 1846;[2] Joseph Bates in 1847 and 1850;[3] David Arnold in 1849;[4] James White in 1850 and 1851;[5] and Hiram Edson in 1851.[6] Two citations must suffice. Elder White, after taking his stand upon the immovable character of the B.C. 457 date, continues thus:

"Jesus caused the 'sacrifice and oblation to cease' in the 'midst' [middle] of the seventieth week by 'nailing it to His cross' in the spring of A.D. 31. To this, add three years and a half, the last half of the seventieth week, and it brings us to the autumn of A.D. 34 for the termination of the seventy weeks [490 years]. Then add 1810 years, the last part of the 2300, which reach to the cleansing of the sanctuary, and it brings us to the autumn of 1844."[7] [Brackets his.]

And declaring the 2300-year period, with its three established dates, to be the "main pillar of the advent faith," Elder White further asserts:

"That the 2300 days commenced B.C. 457, was made clear in 1843, 1844, and has since been settled in the Herald of 1850 and 1851, beyond a doubt. It has been shown that Christ was crucified A.D. 31, in the midst [middle] of the 70th week, therefore the 70 weeks terminated in the autumn of A.D. 34, and the 2300 days consequently terminated in the autumn of 1844."[8] [Brackets his.]

Soon after the Disappointment, our pioneers accepted the inseparable Seventh-day Sabbath truth as God's final test and signet of Reformation, and were vouchsafed the presence of the Spirit of prophecy for their guidance and counsel. Thus they were kept from the fallacy of future time-setting, with its inseparable abandonment of the great structural dates of the basic prophetic outline. These

pioneers became the Seventh-day Adventist heralds of the third angel's message, which was joined to the messages that preceded and prepared the way for it. In the most authoritative writings of our church--the Spirit of prophecy,--Mrs. E.G. White declares explicitly as to the intrinsic soundness of each of these three great structural dates, as set forth in the 7th month movement,[9] and our undeviating adherence as a church thereto has been consistent. See Exhibit J (1). Two citations must suffice:

"The beginning of the seventy weeks is fixed beyond question at B.C. 457, 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 Dan. 8:14 terminate in 1844."[10]

"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 B.C. 457. 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."[11]

B. The other group of Adventists--the majority--declared that the great 2300-year period had not yet expired, as the events they anticipated had obviously not taken place--the second advent, the resurrection of the dead, and the cleansing by fire of this earth as the sanctuary. Rejecting the view that the sanctuary to be cleansed was not the earthly but the heavenly, and with it refusing the 7th-day Sabbath and the Spirit of prophecy counsels, they claimed--logically enough upon such a premise--that the periods had clearly not expired.[12] Contending there had obviously been an error in calculation of the year, many in this group launched out upon a series of time-setting episodes that carried them successively through the remaining years of the forties, into the fifties, and even as far as the sixties and seventies.[13] The following extract is typical of this attitude:

"We are pained at the position which some are taking that the prophetic periods are run out, and that we are now past their fulfillment, or as Prof. Stuart would say, their 'terminus ad quem.' We are fully satisfied that none of the great prophetic periods can terminate until the actual coming of the Lord; and this position is fully sustained by the connection where they respectively occur. . . .

"It is also the same with the 2300 days. This was the length of the vision. The last event in the vision was the breaking of the exceeding great horn without hand. Till that should be accomplished the sanctuary and host must be trodden under foot. The 2300 days were to mark the duration of this treading. Consequently they must extend to the actual coming of the Lord when the 'horn' will be broken without hand, which event will mark their termination; and then the saints will no longer be trodden under foot. . . .

"It therefore follows that all these great periods extend to Christ's coming, and cannot be fulfilled until he shall come. And though, according to our chronology, the time at which we expected their termination has passed by, yet 'at the time appointed the end will be,'--the error being in our computation of time, of which we have before shown, that there is a disputed circle, reaching from 43 to 47, somewhere within which, according to all chronologers, these periods must be fulfilled, reckoning from the events where we have severally dated their commencement."[14]

This group became the non-Sabbathkeeping Adventists. The new times set by many in this group for the close of the 2300-year period, to terminate at the awaited second advent, involved the definite shifting and abandonment of all three of the structural dates that had characterized the great 7th month movement. See Exhibit J (2. to 13). In fact, there was, for the most part, tragic, ultimate abandonment, of all the basic principles of prophetic interpretation.[15] Some of the pre-'44 Adventist leaders did not, however, continue in organic union with this latter group, but maintained approximately the same attitude.

Such were the separating issues between the Sabbatarians, and the non-Sabbatarians, and the contrasting attitudes and positions ensuing.

A. Seventh-day Adventist Position

1 "Early Writings," Washington, D.C. (1925 ed.), p. 243; "Spiritual Gifts," Battle Creek, Mich., 1858, Vol. I, pp. 148, 150; "Great Controversy" (1931 ed.), pp. 326-329; 398-401.

2 Harmon, Ellen, Day-Star, Jan. 24, 1846, (reprinted in broadside, pamphlet, and finally in book form--"Experience and Views," Saratoga Spring, N.Y., 1851, p. 10.)

3 Bates, Joseph, "Waymarks and High Heaps," New Bedford, Mass., 1847, pp. 16, 30, 31, 40, 58, 62, 66; Review and Herald, Dec., 1850, p. 21.

4 Arnold, David, Present Truth, Oswego, N.Y., Dec. 1849, p. 45; Mar., 1850, pp. 59-63.

5 White, James, Present Truth, May, 1850, p. 78; Review and Herald, Dec., 1850, pp. 13, 14; Jan., 1851, p. 27.

6 Edson, Hiram, Review and Herald, March, 1851, p. 50.

7 Present Truth, May, 1850, pp. 77, 78.

8 W[hite], in Review and Herald, Paris, Me., June 9, 1851, p. 100.
9 "Desire of Ages" (1931), p. 233; "Great Controversy," pp. 326-329, 409,410; also White, Jas., "Life of Joseph Bates," Battle Creek, 1878, p. 298.
10 "Great Controversy," p. 328.
11 "Great Controversy," p. 410.

B. Non-Sabbathkeeping Adventist Position

12 Advent Herald, Feb. 19, 1845, p. 12; Miller, Wm., Advent Herald, Feb. 5, 1845, p. 203; May 21, 1845, p. 118; Voice of Truth, July 9, 1845, p. 380; Morning Watch, Jan. 16, 1845, p. 23.
13 See documentation for Section XIX; also Voice of Truth, July 9, 1845, p. 380; Second Advent Watchman, Feb. 4, 1852, p. 3.
14 Editorial, Advent Herald, Feb. 19, 1845, p. 12.
15 See documentation for Section XX.

XVII. Five-Year Disputed "Circle." Snow and others who reject the Sabbath and sanctuary light, at first plead an obvious entry upon a disputed five-year circle representing the long-known disagreements of certain leading chronologists regarding the variously designated years of the crucifixion. The year 1847 was suggested as the ultimate terminal date for the 2300 years, although inclining at first toward 1845.[1] See Exhibit J (2). The Advent Herald plainly declares:

"Guided only by the fulfillment of the seventy weeks, which were evidently intended to seal, or make sure, the vision of the 2300 years, the extreme point to which the shorter period could be extended would be A.D. 37. Supposing Christ to have been cut off in the spring of A.D. 34, in the middle of the week--and there is scarcely an authority of any note which supposes his death should be dated even so late as that--the remainder of the week could extend only to the autumn of A.D. 37, and of course the longer period cannot extend beyond the autumn of A.D. 1847."[2]

It is essential to remember that the quarterly Advent Shield review of the 7th month movement, published in January, 1845, as cited in footnote credit 1, of this Section (XVII), was written after the October disappointment. It was penned in that transition hour when strenuous effort was being made to reconcile the past, present, and future position--clinging to the essential outline, yet actually setting forward within that narrow circle of divergent dates, the time of expectation for the awaited end. Brown, for instance, in the Advent Herald, says:

"Unless every chronologist on earth has been mistaken in his dates for the events which form the bounds in the prophecies, the advent cannot be delayed beyond the fall of 1847; or we have mistaken the bounds, and if so the whole frame-work of prophecy; which is not possible."[3]

Before leaving this Section, it is but fair to add--because of Snow's former prominence in the 7th month movement--that, despite his period of extremism following the great Disappointment, he soon abandoned his brief time-setting tangent, and through the remainder of his life stood firmly for the soundness of the basic 457, 31, and 1844 dates. However, he never accepted the clarifying light on the sanctuary, nor the related Sabbath truth.[4]

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[1] Snow, S.S., Midnight Cry, Dec. 26, 1844, pp. 205, 206; Advent Herald, Nov. 20, 1844, p. 119; Jan. 1, 1845, p. 165; Advent Shield, Jan., 1845, pp. 284,285.
[2] Advent Herald, Nov. 20, 1844, p. 119.
[3] Advent Herald, Jan. 15, 1845, p. 177.
[4] Snow, S.S., "Voice of Elias," New York, 1863, pp. 37-41.

XVIII. Ignorance of Jewish Reckoning Denied. The Advent Herald and the Advent Shield both reply, shortly after the Disappointment, to contemporary charges of alleged Millerite "ignorance" as to the actual time of the Jewish 7th month, and the time of the general or common celebration of the Day of Atonement by the Rabbinical Jews on September 23.[1] The Adventist papers distinguish again between the current, erroneous Rabbanite practice and the Karaite true reckoning, which Biblical position they cite and defend as having often been published and constantly championed after its deliberate adoption. Thus we read:

"Many of the papers have supposed that they were throwing great light on this question when they have published to the world that the Jews observed September, instead of October, as the seventh month; and they speak of it as though we were unacquainted with that fact.

"Now, if they knew anything respecting the question; or if they had read our writings, they would have known that they were stating nothing but what we have already published. No one has even doubted but that the Rabbinical Jews everywhere observed September as the seventh month; and this we have often given in our paper. But we were obliged to dissent from their time, because they have no regard to the requirements of Moses in reference to the barley harvest, when the Passover is to be kept. The Caraite Jews who conform to the strict letter of the law, therefore are obliged to begin their year one month later, so that their seventh month corresponded with our October. And as they comply with the terms of the law, we adopted their reckoning.

"We may, therefore, say that among the mistakes made by the anti-Millerites, not the least singular is the fact that they know nothing of the customs of the Caraite Jews; and never stop to inquire whether the Rabbins conform to the law of Moses, when they decide as to the correctness of their chronology. . . .All who have made themselves merry over this supposed mistake, have only shown to the world their own ignorance respecting it; and every scholar knows that we are correct as to the Caraite seventh month."[2]

In this connection, Josephus is quoted as showing the Day of Atonement to be on the verge of the cold season.[3]

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[1] Advent Herald, Nov. 27, 1844, p. 124; Advent Shield, Jan., 1845, pp. 272, 273, 276-279.
[2] Advent Herald, Nov. 27, 1844, p. 124.
[3] "Antiquities," Book III, Ch. 10, p. 75 (1845 ed.); Advent Herald, Nov. 27, 1844, p. 124.

XIX. Later Crucifixion Dates Adopted. In fixing progressively upon the years 1845, 1846, or 1847, for new endings of the 2300 years, the crucifixion date was again shifted forward by the rejecters of the Sabbath and sanctuary light, as coming between 33 and 36 A.D., but this time cited for the midst of the 70th week.[1] Thus for 1846, a 33 crucifixion was again asserted--but this time as the "midst," rather than the terminus, of the 70th week as originally held by Miller and his associates. This involved B.C. 455 as the revised beginning of the 2300 year-period. And soon a 34 crucifixion was the accompaniment for an 1847 ending. See Exhibit J (2 to 4). The possibility of fulfillment upon the basis of the Jewish civil year (which begins in the autumn), instead of the sacred year (which begins in the spring), was also suggested.[2] Such were the illusive tangents followed by those who rejected the sanctuary and Sabbath truths.

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[1] See Exhibit J for tabulation of individual names and positions. Photostats or originals of all charts and writings cited are in Advent Source Collection.
[2] Advent Herald, Jan. 8, 1845, p. 175.

XX. Time-Setting Proclivity Involvements. Thus began that fatal departure from the old landmarks on the part of those Adventists who repudiated the sanctuary light as explaining the '44 mistake, together with those independents who shared such views and promulgated various times. Time was set forward successively to 1845,[1] 1846,[2] 1847,[3] 1851, and particularly to 1854.[4] Some even looked to the '60's and '70's. See Exhibit J (8 to 13). This proclivity

involved and embraced a shifting of the synchronizing terminus of the related 1335-year period with its encompassing dates--509 to 1844--which had been projected by Snow, held during the distinctive 7th month movement from August to October, and accepted even by Miller and Litch. This period was shifted progressively over to 510-1845,[5] 511-1847, 519-1854, etc., to close in each instance with the new endings fixed for the 2300 years.[6] See Exhibit J (2 to 13).

This time-setting activity, involving abandonment of the three structural dates of the 2300-year period, never affected nor had any relation to the positions of Seventh-day Adventists, whose denominational name was chosen in 1860, and whose local and General Conference organizations were effected between 1860 and 1863.[7]

The counsels of the Spirit of prophecy, coupled with the sanctuary light--which but confirmed the 7th month movement key dates--kept the Sabbathkeeping Adventists from the time-setting pitfalls of the non-Sabbathkeeping Adventists around them. Back in 1850, when the leading post-1844 time-setting agitation for the year 1854 was on--involving the repudiation of all three key dates and the abandonment of principles that had been steadfastly maintained up until the Disappointment--Mrs. White plainly wrote:

"The Lord showed me that time had not been a test since 1844, and that time will never again be a test."[8] [Small capitals hers.]

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1 Miller, Wm., Midnight Cry, Dec. 26, 1844, p. 204.
2 Hale, A., Advent Herald, May 7, 1845, p. 100.
3 Brown, F.G., Advent Herald, Jan. 15, 1845, p. 177.
4 Expositor and Advocate, Rochester, Oct. 7, 1854, p. 124.
5 Litch, J., Advent Herald, Nov. 27, 1844, pp. 122, 123.
6 See data on Exhibit J (2 to 13).
7 Review and Herald, Oct. 23, 1860, p. 179; June 11, 1861, pp. 21, 22; May 26, 1863, pp. 204-206.
8 Present Truth, Paris, Maine, Nov., 1850, p. 87 (reprinted in "Experience and Views," p. 62, 1851 ed., and "Early Writings," p. 75, 1925 ed.)

XXI. Basic Chronological Interpretation Abandoned. General progressive denial follows by rejectors of the Sabbath and sanctuary truths, as to the

accuracy and soundness of the basic interpretation of the 2300 year-day prophecy, with ultimate repudiation of the 2300 evening-mornings as year-days that reached back to ancient times.[1] These periods finally came to be regarded by many formerly prominent in the Miller movement as literal days that are yet future,[2] and the 70 weeks were separated from the 2300 years.[3] Thus every element involved in the true reckoning of the 2300 years--beginning, crucifixion date, ending, synchronization with the 70 weeks, and year-day principle--was tragically abandoned by many of those failing to go on to perfection of truth, and who refused to walk in the advancing light of the third angel's message.[4] See Exhibit J. We close this sad, yes tragic, picture, with three excerpts from Josiah Litch, former Millerite leader, as written in 1873:

"The seventy weeks of Dan. ix. is a period by itself, consisting of a week of years, for there was such a period among the Jews, as literally as a week of days, and therefore can constitute no rule for any other designation of time. A time, therefore, means a year, and no more; a month signifies a month, and no more; nor does a day signify anything more than just what it expresses--a period of twenty-four hours.

"The adoption of the year-day theory, as it is called, has been the great stumbling-block in the way of a correct interpretation of prophecy for these hundreds of years, and should be utterly repudiated by all lovers of the simple truth. . . .Now, be it marked, the periods of Dan. vii. and viii. are not symbols seen by the prophet, but interpretations of symbols; and therefore their statements are to be literally understood. . . .So, also, the twenty-three hundred days of Dan. viii. 14 are given in explanation of the previous symbols, and, as an explanation, cannot be symbolical. The three periods of Dan. xii. are not symbols, but plain literal statements of times, and we have no authority for making them anything else."[5]

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1 Whiting, H.N., Advent Herald, May 21, 1845, p. 118; Bible Examiner, Nov., 1848, p. 175.

2 Litch, Josiah, "Complete Harmony of Daniel and the Apocalypse," Philadelphia, 1873, pp. 35-37,40; Bywater, J.C., Voice of Truth and Glad Tidings, July 9, 1845, p. 380.

3 Bible Examiner, Mar., 1848, p. 39; Apr., 1848, p. 58.

4 Chart by Cummings, J., "Explanation of the Prophetic Chart," Concord, N.H., 1853; Hale, A., "The Position of Adventists," in Voice of the Prophets, Dec., 1860, p. 56; Pile, W. H., "The Prophetic Guideboard," Newark, 1867, pp. 15, 16.

5 Litch, "Complete Harmony of Daniel and the Apocalypse," Philadelphia, 1873, pp. 35-37.

XXII. Seventh-day Adventism's Glorious Heritage. Seventh-day Adventists have, on the contrary, held consistently to the fundamental soundness of the basic principles of the historical school of prophetic interpretation in their application to this master prophecy. In principle, our position on the chronology of the 2300 year-days reaches back, historically, to Nicholas Krebs of Cusa who, in the 15th century, in his "Conjectures on the Last Days," first contended that the 2300 evening-mornings were prophetic days, and therefore literal years, extending probably from the time of the writing of the Book of Daniel in the time of Persia, to the end of all things.[1]

With steadily progressing perception, Tillinghast of England in 1654, and others in the 17th century, added the principle that the 70 weeks is a "lesser epoch comprehended within the greater one of 2300 years,"[2] though not yet making the right chronological connection between the two periods. Tillinghast adds that the 2300 and 1335 years end synchronously. Others, such as Funck, of Germany, in 1564, had begun to study the 70 weeks independently, and certain German, English, and French writers soundly fixed the beginning of the 70 weeks in the year B.C. 457,[3] but likewise as yet without synchronization or accurate connection with the beginning of the 2300 days.

Just before the French Revolution, Hans Wood of Ireland in 1787 advanced the key that unlocked the remaining difficulty, contending that both the 2300 days and the 70 weeks began synchronously in B.C. 457.[4] But he separated the component parts of the 70 weeks, and so came to a wrong chronological conclusion for the grand terminus. About the same time, Petri[5] of Germany likewise began them synchronously, but had the 2300 years terminate in 1847--missing the B.C. 4 element, and confusing the beginning of Christ's public ministry when He was "about thirty years of age," with 30 A.D. In 1810, however, a writer in the London Christian Observer declared:

"In the year 1843, we arrive at one of the most memorable periods in Scripture history, . . . the year 457 B.C., one of the most remarkable and distinguished points of time in the whole Scripture chronology; and a year which the

learned Dean Prideaux has incontrovertibly established as that in which Ezra received his commission from Artaxerxes to restore and build Jerusalem. Thus 70 weeks of years, or 490 years, reached to the close of the life of our blessed Redeemer, in his 33d year; and 1810 years, the remaining portion of the period of 2300 years, bring us to the year 1843. . . .I look then, with ardent expectation and holy hope from these premises, to the expiration of the period in question in the year 1843, when, the 2300 years having been accomplished, 'the sanctuary shall be cleansed.'"[6]

About 1818, different men in different lands--Miller,[7] Davis,[8] and others in America, then Mason of Scotland,[9] and a notable cluster of others throughout the twenties and thirties in Great Britain, continental Europe, and even in India--including such men as Brown[10] in 1823, Cuninghame[11] and Robertson[12] in 1826, Vaughan,[13] Brooks,[14] and Keyworth[15] in 1828, Addis[16] and Campbell[17] in 1829, Habershon[18] in 1834, Fry[19] in 1835, and Wilson of India[20] in 1836--reached and printed conclusions similar to Miller's regarding the 457 beginning and 1843-4 terminus of the period. But their eyes were all fixed upon an earthly sanctuary, and the termination of the 2300 years in the personal, second advent of Christ, with its attendant circumstances.

Seventh-day Adventists alone have perceived and applied the truth of the heavenly sanctuary, and Christ's twofold High-Priestly ministry therein, in its integral relation to the 2300-year prophecy culminating in 1844, and the judgment hour message of Revelation 14. Yet such was all implicitly involved in the very emphasis of the Day of Atonement type feature, in the 7th month movement of 1844. Such is the historical ancestry of our Seventh-day Adventist position, and such are some of the illustrious names of men who pioneered the increasingly-luminous path now flooded with light, which we tread with confidence and joy today.

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1 Cusa, Nicholas Krebs of, "Conjectures Concerning the Last Days" (written in 1452), Basil, 1565, p. 934.

2 Tillinghast, Jno., "Knowledge of the Times," London, 1654, pp. 152 ff; "A Motive to Generation-Work," London, 1655, pp. 135-138; "Berleberg Holy Scriptures," Berleberg, 1726.

3 Funck, Johann, "Explanation of the Latter Part of the 9th Chapter of Daniel," Konigsberg, 1564; Cappel, Jacques, "The Books of Babel, or the History of the Roman Seat," Sedan, 1616, p. 1004-1013; Beverly, Thos., "Scripture Line of Time" (England), 1684, pp. 1-19.

4 Wood, Hans, "Revelation of St. John," London, 1787, pp. 382-388, 476-479.

5 Petri, Johann P., "Explanation About the Numbers in Daniel and Revelation," Offenbach, 1768, pp. 5-23; "Explanation of the Three Visions of Daniel," 1769, pp. 29-31; "Fundamental Proof to Solve the Visions and Numbers," 1784, pp. 22-24.

6 "J.A.B.," Christian Observer (London), Nov., 1810, Vol. IX, pp. 669,670.

7 See documentation for Part II, Sections I, II, III.

8 Davies, Wm. C., "The Millennium," Workington, 1818, pp. 4-23.

9 Mason, Archibald, "Two Essays on Daniel's Prophetic Number of 2300 Days," Newburgh, 1820, pp. 9-21.

10 Brown, J.A., "The Even-Tide," London, 1823, Vol. I, pp. 127, 135, 136.

11 Cuninghame, Wm., "Scheme of Prophetic Arrangement," Glasgow, 1826, pp. 80, 81.

12 Robertson, Th., "A Paraphrase of the Vision of Daniel," Lawrenceburgh, Ind., 1826, pp. 4-15.

13 Vaughan, Ed., "The Church's Expectation," Liecester, 1828, pp. 52, 53.

14 Brooks, J.W., "Elements of Prophetic Interpretation," London, 1836, [Philadelphia reprint, 1841], p. 250 ff.

15 Keyworth, Th., "Practical Exposition of the Revelation," London, 1828, p. 74.

16 Addis, Alfred, "Heaven Opened," London, 1829, pp. 176-192, 320, and charts.

17 Campbell, Alex., London, 1839 [written April, 1829] "Evidences of Christianity," pp. 319-321.

18 Habershon, Matt., "Dissertation on the Prophetic Scriptures," London, 1834, pp. 290-294.

19 Fry, John, "Observations on the Unfulfilled Prophecies," London, 1835, pp. 370-373.

20 [Wilson, Bishop M.], "On the Numbers in Daniel," Madras, 1836, pp. 10-19.

LeRoy Edwin Froom.

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART IV--DATE OF ARTAXERXES' DECREE TO RESTORE AND BUILD JERUSALEM

In the consideration of so important a line of prophecy as that of the twenty-three hundred days, it is most essential that the date of its beginning be determined with as much certainty as possible. It is beyond the province of this Committee to deal with the theological evidence that the seventy weeks and the twenty-three hundred days have the same point of origin, but the sole object of Part IV will be to determine, if possible, the exact year in which Artaxerxes' decree to build and restore Jerusalem was given.

From Ezra 7:7-26, it is quite plain that the decree of Artaxerxes was given in the seventh year of his reign, and that Ezra, acting upon this decree, left Babylon on the first day of Nisan and arrived in Jerusalem on the first day of Ab. (Ezra 7:9) In order to determine this year accurately, in terms of our calendrical system, it is necessary to know (a) how the chronological years of a king were named and reckoned, (b) at what point in the year the new year came--whether spring or fall--and (c) how to interpret the date thus found in terms of our calendrical system. The problem has been studied according to the following outline:

A. The determination of chronological method.

B. The location of well-authenticated eclipses as anchors.

C. The application of proper chronological methods to the reigns of kings, checking the same by the Canon of Ptolemy and with various clay tablets found in excavations of the sites in question and dated with definite years in the king's reign.

D. Final application of the various principles in the working out of the definite date.

A. Chronological Method Verified by Biblical Synchronisms

Scholars are not united in applying the term "accession year," used in connection with the rulers of ancient kingdoms. It is spoken of as "accession year" on the dated tablets, but in Scripture it is usually referred to by the statement, "----------began to reign in the ----- year of -----." (1 Kings 22:41; 2 Kings

13:10; etc.) Many refer to this system by the term "antedating."[1]

Upon the proper interpretation of this term "accession year", depends the correct reckoning of any chronological period, for otherwise the length of a king's rule may be an entire year out. Over a period covering the reign of several kings it is easily seen that this error would rapidly mount up, making any accurate determination impossible. The problem is vastly greater than taking some special king list and adding together the lengths of reigns. If possible the method used in recording the number of years of a king's rule must first be determined.

In Scripture, however, there are given a series of references where certain years of a Jewish ruler are equated with certain years of a corresponding Babylonian ruler during the reigns of Nabopolassar, Nebuchadnezzar, and Amel-Marduk that show clearly how this accession year is considered. By study of Table I, pp. 5, 6,[2] one will notice eight of these so-called synchronisms marked "S" as follows:

Synchronism No. 1

"The word that came to Jeremiah concerning all the people of Judah in the fourth year of Jehoiakim the son of Josiah, king of Judah; that was the first year of Nebuchadrezzar king of Babylon; The which Jeremiah the prophet spake unto all the people of Judah, and to all the inhabitants of Jerusalem, saying: From the thirteenth year of Josiah the son of Amon, king of Judah, even unto this day, that is the three and twentieth year, the word of the Lord hath come unto me, and I have spoken unto you, rising early and speaking; but ye have not hearkened." Jer. 25:1-3.

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[1] Albright, W.F., "The Seal of Eliakim," Journal of Biblical Literature, LI (1932), 96. See also Mowinckel, "Die Chronologie der israelitischen und jüdischen Könige," in Acta Orientalia, X (1932), 200-204.

[2] The Egyptian chronology followed here is according to J.H. Breasted's "History of Egypt," 1912 edition. Psamtik reigned 54 years, giving way to Necho in 609 B. C., pp. 581, 582. Thus he began his reign in 663 B. C., with which date A.T. Olmstead, "History of Assyria", p. 417, agrees. Ashurbaniapal reigned 22 years and died in 626 B. C., (p. 627.) Nabopolassar revolted and ordered his subjects to date their business records by his year as king of Babylon. (p. 634.) The earliest dated tablet in Nabopolassar's reign is for 2 yr./--mo./9 da. (Strassmaier, "Zeitschrift für Assyriologie," Vol. IV. 136). Necho began to reign in 609 B. C. (Breasted, "History of Egypt," p. 582.) Necho killed Josiah; the people appointed Jehoahaz king. Necho deposed him and appointed Jehoiakim king. (2 Chron. 35:20-36:4; 2 Kings 23:29-35). Josiah reigned 31 years. (2 Kings 22:1).

The same formula is used for recording the "accession year" of Jehoahaz (2 Kings 23:31), and also that of Jehoiakim (verse 36), as was used in recording that of Josiah (2 Chron. 34:1). "---------- was ---------- years old when he began to reign," showing that his age is reckoned to his accession year, and not to his first year. Twenty-three years cover the time from the 13th of Josiah through the accession and three months of Jehoahaz, and the accession of Jehoiakim, up to and including the latter's 4th year.[3] Only by so doing can one make these 23 years span the period required, for Jewish reckoning is always "inclusive reckoning,"[4] taking account of both the opening and closing years in any given period.

Synchronism No. 2

"The word that came to Jeremiah concerning all the people of Judah in the fourth year of Jehoiakim the son of Josiah, king of Judah; that was the first year of Nebuchadnezzar king of Babylon." Jer. 25:1.

Here the 4th year of Jehoiakim equals the 1st year of Nebuchadnezzar.

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[3] This year was the date of the battle of Carchemish where Nebuchadnezzar defeated Necho. (Jer. 46:2). Breasted, ("History of Egypt," p. 583,) makes the battle of Carchemish 605, but Olmstead, ("History of Palestine and Syria," p. 510,) puts this campaign correctly in 604. G. Cameron, ("History of Early Iran," p. 219,) infers the same date by making Nebuchadnezzar's reign 604-562.

[4] A clear example of "inclusive reckoning" is seen in the fact that Jehoiakim rebelled after serving Nebuchadnezzar three years. 2 Kings 24:1. Because of the conditions spoken of in the next few verses, a fast was proclaimed (Jer. 36:9). Jeremiah wrote a message which is read to Jehoiakim, who in anger cut the roll and burned it. Jer. 36:22. It is during this same year that Nebuchadnezzar had the dream of the great image (Dan. 2), and Daniel interpreted it for the king.

Note.--The idea of counting the entire death year of a king as an integral part of his reign, and beginning the first year of the succeeding king with the beginning of the next calendar year, is an ordinary procedure in Biblical chronological reckoning. Notice how it is followed in the chronology of the patriarchs. Adam was 130 years old when he begat Seth.

According to Gen. 7:6, 11, Noah was 600 years old in his 600th year--not in his 601st year, as is reckoned in modern times. Therefore Seth was born in Noah's 600th year, and at the beginning of his 601st year Seth was counted as one year old. So the record in Gen. 5:3-5 checks. Adam lived 800 years after he begat Seth and all his years were 930 (800 plus 130). In this way no fractions of years are counted, and yet the chronology is accurately maintained. This method may be checked by figuring the years of Methuselah's life. By any other method he survives the flood year.

Coupling the recognized length of Nabopolassar's reign (21 years)[5] with the fact that the eclipse of the moon, taking place in 621, occurred in the fifth year of his reign,[6] gives no alternative but to make the "death year" of Nabopolassar the "accession year" of Nebuchadnezzar as shown in the table. Thus the statement in Daniel 1:1--"In the third year of the reign of Jehoiakim king of Judah came Nebuchadnezzar king of Babylon unto Jerusalem, and beseiged it"--is in perfect harmony with Jeremiah 25:1. Nebuchadnezzar was king--it was his

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[5] The latest dated tablet for Nabopolassar's reign is for 21st year/ 2mo./ 19 da. (Strassmaier, "Zeitschrift für Assyriologie," Vol. IV, 145.) This was also the accession year for Nebuchadnezzar, as well as the 3rd year of Jehoiakim, thus accounting for the statement in Daniel 1:1, and 2 Kings 24:1. Nebuchadnezzar at this time took Daniel and his companions captive and this year was the first year of the 70 years' captivity, as prophesied by Jeremiah the following year. (Jer. 25:1-11). Ptolemy's Canon agrees (Wachsmuth, Curt, "Studien der Alten Geschichte" (1895), pp. 305, 306) in giving Nabopolassar 21 years. Cameron, ("History of Early Iran," p. 219) places Nebuchadnezzar's reign as 604-562, forgetting his accession year in 605. He has Nabopolassar's reign as 626-604 (p. 232), but tablets and scholars agree in giving him 21 years. If 626 is his accessiin year, 625 is his first year, and 605 would be his 21st and the accession year of Nebuchadnezzar.

[6] "In the fifth year of Nabopolassar, which is Egyptian-127th year of Nebonassar--close to the eleventh hour--27th or 28th of the Egyptian month Athyr, some one noticed the moon at Babylon commence her eclipse. Formed in the greatest phase of this eclipse a quarter of the diameter of the meridinal part of the luminary. Since the eclipse commenced at five hours after midnight, and reached the center about six hours, which made in that case at Babylon, 5 1/2 to 1/3 hours, the sun was exactly in the 27th d. 3' of the ram--it is clear that the time of the middle of the eclipse was for Babylon, 5 1/2-1/3 hours equinoxial, and for Alexandria, 5 hours only after midnight. Or the time since the epoch is 126 Egyptian years, 86 days, 17 hours equinoxial." (M. Halma, Translator, "Composition Mathematique de Claude Ptolemae," (2 vols.), Paris, 1813, Vol. II, 340 f.) This corresponds to April 21, 621 B. C., the year in which the Scroll is found, the 18th of Josiah. (2 Kings 22:3-14; 2 Chron. 34:8-22).

Note.--Caludius Ptolemy (A. D. 70-151) was a native Egyptian mathematician and astronomer. According to his own personal testimony, he observed the heavens at least from 127 A. D.--151 A. D., doing most of his work at Alexandria. He compiled a list of kings, starting with the reign of the Babylonian ruler, Nabonassar, beginning his "era" with the first of the month Thoth of the year 747 B. C., the Egyptian New Year. He used a yearly "yard-stick" of exactly 365 days, thus making the New Year wander back through the months at the rate of one day every four years. This list of kings from Nabonassar down to his own time is known as the "Canon of Ptolemy." In his "Almagest," the latest translation of which is in French by M. Halma, entitled, "Composition Mathematique de Claude Ptolemée" (2 Vols., Paris; 1813-1816), he records eclipses of sun and moon falling in certain years of various reigns, thus securely anchoring his king-lists. Many of these eclipses have been carefully checked with other sources (see Pinches, T. G., "Proceedings of the Society of Biblical Archaeology," Vol. II, pp. 193-204), and according to S. R. Driver, "the recently-discovered contemporary monuments have fully established the accuracy of the Canon." ("Enoyclopedia Britannica," 11th ed. Vol. III, p. 861, note 2.)

Table I

COMPARATIVE CHRONOLOGIES OF NEOBABYLONIA, PERSIA, EGYPT, AND ISRAEL, 627 B. C. - 443 B. C.

B.C.	Egypt	Judah	70 years	Jehoiachin's Captivity	Prophet		Assyria Babylonia	Persia	Reference
627	Psamtik I 37	Josiah 12					Ashurbani-apal 21		1 p. 2
626	38	13			Jeremiah 1		Nabopo-lassar A 22		1 p. 2
625	39	14			2		1		
624	40	15			3		2		1 p. 2
623	41	16			4		3		
622	42	17			5		4		
621	43	18			6		⊛ 5		5 p. 4
620	44	19			7		6		
619	45	20			8		7		
618	46	21			9		8		
617	47	22			10	S'	9		
616	48	23			11	Jer. 25:1-3	10		
615	49	24			12		11		
614	50	25			13		12		
613	51	26			14		13		
612	52	27			15		14		
611	53	28			16		15		
610	54	29			17		16		
609	Necho 1	30			18		17		1 p. 2
608	2	Jehoahaz 31 / Jehoiakim A			19		18		1 p. 2
607	3	1			20		19		
606	4	2			21		20		
605	5	3	1		22		Neb'-zar 21 A		4 p. 4
604	6	4	F 2		23		1		Jer. 25:1 4 p. 4
603	7	5	3		24	S²	2		3 p. 3
602	8	6	4		25		3		
601	9	7	5		26		4		
600	10	8	6		27		5		
599	11	9	7		28		6		
598	12	10	8		29	S³	7		
597	13	Jehoiachin 11 / Zedekiah A	9	1	30		8		2Ch. 36:5-10 2Kg 24:10-18 p. 7
596	14	1	10	2	31		9		
595	15	2	11	3	32		10		
594	16	3	12	4	Call of Ezekiel 1		11		
593	Psamtic II 1	4	13	5	1		12		6 p. 7
592	2	5	14	6	2		13		
591	3	6	15	7	3		14		

B. C.	Egypt	Judah	70 years Captivity	Jehoiachin's Captivity	Prophet		Babylonia	Persia	Reference
590	Psamtik II 4	Zedekiah 7	16	8	Ezekiel 4		Neb'-zar 15	=	
589	5	8	17	9	5		16		
588	Hophra (Apries) 1	9	18	10	S^4 6		17		7 p. 8
587	2	10	19	11	7	Smiting of	18		Jer. 32:1 p. 8
586	3	11	20	12	S^5 8	the City 1	19		Eze. 33:21 Jer. 32 p. 8
585	4	Gedaliah (Governor)	21	13	9	2	20		2 Kings 25:8
584	5		22	14	S^6 10	3	21		
583	6		23	15	11	4	22		
582	7		24	16	12	5	23		
581	8		25	17	13	6	24		
580	9		26	18	14	7	25		
579	10		27	19	15	8	26		
578	11		28	20	16	9	27		
577	12		29	21	17	10	28		
576	13		30	22	18	11	29		
575	14		31	23	19	12	30		
574	15		32	24	20	13	31		
573	16		33	25	S^7 21	14	32		p 9
572	17		34	26	22		33		
571	18		35	27	23		34		
570	19		36	28			35		
569	Ahmose II 1		37	29			36		8 p. 9
568	2		38	30			37		
567	3		39	31			38		
566	4		40	32			39		
565	5		41	33			40		
564	6		42	34			41		
563	7		43	35			42		
562	8		44	36			43		
561	9		45	37	S^8		Amel Marduk 1		8 p. 9
560	10		46	38			2		
559	11		47	39			Nergal Sarusur 1	Cyrus	p. 9
558	12		48	40			2	1	
557	13		49	41			3	2	
556	14		50	42			Nabunaid 1	3	11 p. 12
555	15		51	43			1	4	
554	16		52	44			2	5	

accession year. The next year was counted his first year. Thus the twenty-three years of Jeremiah reach back to the "death year" of Ashurbaniapal and the "accession year" of Nabopolassar.

Synchronism No. 3

"Jehoiakim was twenty and five years old when he began to reign; and he reigned eleven years in Jerusalem: and he did that which was evil in the sight of the Lord his God. Against him came up Nebuchadnezzar king of Babylon, and bound him in fetters, to carry him to Babylon. Nebuchadnezzar also carried of the vessels of the house of the Lord to Babylon, and put them in his temple at Babylon. Now the rest of the acts of Jehoiakim, and his abominations which he did, and that which was found in him, behold, they are written in the book of the kings of Israel and Judah: and Jehoiachin his son reigned in his stead. Jehoiachin was eight years old when he began to reign; and he reigned three months and ten days in Jerusalem: and he did that which was evil in the sight of the Lord. And when the year was expired, king Nebuchadnezzar sent, and brought him to Babylon, with the goodly vessels of the house of the Lord, and made Zedekiah his brother king over Judah and Jerusalem." 2 Chron. 36:5-10.

"At that time the servants of Nebuchadnezzar king of Babylon came up against Jerusalem, and the city was besieged. And Nebuchadnezzar king of Babylon came against the city, and his servants did besiege it. And Jehoiachin the king of Judah went out to the king of Babylon, he, and his mother, and his servants, and his princes, and his officers: and the king of Babylon took him in the eighth year of his reign." 2 Kings 24:10-12.

Jehoiakim reigned 11 years (2 Kings 23:36), Jehoiachin reigned three months and then was taken prisoner to Babylon in the same year, which also became the accession year of Zedekiah, as well as the first year of Jehoiachin's captivity. Inasmuch as the king is not dead, he is counted as ruler, and Zedekiah is thought of as a regent ruling for him. Therefore the period of his captivity is an important one.[7] The discovery of stamped jar handles in Palestine with Jehoiachin's name on them, verifies this hypothesis. (See Albright, op. cit. pp. 77-84, 102, 103). Thus the 11th year of Jehoiakim's reign, the accession year of Zedekiah, and the first year of Jehoiachin's captivity are equated with the 8th year of Nebuchadnezzar. The Babylonians had been before Jerusalem for nearly a year. (Jer. 39:1; 2 Kings 25:1).

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[7] The fifth year of Jehoiachin's captivity is the year of Ezekiel's call. Eze. 1:1. It is also the first year of the reign of Psamtik II. (Olmstead, "History of Palestine and Syria," p. 523; Breasted, "History of Egypt," p. 601).

Synchronism No. 4

"The word that came to Jeremiah from the Lord in the tenth year of Zedekiah king of Judah, which was the eighteenth year of Nebuchadrezzar." Jer. 32:1.

That the accession year of Zedekiah was properly equated with the 8th year of Nebuchadnezzar is shown by the above synchronism. This would be the only way the 10th year of Zedekiah could synchronize with the 18th year of Nebuchadnezzar.[8]

Synchronism No. 5

"And it came to pass in the twelfth year of our captivity, in the tenth month, in the fifth day of the month, that one that had escaped out of Jerusalem came unto me, saying, The city is smitten." Eze. 33:21.

Here the 12th year of Jehoiachin's captivity is synchronized with the 1st year of the "smiting of the city." Ezekiel received word on the fifth day of the tenth month, and the temple was burned the tenth day of the fifth month; so it took practically five months for the news to reach him.

Synchronism No. 6

"And in the eleventh year of Zedekiah, in the fourth month, the ninth day of the month, the city was broken up." Jer. 39:2.

"Now in the fifth month, in the tenth day of the month, which was the nineteenth year of Nebuchadrezzar, king of Babylon, came Nebuzaradan, the captain of the guard, which served the king of Babylon, into Jerusalem." Jer. 52:12

"And in the fifth month, on the seventh day of the month, (which is the nineteenth year of king Nebuchadnezzar, king of Babylon,) came Nebuzaradan, the captain of the guard, a servant of the king of Babylon, unto Jerusalem." 2 Kings 25:8.

Here the eleventh year of Zedekiah is synchronized with the nineteenth year of Nebuchadnezzar. This is the date of the third and final campaign against Jerusalem.

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8 It was in the year 588--the 17th year of Nebuchadnezzar and the 9th year of Zedekiah that Hophra (Apries), began his reign in Egypt. (Olmstead, "History of Palestine and Syria," p. 525; Breasted, "History of Egypt," p. 601.)

Synchronism No. 7

"In the five and twentieth year of our captivity, in the beginning of the year, in the tenth day of the month, in the fourteenth year after that the city was smitten, in the selfsame day, the hand of the Lord was upon me, and brought me thither." Eze. 40:1.

The twenty-fifth year of Jehoichin's captivity is synchronized with the fourteenth year of the smiting of the city.

Synchronism No. 8

"And it came to pass in the seven and thirtieth year of the captivity of Jehoiachin king of Judah, in the twelfth month, in the five and twentieth day of the month, and Evil-merodach king of Babylon, in the first year of his reign, lifted up the head of Jehoiachin king of Judah, and brought him forth out of prison." Jer. 52:31.

The thirty-seventh year of the captivity of Jehoichin is synchronized with the first year of Evil-merodach (Amel Marduk). This limits Nebuchadnezzar's reign to 43 years, as shown in Table I, page 6.[9]

By a comparison of these eight synchronisms with the details of the Table I (pp. 5, 6), and with Chart A (p. 11), it will be noted that they cover the entire period of Nebopolassar's and Nebuchadnezzar's reigns.

If one will take the pains to follow these various synchronisms through point by point, he will find that the transition made between the sacred and secular chronology is so firmly anchored that it is impossible to move a peg one way or the other. This is all the more remarkable as it is the first and only place in Biblical history when this is done. These synchronisms extend, therefore, from the accession year of Nebopolassar through the accession years

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9 The latest dated tablet for Nebuchadnezzar's reign is 43 yr./ 5 mo./ 9 da. Ungnad, "Vorderasiatische Schriftdenkmaler," Heft III, 36). Ptolmey's Canon agrees. (Curt Wachsmuth, "Studien der Alten Geschichte," p. 305). The latest tablet for Amel Marduk is dated 2 yr./ 5 mo./ 17 da. (Clay, "Babylonian Expedition," Vol. VIII, p. 34.) This year is also the accession year for Nergal Sharusur. The earliest tablet found for him is dated Acc. yr./ 3 mo./ 20 da. (Ungnad, "Vorderasiatische Schriftdenkäler," Heft IV, 32). Ahmose began his reign in 569. (Olmstead, "History of Palestine and Syria," p. 536; Breasted, "History of Egypt," p. 601). The latest tablet for Nergal Sharusur is dated 4 yr./ 1 mo./ 2 da. (Evetts, "Nergal Sharusur," p. 69). The earliest tablet found for Nabunaid is dated Acc. yr./ 2 mo./ 15 da. (Clay, "Babylonian Expedition," Vol. VIII, p. 39). Much archaeological evidence has been found indicating that Belshazzar is a historical character, the son of Nabunaid (Nabonidus), and co-regent with him on the throne of Babylon. (Dougherty, R. P., "Nabonidus and Belshazzar," pp. 137, 192).

of both Nebuchadnezzar and Amel Marduck (Evil-merodach), giving three instances of the use of the "accession year" idea.

From a careful study of these data, the following important method of chronological reckoning is demonstrated; namely, For purposes of chronology, the entire last calendar year of a king's reign is given to that monarch, and is also called the accession year of the following ruler, the next year being called the first year of the new king.

B. Location of Well-Authenticated Eclipses as Anchors

All of the above data may be verified without the use of any definite anchor in the way of harmonizing the dates of these ancient kingdoms with our modern calendrical system. That is, the synchronisms between Biblical and profane history do not rest upon the astronomical determination of any of these lines. So far as the synchronisms go, they would be true regardless of where the whole block of years was placed in the space of time, but in order to interpret any of these dates in terms of modern reckoning, recourse is had to definite events that are linked up with astronomical phenomena.

During this period from the reign of Nabopolassar to the reign of Artaxerxes, there are recorded two events happening in the time of eclipses of the moon, both in Egypt and in Babylon; one taking place in the fifth year of Nabopolassar[10] (621 B. C.), and the second in the seventh year of Cambyses (523, B. C.).[11]

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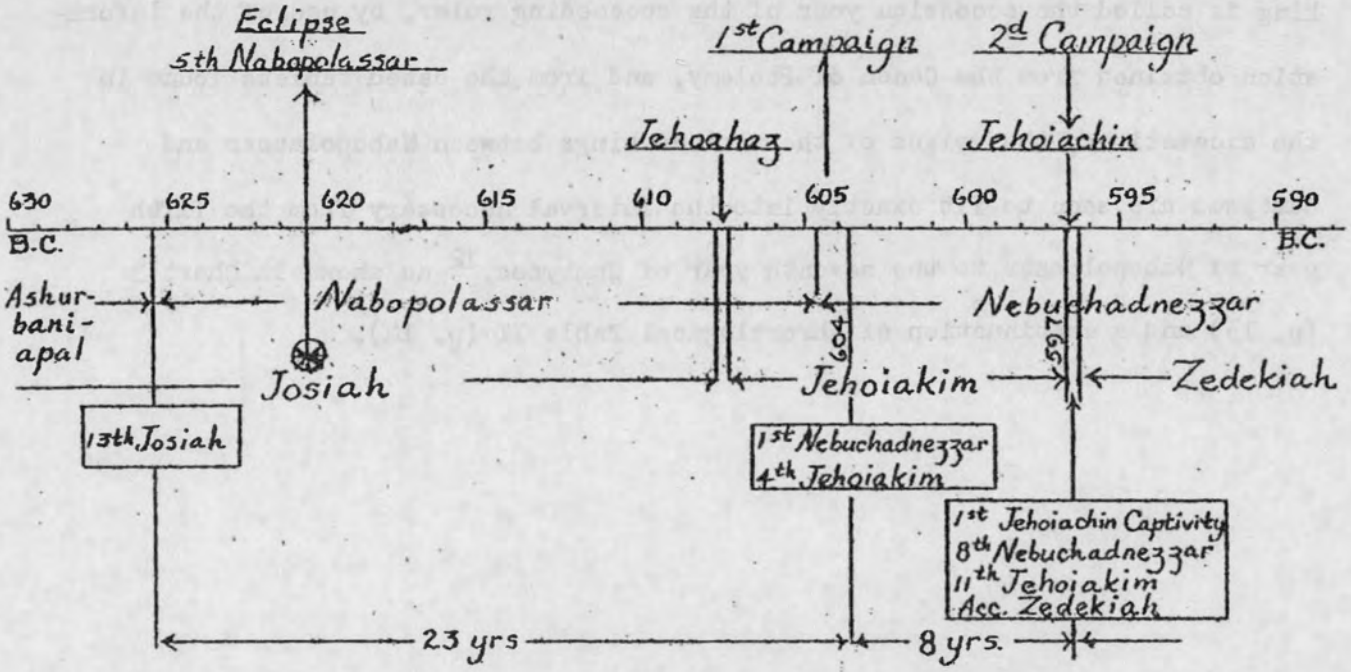
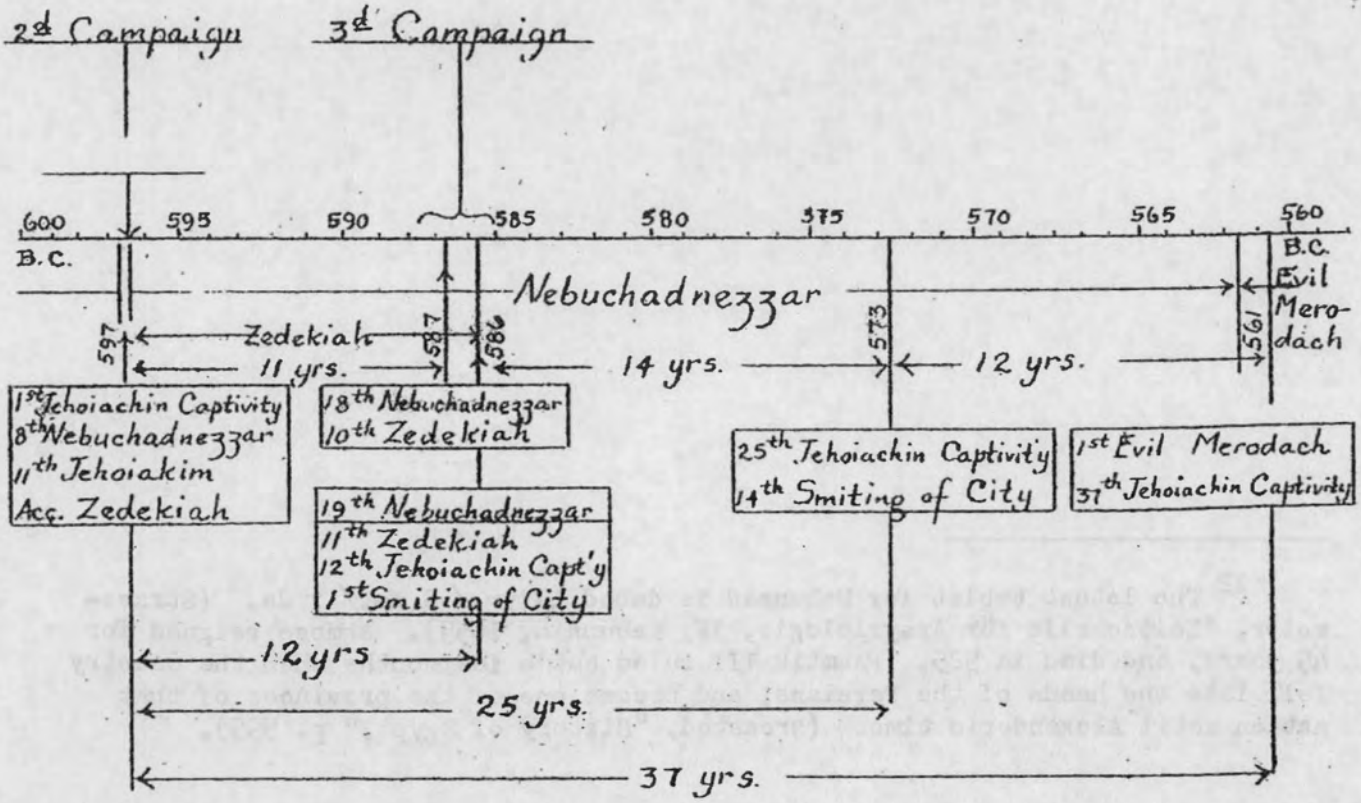
[10] See Note 6, p. 4.

[11] The eclipse of the moon in the 7th year of Cambyses has been attested by two witnesses, Ptolmey's Canon and the Cambyse (400) Tablet. "In another eclipse arriving in the 7th year of Cambyses--which is the 225th year of Nabonasser 1 hour before midnight on the 17th or 18th of the Egyptian month Phamenoth--one saw in Babylon the eclipse of the moon of the part of its diameter in the northern part. . . . which corresponds to 224 Egyptian years, 196 days." (Halma, M., "Composition Mathematique de Claude Ptolemae," I, 341, 343). The Cambyse Tablet as translated by Strassmaier says, "On the 7th of Cambyses, in the night of the 15th Dazu, 1-1/2 kasbu (3 hours) after the nightfall, the eclipse of the moon was entirely visible. It covered the northern half of the disk of the moon." (Sidersky, "Etude sur la chronologie Assyro-Babylonienne," Paris, 1916, p. 41; Kügler, "Zeitschrift für Assyriologie," Vol. XVII (1903), 238).

CHART A


Eclipse
5th Nabopolassar
1st Campaign
2d Campaign
Jehoahaz
Jehoiachin
630
625
620
615
610
605
600
595
590
B.C.
B.C.
Ashur-bani-apal
Nabopolassar
Nebuchadnezzar
Josiah
Jehoiakim
Zedekiah
604
597
13th Josiah
1st Nebuchadnezzar
4th Jehoiakim
1st Jehoiachin Captivity
8th Nebuchadnezzar
11th Jehoiakim
Acc. Zedekiah
23 yrs
8 yrs.


2d Campaign
3d Campaign
600
595
590
585
580
575
570
565
560
B.C.
B.C.
Nebuchadnezzar
Evil Merodach
Zedekiah
11 yrs.
14 yrs.
12 yrs.
597
587
586
573
561
1st Jehoiachin Captivity
8th Nebuchadnezzar
11th Jehoiakim
Acc. Zedekiah
18th Nebuchadnezzar
10th Zedekiah
19th Nebuchadnezzar
11th Zedekiah
12th Jehoiachin Capt'y
1st Smiting of City
25th Jehoiachin Captivity
14th Smiting of City
1st Evil Merodach
37th Jehoiachin Captivity
12 yrs
25 yrs.
37 yrs.

By the use of the principle before stated, whereby the death year of the king is called the accession year of the succeeding ruler, by use of the information obtained from the Canon of Ptolemy, and from the dated tablets found in the excavations, the reigns of the various kings between Nabopolassar and Cambyses are seen to fit exactly into the interval necessary from the fifth year of Nabopolassar to the seventh year of Cambyses,[12] as shown in Chart B (p. 13) and a continuation of chronological Table II (p. 14).

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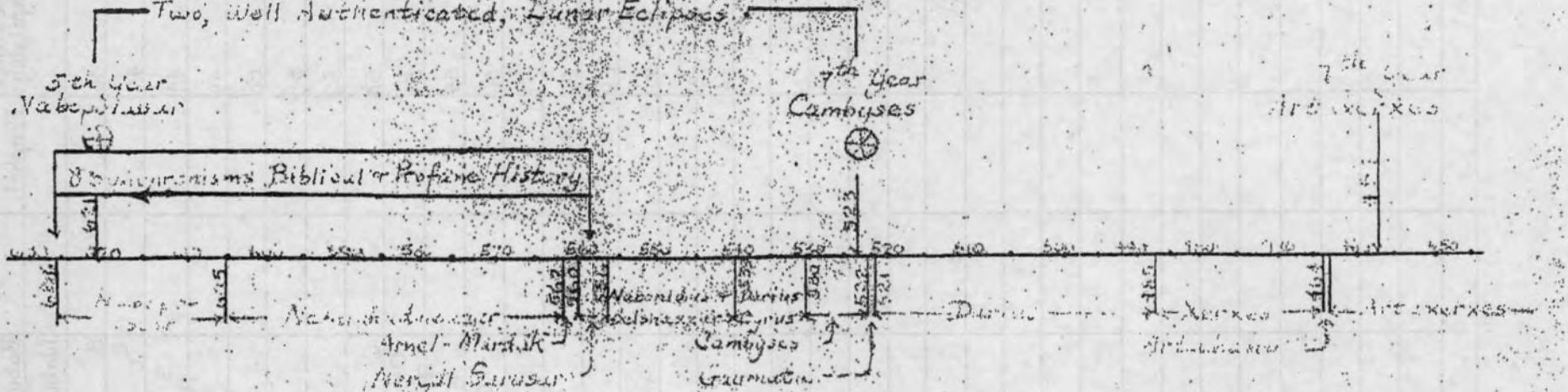
[12] The latest tablet for Nabunaid is dated 17 yr./ 9 mo./ 7 da. (Strassmaier, "Zeitschrift für Assyriologie, IV, Nabunaid, 1055). Ahmose reigned for 45 years, and died in 525. Psamtik III ruled but a few months when the country fell into the hands of the Persians, and became one of the provinces of that nation until Alexander's time. (Breasted, "History of Egypt," p. 595).

CHART B

APPLICATION OF ACCESSION-YEAR PLAN TO REIGNS OF BABYLONIAN & PERSIAN KINGS



All dates begin with the "accession-year" of the king which is the same as the "fiscal-year" of the previous ruler (See Table for details)

Table II (Continued from Table I)

B.C.	Egypt		70 years	Jehoiachin's Captivity	Prophet		Babylonia	Persia	Reference
553	Ahmose II 17		53	45			Nabunaidz	Cyrus 6	
552	18		54	46			B 4	7	
551	19		55	47			E L 5	8	
550	20		56	48			S H 6	9	
549	21		57	49			A 7	10	
548	22		58	50			Z 8	11	
547	23		59	51			Z 9	12	
546	24		60	52			A 10 R	13	
545	25		61	53			C 11	14	
544	26		62	54			O- R 12	15	
543	27		63	55			E 13	16	
542	28		64	56			G 14	17	
541	29		65	57			E N 15	18	
540	30		66	58			T 16	19	
539	31		67	59			17	Cyrus + 20	
538	32		68	60				Darius 1	
537	33		69	61				2	
536	34		70	62				Cyrus(1) 3	
535	35							(2) 4	
534	36							(3) 5	
533	37							(4) 6	
532	38							(5) 7	
531	39							(6) 8	
530	40							(7) 9 Cambyses A	
529	41							1	
528	42							2	
527	43							3	
526	44							4	
525	Psamtic III 45 A							5	7 p. 8
524	E							6	
523	G Y							⊛ 7	22 p. 9
522	P T							Gaumata A 8	
521	A							Darius, A	
520	P							1	
519	E R							2	
518	S I							3	
517	A							4	

C. Application of Chronological Methodology to the Reigns of Persian Kings

Having discovered the chronological method used in recording the reigns of Babylonian rulers, it is not difficult to apply it in continuing the dates for the reigns of the various kings from the time of Cambyses down to the time of Artaxerxes. This has been done in the continuation of the main table, (III), pp. 16, 17, giving a line for each year.

Thus, Darius' accession year is found to be 521, with 520 as his first year, and 519 as his second year, when the decree for the restoration of Jerusalem was made. (Ezra 4:23, 24; 6:8-12).

Tablets have been found which harmonize with the Canon of Ptolemy and which show that Darius reigned for thirty-six years.[13] This makes 485 both the last year of Darius and the accession year of Xerxes.[14] At this time Artabanus usurped the throne for a few months, but still this same year can be counted as the accession year of Artaxerxes. Thus the year 464 is at once the death year of Xerxes, the accession and death year of Artabanus, and the accession year of Artaxerxes. (See continuation of Table III, pp. 16, 17.)

D. Final Application in Working Out of Definite Date for 7th Year of Artaxerxes

It is a recognized fact among the scholars dealing with the problem, that the Babylonians dated the commencement of their year in the spring about the time of the vernal equinox.[15] That the Jews had a system of double reckoning

[13] The latest tablet found for the reign of Darius is dated 36 yr./ 6 mo./ 22 da. (Peiser, "Keilschriftliche Acten Stücke," XIX). This would make Xerxes accession year 485 and his first year 484. Olmstead, "History of Palestine and Syria," p. 560, places 485 as the last year of Darius, but counts the 21 years of Xerxes as beginning that year, not giving any room for Xerxes accession year.

[14] The latest record found for the reign of Xerxes is an Aramaic papyrus from a community of Jewish mercenaries located at Yeb, later Elephantine, dated in the 21st year of Xerxes. Sayce, A. H., and Cowley, A., "Aramaic Papyri Discovered at Assuan," Plate B). According to Diodorus, Xerxes was murdered by Artabanus, who took the throne and reigned some seven months. Thus the year 464 would be the accession year of Artaxerxes. That he came to the throne some time in the fall of the year is evidenced by a comparison of Nehemiah 1:1; 2:1; and Ezra 7:7-9.

[15] Kugler, F. X., Sternekunde und Sterndienst in Babel, Buch II, Teil 1, p. 26.

Table III (Continued from Tables I & II)

B.C.	Egypt	Persia	Reference
516	E	Darius 5	
515	G	6	
514	Y	7	
513	P	8	
512	T	9	
511		10	
510	A	11	
509		12	
508	P	13	
507	E	14	
506	R	15	
505	S	16	
504	I	17	
503	A	18	
502	N	19	
501		20	
500	P	21	
499	R	22	
498	O	23	
497	V	24	
496	I	25	
495	N	26	
494	C	27	
493	E	28	
492		29	
491	5	30	
490	2	31	
489	5	32	
488		33	
487		34	
486		35	
485	3	Xerxes A 36	12 p. 15
484		1	
483	3	2	
482		3	
481	2	4	
480		5	

B.C.	Egypt							Persia	Reference
479	E							= Xerxes 6	
478								7	
477	G							8	
476	Y							9	
475								10	
474	P							11	
473	T							12	
472								13	
471	A							14	
470								15	
469	P							16	
468	E							17	
467	R							18	
466	S							19	
465	I							20	
464	A							Artabanus 21 Artaxerxes A	13, p. 15
463	N							1	
462	P							2	
461	R							3	
460	O							4	
459	V							5	
458	I							6	
457	N							7	
456	C							8	
455	E							9	
454								10	
453	5							11	
452	2							12	
451	5							13	
450								14	
449								15	
448								16	
447	3							17	
446	3							18	
445	2							19	
444								20	
443								21	

may be seen from the fact that their sacred year began in the spring with the first new moon following the vernal equinox, and the fact that the civil year began in the fall at the first of Tisri which was the first new moon following the autumnal equinox. That this was true may be shown from a comparison of Nehemiah 1:1, 2:1, and Ezra 7:7-9.

In Nehemiah 1:1 the prophet is speaking of a visit to Shushan the palace, in the month Chisleu in the twentieth year. After the events of Chapter 1, in the first verse of Chapter 2, the prophet goes on to relate succeeding events that happened in the month of Nisan in the same twentieth year of the king. This shows that in the twentieth year of the king, the month Nisan, which was in the spring, came after the month Chisleu, or the ninth month, which was in the fall. If this sequence happened in the twentieth year, it would happen in any year, therefore in the first year.

In Ezra 7:7-9, the prophet speaks of leaving Babylon on the first day of the first month, and arriving in Jerusalem on the first day of the fifth month in the seventh year of the king. If the fifth month of the year followed the first month of the year in the seventh year, it would have the same order in the twentieth year, or in the first year. Therefore, the reckoning of the regnal years by the Jews began sometime between the fifth month and the ninth month, all of which is in harmony with their two systems of calendrical reckoning at the present time, their civil year beginning in the fall and their sacred year in the spring. (See Chart C, p. 20.)

Chart D (p. 21) is spread out over the years 465 to 456, and shows graphically--whether one accepts the Babylonian reckoning of time or the Jewish reckoning--that the seventh year of Artaxerxes would fall in the year 457. Anyone taking the time to go through the data submitted herewith must be convinced that any other year than 457 for the beginning of the 2300 years, in the 7th year of Artaxerxes, could be named only through a lack of taking under consideration the various factors involved, such as the method of applying

CHART C

THE JEWISH CIVIL YEAR

Tishri	Marcheswan	Kisleu	Tebet	Shebet	Adar	Nisan	Iyyar	Sivan	Tammuz	Ab	Ellul
[illegible]	[illegible]	[illegible]	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Sequence of events in Nehemiah's [illegible]
of the 20th year

Sequence of events
of the 7th year.

Therefore in any year this must be the [illegible]

[illegible] and years are reckoned according to [illegible]

and not according to

the JEWISH SACRED Year

Nisan	Iyyar	Sivan	Tammuz	Ab	Ellul	Tishri	Marcheswan	Kisleu	Tebet	Shebet	Adar
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Sept-Oct	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

the term "accession year," the synchronisms given by Biblical and profane history, and the anchors given by astronomical observation.

There seems to be no other date in history that has been more firmly established both from Biblical and history standpoints, than this seventh year of Artaxerxes. When one realizes that 457 B. C. is the starting point of the great twenty-three hundred day prophecy, reaching from that time down past the crucifixion to the time of the great judgment hour, one is deeply impressed with the infinite care taken by the Lord in preserving such an important record as this.

Lynn Harper Wood

CHART D

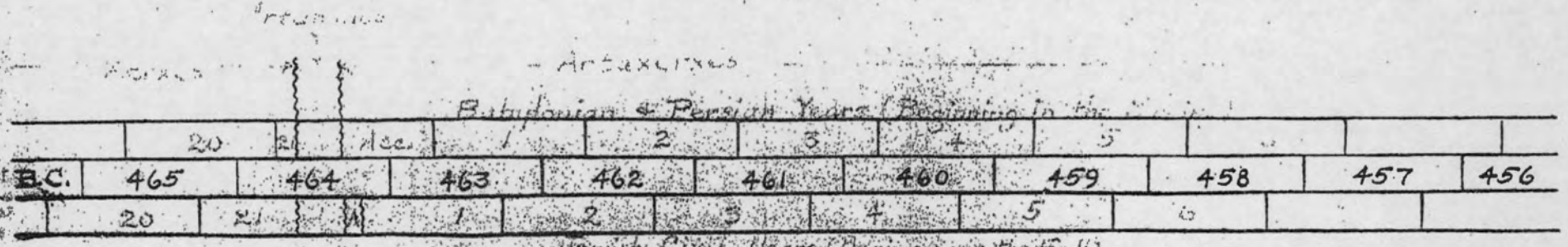


Table showing 457 to be the 7th year of Artaxerxes, whether ... the Babylonian method of beginning the year in the ..., or according ... method of beginning the year in the fall - 1st of Tishri. (Ca ...

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART V--CRUCIFIXION DATE, AND ASTRONOMICAL SOUNDNESS OF OCTOBER 22

A. The Problem and the Factors Involved.

Factor 1. In archaeological reports, in astronomy, theology, and history, the date of the death-year of Christ is a theme frequently discussed. It would appear that no generally accepted authority on the passion date, in either science or theology, exists today. Every discussion, however, in both astronomical journals and religious periodicals, reaches out for new evidence from the Bible. Early patristic testimony, fragments of ancient calendars on parchment or stone, ecclesiastical records which have survived the centuries, are still so wide apart in meaning that it seems virtually impossible to establish the crucifixion date from the standpoint of history alone.

There are related sources upon which constant demand is made by those considering the subject. These include the various calendars of the nations, their standard and local almanacs, the Jewish year book and system of keeping time, the ancient "boundary stones" and tablets with their revealing figures and difficult cuneiform, the dated business contracts of old Babylon, the Assuan papyri, various other ancient manuscripts, the prophecies of Daniel--for almost no chronologist, heathen or Christian, omits Daniel--and above all the New Testament record of the life of Christ.

In the endeavor to fix upon the crucifixion date, a year with a Friday passover in a period consistent with the time of the public ministry of Christ has for some time been the accepted index to the problem. This is the lead followed in the majority of current articles on the date of the crucifixion. But aside from the persistent stand of Catholic writers for April 3, 33 A.D.,[1] and of the Rabbins for a Friday passover in that year, none of late seem to draw a

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[1] Sidersky, David, "Astronomical Origin of Jewish Chronology," ch. II, par. 30, in "Memoires presentes par divers savants a l'Academie des Inscriptions et belles-lettres de l'Institut de France," Paris, 1913, Vol. XII, part 2; Boylan, Patrick, "Date of the Crucifixion," Studies, March, 1933, p. 1.

conclusion without an alternative date.

Factor 2. The variety of conclusions offered by these scholars may be charged to three principal causes:

a. The location of the paschal moon in the proper spring month;

b. The determination of the true day of the Hebrew first month, with which the full moon coincides; and

c. The number of passovers in the ministry of Christ.

Factor 3. It should be made perfectly plain that if these two coordinate facts concerning the passover moon--her position in the zodiac and her place in the month--are not definitely located, and pointed out with accepted authority, no astronomical list of new and full moon dates for the spring months of the suggested years of Christ's ministry can be of any use whatever in deciding this question. Nearly every writer builds his argument upon such a list. However, all these tables of the moon are practically the same, though taken from French, German, or English ephemerides (almanacs).

In the quest for solving the prophecies concerning Christ, some of these moon tables go back many centuries, covering 3000 years or more of time, and marking out the phases of the moon from year to year. The difficulty in calculation does not lie in an error in these dates which astronomy offers the student of prophecy and chronology, because they are in the main attested and correct. In fact, they can be easily computed and proved from known positions of the moon in our own century, by trailing her back through the one hundred cycles she has coursed around the earth since the first century A.D., from 1930 to 30 A.D.--and similar intervals of time.

Today we can learn from a standard almanac the moon's position in her orbit; when she is fast and when she is slow; when she is near the earth, and when she is far away; when north of the ecliptic--the apparent course of the sun--and when south. Her very same performance has been determined for the first century, and her position in the sky mapped out in the time of Christ. The difficulty, we

would emphasize, does not lie in a variation of these lunar tables which astronomy offers to the field of research in the twentieth century.

Factor 4. Before the cause of the numerous dates offered for the crucifixion can be understood--and the several years, 28 to 35 A.D., are by different writers considered possible--the early history of the change from Passover to Easter must be taken note of. Almost contemporaneously, both Jews and Christians were striving to fix their methods of marking time.[2] Because they had been scattered by Rome's persecution, and could no longer "observe" the moon, and flash their fire signals from mountain to mountain to proclaim the new month, the Jews felt compelled to compute a fixed calendar. The early councils of the Christian church, convened by the state, were likewise seeking the prerogative of regulating the calendar, which function had formerly been assumed by the ancient pontifex maximus of Rome. Mar-Samuel of Narhardea,[3] in the third century, pioneered a computed calendar for the Jews; and the Council of Nicea in 325 A.D. did the same for the Church. In the end, both the Jewish patriarch and the pope kept the charge, the one for Jewry, and the other for Christendom. But the ecclesiastical Council of Nicea dictated a change in the time of the Jewish passover, upon which the church wished to build her Easter feast,[4] and to which the scattered Hebrew people ultimately paid homage in the calculations of their almanac.

Factor 5. This change involved placing the earliest Jewish passover in March, instead of April, the limits of the cycle of the paschal new moons extending even from before the spring equinox, to April 5.[5] But Scaliger, master

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2 Sidersky, "Origin of Jewish Chronology," ch. II, par. 45.
3 Hoffmann, David, "Mar-Samuel," Leipsig, 1873.
4 Clavius, Christophor, "Romani Calendarii A Gregorio XIII P.M. Restituti Explicatio," ch. III.
5 Scaliger, Joseph, "De Emendatione Temporum," Francofurt, 1583, p. 108.

of chronology of the nations, computes that in the times of the Messiah, the earliest passover was April 8, and that the latest was May 6.[6]

Factor 6. Another most important feature of the change, one which apparently has not been noticed in connection with the problem of the crucifixion date, related to the command of the Nicean Council that the Passover--which, it should be particularly noted, both Christians and Jews were celebrating, even for a hundred years after the Apostles[7]--was to be placed on the first "Luna XIV" after the vernal equinox.[8] These words, "on" and "after" make all the difference in the world in the use of the dates of the Jewish passover moons for deciding the time of the death of Christ.

If we accept the testimony of Aristobulos, 200 years before Christ--that the passover of the Jews followed the sunset of the day when the full moon rising in the east faces the setting sun in the west--we can reasonably conclude that the Jewish passover, which is repeatedly described in the Bible as the 14th day of Nisan, was the day following the full moon date, and not on it. Herein seems to lie the crux of the many assertions which have been offered in regard to the time of the passion of Christ. Though the modern Hebrew calendar is faithful in a way, to the laws of astronomy governing the new moon and her phasis,[9] yet no longer does this Talmudic authority recognize the appointed moon of barley harvest for the passover. Since the destruction of the second temple, the Biblical sheaf of ripe barley corn has no longer been waved by the priest.

Factor 7. It has been contended by some astronomers, ans also by certain theologians, that one cannot say just how the Jews computed time when Jesus was here, and that their system of calculation was too irregular and too uncertain to be traced with certainty nineteen centuries after. Moreover, the influence of Nisan 15 in place of Nisan 14; for the Passover, in the Jewish calendar of today, is per-

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6 Scaliger, op. cit., p. 265. Note: Scaliger, Joseph Justus, (1540-1609) was one of three great men who laid out the Gregorian reforms of the calendar in 1582, concerning whom George H. Robinson (Harvard) says: "Of his primacy beyond all rivalry, among the scholars of modern times, there can be no doubt." (Autobiography of Joseph Scaliger," Cambridge, 1927, preface, p. 7.)

7 Scaliger, p. 105.

8 Clavius, "Roman Calendar," ch. I, par. 3.

9 Cf. Calendar in American Jewish Year Book.

haps as equally responsible as is the question of the placement of the full moon date itself, for this uncertainty on the part of many scholars, both Hebrew and Christian, in regard to the crucifixion date.

These early historical facts, and the Jewish calendar features mentioned, are closely connected with any solution of the passion date. Therefore, the attempt is here made to include some of these unsolved questions in the problem to be considered, especially as regards the paschal moon of Nisan. A chronological setting should not detract from the spiritual picture of the cross of Christ, if it shows it immovable in time and prophecy.

Many scholars are out of agreement as to the length of Christ's ministry and the number of passovers; but the events and scenes in the gospel record are so correlated that it seems entirely possible to relate the epochal years of His life to an outline which fits the chronology involved, both from a prophetic and historic viewpoint. As these inspired pictures of Christ are placed side by side, His whole life portrait is redrawn, as it were, and the scenes become harmonious and complete. Suddenly is revealed a depth of meaning between prophecy, history, and the science of time.

Factor 8. It is purposed here to show (1) that the method of reckoning time used by the Jews in the first century was scientific, and in harmony with known laws of the moon's behavior; (2) that, inasmuch as their system was the result of many centuries of observing the moon, in seeking from the Jewish mode of reckoning the facts concerning the luni-solar year, we are appealing to the original source of this kind of time, and consequently to one of primary authority.

B. Timekeeping in the First Century:

1. The Jerusalem Era. The year 170 of the Seleucid era (about 142 or 143 B.C.) marked the recognition of Jewish independence by Demetrius, of the house of Seleucus. Simon, the last of the Maccabean brothers, was then high priest in Jerusalem. In this same year, the people of Israel began to date their documents and public instruments according to the year of the high priest, as mentioned in the Apocrypha. Thus: "In the first year of Simon, the high priest, the governor and leader of the Jews."[1] This custom evidently continued on down to the time of Luke, who similarly dates the ministry of John the Baptist, with joint reference to emperor, governor, and high priest.[2]

The "Jerusalem Era" was thus established, and has been found engraved on the coins dated the fifth year of Simon's reign.[3] "Mathematicians therefore computed for them [the Jews] the cycles, and taught them how to find, by calculation, the conjunctions and the appearance of new moon."[4] Sidersky claims it is probable that "these calculations go back much further" in point of time.[5] He thinks highly of the happy comment of Scaliger, who several times refers to the method of Jewish reckoning as "the most ingenious and most elegant of all systems of chronology."[6]

Thus the Hebrew people came up to the time of Christ with a dated chronological system--a factor of importance in our quest. The Sanhedrin determined each

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1 1 Maccabees 13:42. (Wace edition, London, 1888, Vol. II.)
2 Luke 3: 1,2.
3 Reproduced by Benzinger, in "Hebrew Archaeologie," Leipzig, 1904, p. 196.
4 Albîrûnî, "Chronology of Ancient Nations" (trans. by Sachau), London, 1879, p. 68.
5 Sidersky, David, "Etude sur l'origine astronomique de la chronologie juive," in Memoires presentes par divers savants a l'Academie des Inscriptions et belles-lettres de l'Institute de France, Vol. XII, part 2. Paris, 1913, Introduction, p. 597.
6 Scaliger, Joseph, "De Emendatione Temporum," Francofurt, 1593, p. 108.

Jewish year by means of astronomical calculations. Although the formula used by the Secret Council for Intercalation has not been found, yet it was referred to by Moses Maimonides, who said that he possessed it.[7] Mar-Samuel of Nahardea also had it, and by it computed a Jewish calendar for 60 years to avoid the necessity of double festival days. This he sent to Rabbi Johanan in Jerusalem as proof of his knowledge.[8] It was Hillel II who, in the 4th century, passed the secret on to the outer world, and so it became the basis of the modern Jewish calendar.[9]

The Jews doubtless had known the length of the year from Egyptian times, but their method of intercalation was different on account of their Passover feast. This they regulated by the "maturity of the barley."[10] Moses commanded that they should not even reap their barley until the first fruits of it had been offered to the Lord at the time of the Passover. Sidersky adds, "The aim of the Mosaic command was to regulate the months according to the course of the moon, and the whole year in accordance with the course of the sun--by assigning as a starting point the lunar month coinciding with the beginning of a determined solar season."[11] That "determined solar season" was still the barley harvest in the time of Christ. Later on, as after the dispersion of the Jews, "The Sanhedrin did not content itself to observe the maturity of the barley, but added

month & year

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[7] Maimonides, Moses, "Constitutiones de Sanctificatione Novilunii," published by Blaise Ugolin, Venise, 1755, quoted by Sidersky, p. 662. Note: Maimonides, or Moses Ben Maimon (1132-1204), is sometimes called the "second Moses." His essay on the Jewish calendar makes him important both to Jewish and Christian scholars.

[8] Hoffman, David, "Mar-Samuel," Leipzig, 1873, p. 21. Note: Mar-Samuel said, "The heavenly courses are as well known to me as the streets of Nahardea." (Jewish Encyclopedia, art. "Mar-Samuel.")

[9] Graetz, Heinrich, ("History of the Jews," Philadelphia, 1893, Vol. II, p. 573) says: "Hillel II. . . placed at everyone's disposal the means of establishing the rules which had guided the Sanhedrion up till then in the calculation of the calendar and the fixing of the festivals."

[10] Lev. 23:14; Sidersky, "Chronology of the Jews," pp. 615,623. Note: Sidersky insists that the Jews also used the 19-year cycle from the time of their independence in 142-3 B.C., but that it was a result, not a cause, of the ritual ceremonies, which were the older. (p. 631.) In like manner, he considers the modern Jewish calendar to be founded on the primitive ceremonies of the luni-solar year. (op. cit., pp. 640,649.)

[11] Sidersky, "Chronology of the Jews," p. 625.

to it the observation and calculation of the equinox."[12]

The ceremony of the barley harvest was the divine rule by which the position of the month Nisan was located. If by the first of Nisan, the barley was not sufficiently advanced for the passover festival, then a leap-month was added, and the feast period of the year was delayed until the following month.[13] The Lord had promised Israel, when He ordained the Passover, that He would send rain in due season in order that the corn should be reaped in time for the feast.[14] On account of this ceremony, a special field of barley for the temple was sown in the sheltered Ashes-Valley across the Kidron.[15]

Such a provision as the barley-harvest control of the year thrusts definite certainty into Jewish reckoning in the time of Christ--one which held until the Jews were scattered after the destruction of Jerusalem.[16] By this rule, we know that the Nisan paschal moon could not come until the rains were over and the barley ripe.[17] On these two counts, a passover in Dystrius, the ancient name for March, is out--for all the reports on agriculture and meteorology in Palestine, ancient and modern, show that March is the month for the latter rain, and that barley ripens in April.[18] The Hebrew paschal song included this refrain: "The rain is over and gone."[19] Consequently, as regards the astronomical element

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12 Op. cit., p. 623.

13 The Karaites were accustomed to make the test also in Shebat, 50 days before the passover. (Albîrûnî, "Chronology," p. 69.)

14 Deut. 11:14. (The early rain came in December; the latter rain in March.)

15 Edersheim, Alfred, "Life and Times of Jesus the Messiah," New York, 1896, Vol. II, p. 619.

16 Sidersky says: "It was no more possible under Constance to apply the old calendar." ("Chronology," p. 651.)

17 Compare Part V, Sec. E. Note: The modern Jewish calendar is based upon an equinoctial moon which came in March, in direct opposition to the barley-harvest moon of the first century, which came in April.

18 See Part V, Sec. B. Note: The Nestorians in Persia keep count of the ancient Jewish Passover which is always placed on Nisan 14, or Luna 14, in April. "April is the month of barley-harvest and March is the month of rain." (Lamsa, G.M., Nestorian authority.)

19 Song of Solomon 2:10-13; "Patriarchs and Prophets," pp. 537, 538.

that enters into the date of the crucifixion, one should look in the ephemeris for passover moons in April, and not in March! Scaliger says that in the time of Christ the paschal moon limits were April 8 to May 6. He showed that those who later used the Dionysian moon tables thought that they were celebrating the Jewish Passover in Nisan when it was ten times in Adar during the cycle of nineteen years. He learned this, he said, from the Jews themselves.[20]

Another feature pertaining to Jewish reckoning in the first century concerns the day itself upon which the New Year was started. The Jews, Arabs, Chaldeans, and Damacenes all had the same custom in reference to the beginning of their months--they started the new month with the first appearance of the new moon after conjunction. The presence of the moon in the western sky at sunset was called the phasis,[21] and marked the following day as the first of the new month. This period from conjunction to phasis, Hevelius called the interlunary period,[22] while Scaliger called it the translation of the moon.[23] In this discussion in Part V, the term "translation" is used in the sense that it refers to the time between conjunction and the sunset marking the beginning of a new month--the sunset near to which the phasis always occurs.[24]

The Jewish new moons (that is, the new moons that marked the first day of the month), commonly exceeded the ordinary "size of the phasis," or first appearance of the moon.[25] While the Greeks started their month from the conjunction itself, it was a certain "shape of the moon" that regulated the beginning

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20 Scaliger, "De Emendatione Temporum," p. 107.

21 The plural of phasis is "phases," which is pronounced with a soft "s". On the contrary, the plural of the ordinary word "phase" is likewise spelled "phases," but is pronounced pha-zes. The context must identify the words as used in this discussion.

22 Hevelius, Johannes, "Selenographia, sive Lunae Descriptio," Gedani, 1647, p. 274.

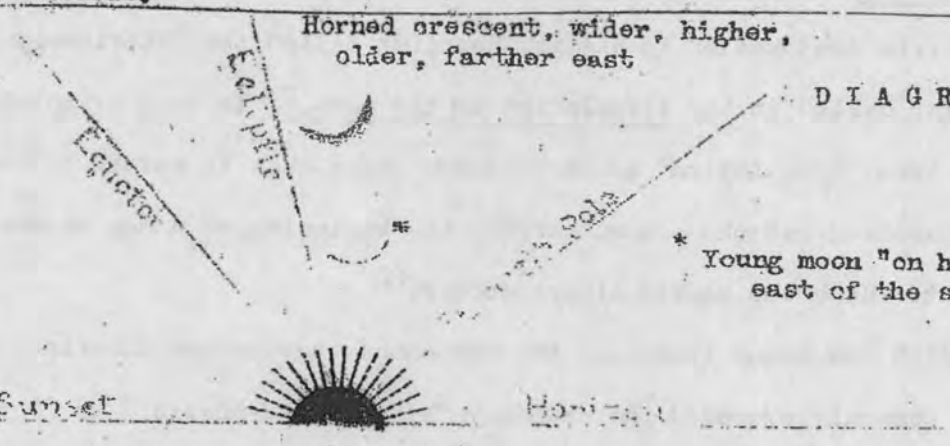
23 Scaliger, "De Emendatione Temporum," p. 85.

24 It was not the actual minute at which the phasis of the new moon was observed which marked the new days, but the sunset near which it took place. Scaliger says repeatedly that the Jews started their month "from the phasis of the moon," (apò phaseōs selēnēs), but always places the phasis at sunset--ab occaso Sole. ("De Emendatione Temporum," p. 85.)

25 Scaliger, op. cit., p. 6.)

of the Jewish month. Scaliger sometimes called it the "horned moon."[26] Rabban Gamaliel, chief of the Sanhedrin in the middle of the first century, had pictures of the moon on a tablet on the wall of his upper chamber. By means of this chart, he examined the witnesses who had observed the moon, and would ask, "Didst thou see it [the moon] on this wise or that?"[27]

In Jerusalem was a large courtyard where the witnesses were examined by the Beth-Din. They were questioned: "Say, in what position did you see the moon, in front of the sun (i.e. to the east of it), or behind it? To the north of it, or the south? What was its elevation on the horizon? To which side was its inclination? What was the width of the desk?"[28] The accompanying illustration makes a little plainer the meaning of the questions asked, which after all were truly scientific.



"In the spring, because of the steep ecliptic the crescent moon is level with the horizon. With very young moons it looks like a very fine bright thread from left to right... It often happened to me that in the spring, when I was looking for the young new moon, which is as fine as a thread, I would believe for a moment that such a colored horizon stripe was the crescent, and have exclaimed: 'I have it,' only to see a minute later, that I had been mistaken, because the thread disappeared or divided itself."--Albert Schoch, in a letter to P.J. Schaumberger, quoted in Biblica, November, 1927.

26 Idem, p. 77. Note: Hevelius fully describes the "horned moon," and designates when the moon appears as such. ("Selenographia," pp. 281, 282.) This will be further demonstrated in Part V, Sec. E.

27 Jerusalem Talmud, Section Moed, Vol. VII, Rosh Hashana 2:3.

28 "Jerusalem Talmud, "Section Moed, Vol. VII, Rosh Hashshana 2:8; Sidersky says: "The calculation of which [the conjunction] was known in the course of the last centuries preceding the Christian era. . . by calculating this visibility in advance by means of inductive methods established by the ancients in consequence of observations over centuries."(Appendix B, p. 661.)

The very nature of these questions shows the extent of the astronomical knowledge which the Sanhedrin possessed concerning the moon's phasis. The historical testimony is obviously true that this tribunal had in hand the calculations pertaining to the moon's position and her translation at the time of the new moon.

These observations were continued even long after the knowledge of astronomy made it possible to calculate the date of the new moon in advance[29]--at least a century before the time of Christ. The deliberations of the Sanhedrin always took place behind closed doors, thus surrounding with mystery their secret council, called the "Sod-haibour."[30]

The questions asked the Hebrew "observers" in the first century A.D. involve the same principles as used today in computing the common almanac. "How wide was she?" inquired Rabban Gamaliel. So it is that the width of the moon from horn to horn determines her position in relation to the earth. The relatively widest moon is nearest the earth, that is, in perigee; the least wide moon is farthest off, or in apogee.[31] The witnesses reported how near the sun was to the moon, and how low on the horizon. The altitude of the moon above the horizon, and her distance from the sun at sunset indicate in a general way the moon's age; namely, how many hours have elapsed since conjunction. The older she is, the later she sets after the sun.

The proclamation of the new moons by the Sanhedrin constituted one of the strongest elements of cohesion among the Jews, and was jealously guarded as a

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29 Hoffman, "Mar-Samuel," p. 20; Sidersky, "Chronology," p. 661. Note: Full details of this court in Jerusalem and the ceremony of signaling the announcements of the new moons, are given in the Mishna (Rosch Hashshana, I and II.)

30 Zuckermann, B., "Materialien zur Entwick, der altjud. Zeitrechnung im Talmud" (Material for the Development of the Ancient Jewish Time Calculations in the Talmud), Breslau, 1882, p. 21.

31 Note: By comparing the various dates of the moon in the American Ephemeris (1939, p. 146,) for apogee or perigee, with the dates of her various diameters (pp. 147-162), it will be noticed that on whatever date she is in perigee, her diameter is greatest, and when in apogee, she is the least in width.

special prerogative of Palestine.[32] Rabban Gamaliel said that he knew the value of the synodic month from his grandfather, Hillel the Babylonian,[33] and in the "Meghilath Taanith" we have the first complete enumeration of the Jewish months in their order,[34] which, according to Schwab, "must have been written and introduced about 6 or 7 A.D."[35] The Palestinian Jews of the first century kept their calculations based on the true conjunction and phasis, in contrast to which the Jews of Babylon, and those under Babylonian influence in the time of Hillel II (359 A.D.), computed their calendar on the Moled, or mean conjunction.[36] There may be, however, as much as 14 hours difference between these two conjunctions.[37]

The significance of this fact must not be overlooked as a most important feature of Jewish time in the first century; for in the study of the dates pertaining to the years of Christ's ministry, we are dealing entirely with the true astronomical moon as employed by the Palestinian Jews, and not with the fictitious moon of any cycle as is the basis of the Catholic Church Collect, and of the modern calendar of the Jews.

After 1500 years of experience, the Jewish Sanhedrin were well versed in the the science of reckoning time. The famous treatise of Maimonides, philosopher and Hebrew sage of the thirteenth century, is perhaps our best example of the ancient Jewish astronomy, which became his later heritage. He claimed that his formulas of computation of the moon's phasis had long been known to the Jews, and that they used these calculations as a check on the testimony of the witnesses.[38] "An identical method is still used by the Karaite scholars for making up their

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32 Graetz, "History of the Jews," Vol. III, pp. 117, 118.
33 Talmud, Rosh-Hashshana, 25a, quoted by Sidersky, p. 656.
34 "Rouleau des Juives," quoted in Sidersky, p. 619.
35 Schwab, M., XI Congres des Orientalistes, 1897.
36 Hoffman, "Mar-Samuel." "It was the modern computation with the elements of calculation established by the Babylonians and accepted by the Palestinians, which Hillel II, by virtue of his power as chief of the Sanhedrin of Palestine, officially passed on to universal Judaism thus assuring their universal unity until our day." (p. 20)
37 Sidersky, "Chronology," p. 659.
38 Sidersky, "Chronology," p. 626.

calendar, as described by Kokisoff."[39]

Thus the translation of the moon--or calculation which determined the first day of each new month--is perhaps the most complex feature of the three involved in connection with Jewish timekeeping in the first century, which are: (1) a dated era; (2) a festival ritual governing the position of the paschal month; and (3) the translation of the moon marking the first day of each month.

From the days of Ezra and Nehemiah to the present time, a long series of historical and astronomical source materials now offer a complete picture of the new moon and her phasis. Every detail of her performance is described either on tablets, stone, or parchment, or in books of ancient and modern astronomy. Thus has the way been prepared for effective chronological study with reference to Jewish luni-solar time, and its bearing upon the death-year of Christ.[40]

Any reasoning that Jewish time in the first century was based on a plan so irregular and secret that it is now impossible to lay bare the system is not at all in harmony with the facts. The historical records, and the customs and ceremonies connected with the Jewish form of year are fully recognized and understood by both Hebrew and Christian scholars, and may not be ignored. To the Jews

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[39] Sidersky, op cit., p. 673.

[40] The leading sources and authorities supporting the basic principles of this argument in reference to the moon are: (1) The "Venus Tablets of Ammizaduga"--on which Kugler worked so long, and on which he based his "Babylonische Mondrechnung"--is perhaps our earliest reference; (2) Geminus, who worked out his mathematical astronomy on the moon's motions in the century before Christ; (3) The House of Hillel, which presided over the regulation of the year for the Jews in the time of Christ; (4) after the destruction of Jerusalem, Mar-Samuel (c. 170), who was called "Yarchinaah," because he knew so much about the moon; (5) then Hillel II (359), who applied the Jewish secret of time to a fixed calendric system; (6) the Karaites, who arose in the 8th and 9th centuries as defenders of the Mosaic ceremonies pertaining to lunar-solar time; (7) Albîrûnî (1000), who presented the first complete record of the Jewish calendar; (8) Maimonides (1178), who produced his famous essay on the translation of the moon and her phasis; (9) Abraham Hanassi (1120), who was another Hebrew computer of note; (10) Scaliger (1582), who has been called "victor over time," and who numbered all days by the Julian-day numbers; (11) Hevelius (1648), Polish astronomer, who left a complete record of all the various kinds of lunar translations and their causes; (12) Fotheringham, Schoch, and Neugebauer, who were pioneers in modern research on the moon's phasis; (13) Sidersky, Zuckermann, Kokisoff, able computers in Jewish time; and (14) the Oppolzer, Schram, and Brown tables, together with the Standard Ephemerides, which constitute invaluable aids to astronomical research in the 20th century.

had been committed, through the prophet Daniel, a long series of time prophecies relating to the principal nations of earth, recognized by both oriental and modern chronology as important, and definitely dependent for orientation upon a stable system of common time. This has been provided for us in the blending of Jewish and Roman timekeeping.

Both Julius Caesar and Augustus did their part in regulating the civil calendar of Rome,[41] while the Jerusalem era proved to be a stable epoch in time-keeping. Each day of those years has a definite number in the universally-accepted Julian-day numbering.

2. Julian Calendar. In modern times, civilization largely follows the Gregorian calendar, which originated in 1582 A.D. From the first century on to the days of Gregory XIII, in 1582, dates are commonly recorded in Julian time.[42] Every day in each week of this long period of time has its designated number in Scaliger's Julian-day reckoning.[43] This system offers a simple but absolute method for determining the feria, or day of the week, for any given date in the time of Christ. Scaliger carried his numbers back to a point many centuries before Christ, his zero number ending on a Monday.[44] Every Julian-day number, therefore, represents a certain number of weeks with a remainder. These remainders correspond to the days of the week according to Schram's table:

Remainders	0	1	2	3	4	5	6
Feriae	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.

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41 "Encyclopedia Britannica," art. "Calendar."

42 In the American Ephemeris (1939 ed., pp. 808-811), appears the standard formula and tables for converting Gregorian dates into Julian time.

43 This table is found in any late American Ephemeris. The Julian-day tables have been called the "Astronomer's Bible," so universally have they been adopted in astronomical circles.

44 See Schram, Robert, "Kalendariographische und Chronologische Tafeln," Leipzig, 1908.

In other words, since the Julian-day numbers ended with Monday, any remainder of a number, after the weeks are taken out, will represent just so many days this side of that first Monday. If there is no remainder, then the number itself represents Monday. For example, to find the day of the week for April 27, 31 A.D.: Its Julian-day number is 1732497.[45] Taking out the weeks--by dividing by 7--we have four days left. Add these four days to Monday, and we get Friday.

If one does not have access to the American Ephemeris, a simple table may be made for first century dates as follows: January 1 (1 A.D.), Julian time, was Saturday.[46] By reckoning forward from this point to the year 31 A.D.--observing the leap-years--January 1 will be found to be Monday for that year. From Monday (inclusive) add the 117 days reaching to April 27, and we similarly get Friday.

Every day has been astronomically numbered as far back as history goes. No feria, or day of the weekly cycle, has ever been added or dropped. The first century was not only true to the days of the week, but the Julian calendar was of such a nature that the seasons came at the proper time of year in contrast to the Egyptian calendar, whose feast days wandered through all the seasons, because its year was too short.

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[45] American Ephemeris, p. 808.
[46] Encyclopedia Britannica, art., "Calendar."

Logo page to show Gregorian Calendar days not changed

However, it also shows it is not the luni-solar Calendar which starts with New Moon Crescent and appeared during

Insert, Part V, p. 15, as footnote.

47 At this time, the Hebrews had been calculating the conjunctions and phases for at least a century (Albîrûnî says "nearly 200 years after Alexander,"--op. cit., p. 68), and perhaps longer. (Sidersky, "Chronology of the Jews," p. 615). They had divided the hour into 1080 scruples, a value which was very old, which had originated with the ancient sexigesimal (or fractional) system of the Chaldeans about 400 B.C., and which agreed with the "Almageste" of Ptolemy (Sidersky, op. cit., p. 639). With the important feature of the moon's fast and slow motion, the Beth-Din must have been indeed familiar, for all the questions asked the Hebrew witnesses, though directly referring to the moon's position in the sky, thereby had specific relation to her rate of motion. In the century before Christ, Geminus wrote in the "Isagogue," "the sixtieth part of a degree is called a minute; the sixtieth part of a minute is called a second. Likewise the second is divided into sixty parts, and each sixtieth part is called a tertie." [Italics mine.] ("Elementa Astronomiae," p. 205) He further showed that with this table in hand, the Chaldeans had recorded the angular distance the moon travels in compassing the zodiac belt; that they had actually observed that in 19756 days she had gone around the zodiac 723 times and 32 degrees over. (Op. cit., pp. 203,205) And so the least and maximum daily movement of the moon had become known facts before Jesus was born. They had been computed by the scientists of Babylon, the "home of astronomy." (Hoffman, "Mar-Samuel," p. 17.) It is said that the Jews learned from the Babylonians much of the science of astronomy in which they had "multiple knowledge." Also, "among them the study of this science was declared a religious duty." (Op. cit.)

3. Accuracy of Barley-Harvest Intercalation. From the time of the Nicaean decree until the present day, it has been passed on from generation to generation that the Jewish Passover "was at the first full moon after the equinox of spring."[20] The tables of the modern Jewish calendar follow this plan. Many historians, both ancient and modern, have taken it for granted that the Jews had always kept their Passover at this time, and that such was therefore the case in the days of Christ. The Karaites, who according to Chwolson closely adhered to the Sadducean literature, and represent a pre-rabbinical view of the Mosaic law,[21] apparently have been the chief opponents to this ruling. Their prolonged polemic with the Rabbanites in the eighth and ninth centuries,[22] is an evidence that such regulation of the Jewish Passover was not the original precept of Moses. This far-reaching influence of the Karaite teaching made itself felt upon the Adventists in 1844.[23]

Since the original Mosaic law--not the Mishnaic or Talmudic reflection of it[24]--involved a barley-harvest paschal moon instead of an equinoctial moon, the question naturally arises as to when this change was made, and how it came about. In the Jewish period following the destruction of Jerusalem, the Sanhedrin at Jamnia "became the heart of the Jewish nation."[25] The Jewish calendar had not yet been "permanently fixed," and had to be regulated from time to time. The festivals were dependent "upon the course of the moon, and upon the influence of the sun on the harvests." Every two or three years the solar year exceeded the lunar by about a month, and a month was inserted, making a leap year of thirteen months. This "intercalary month was announced by the Patriarch in a circular letter to the community." About fifty days before the Passover, witnesses examined the state of

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20 Lindsay, Jas. B., "Chrono-Astrolabe," Dundee, 1858, p. 119; Sidersky, "Chronology of the Jews," p. 626. Note: Scaliger (p. 106) makes this enlightening statement: "Some were using the pure Jewish year, and others were fixing their cycle at the vernal equinox."

21 Chwolson, Daniel, "Das letzte Passamahl Christi," Leipzig, 1908, pp. 31,176, Note 2.

22 Poznanski, Samuel, "Ben Meir and Origin of Jewish Calendar," Jewish Quarterly Review, Vol. X, pp. 152-160. Note: Sidersky mentions the Sadducees, Essenes, and Bethusae in the 2nd century B.C., as fighting the calendar. (p. 623:

23 See Part II, Secs. VI and IX.

24 Chwolson, op. cit., p. 17.

25 Graetz, "History of the Jews," Philadelphia, 1893, Vol. II, ch. XIV.

the barley to determine if it would be ripe in time for the feast.[26] Since the days of Moses, the maturity of the barley had been a determining factor in regulating the Jewish year.[27] Rule: after April 8 to May 6 = Passover

Up until the Council of Nicaea, the Christian Easter, especially in the East, had been celebrated for the most part at the time of the Jewish Passover, and "indeed upon the days calculated and fixed by the Sanhedrin in Judaea for its celebration."[28] On the contrary, in Europe, "some earlier, some later, were intercalating the months . . . the Europeans were placing their cycle at the equinox, and were celebrating the Passover on the next full moon after the equinox."[29] These contentions had agitated the church since the time of the Roman bishop Victor, who had persecuted the churches of Asia for following the "14th-day heresy," as they called it, in reference to the Passover.[30] But at the Council of Nicaea, "the last thread was snapped which connected Christianity with its parent stock."[31] The future Easter observance was to be rendered independent of Jewish calculation according to these words, which have been attributed to Constantine:

> "Henceforward let us have nothing in common with this odious people; our Saviour has shown us another path. It would indeed be absurd if the Jews were able to boast that we are not in a position to celebrate the Passover without the aid of their rules."[32]

In the subsequent years, the Jews went through "iron and fire."[33] The Christian emperors forbade the Jewish computation of the calendar, and did not allow the announcement of the feast days. Graetz says, "The Jewish communities were left in utter doubt concerning the most important religious decisions" as pertaining to their festivals.[34] The immediate consequence was the fixation and calculation

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26 Albîrûnî, "Chronology of the Ancient Nations," p. 69.
27 Lev. 23:10.
28 Graetz, Vol. II, p. 563.
29 Scaliger, op. cit., p. 106.
30 Op. cit.; see also Eusebius, "Ecclesiastical History," bk. V., ch. 24.
31 Op. cit.; Graetz, Vol. II, p. 563.
32 Graetz, Vol. II, p. 564. See also Eusebius' "Life of Constantine," bk. III, ch. XVIII.
33 Sidersky, "Chronology of the Jews," p. 640.
34 Graetz, Vol. II, p. 571.

of the Hebrew calendar by Hillel II, who (359 A.D.) placed above the dignity of the Patriarchate, the unity and cohesion of the scattered Jewish communities, to whom he made known the secret of Jewish reckoning. According to Graetz, the Jewish system conformed to a cycle of nineteen years, in which seven leap years occur, although he adds that it "has not been ascertained how much of this system was invented by Hillel."[35]

The decrees of Nicaea, "destroyed the Temple of the Law in Judea," as it were, and the ancient regulation of Moses for harmonizing the course of the moon with that of the sun was ultimately replaced by calculations involving the vernal equinox,[36] after which the nearest full moon was chosen to be the paschal moon. From this equinoctial point, the church built up her ecclesiastical calendar and its Easter feast. It is easy to gloss over the real significance of the Council of Nicaea and its bearing upon the Jewish system of time, for though the church desired to depart from Jewish calculation, and to adopt a movable feast,[37] yet in the end, it turned out that both the Jewish and Roman Catholic festivals came to be computed from the same point of time--the time when the sun crosses the equator, the first point of Aries, or the vernal equinox. Although it is clear that the responsibility for this change rests with the bishops of Nicaea, yet, according to Clavius, the church merely enjoined that which had been sanctified by the ancient Roman Pontiffs:

"The Catholic Church has never used that [Jewish] rite of celebrating the Passover, but always in its celebration has observed the motion of the moon and sun, and it was thus sanctified by the most ancient and most holy Pontiffs of Rome, but also confirmed by the first Council of Nicaea."[38]

Clavius, quoting from Socrates and Theodoret, cites the letter that was sent from the Nicaean Council to the church of Alexandria, and to the brethren in Egypt, Libya, and Pentapolis:

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35 Op. cit., p. 574.
36 Sidersky, "Chronology of the Jews," p. 624.
37 Clavius, op. cit., p. 54.
38 Op. cit., p. 54.

"But because it concerns the opinion of all over the celebration of this most sacred feast of the passover, because, wisely, the controversy over this thing has been intelligently undertaken at your requests, and has been conveniently settled, in order that all the brethren who dwell in the east, and who were previously accustomed to immitate the custom of the Jews in the observation of the feast, and all of you who hold from early times to that same custom as we in that celebration, may thus now at length carefully follow us Romans with united minds in the same celebration."[39]

Consequently, it should be recognized and made perfectly plain that the plan of the church and of the modern Jewish calendar as well, to regulate the passover with reference to the position of the sun at the spring equinox, and of the full moon next after, has to be referred back, according to Clavius, to the "most ancient and most holy Roman Pontiffs," and has no connection at all with the original Mosaic command. The Council of Nicaea confirmed what was evidently the prevailing custom among the churches, when it added that "the fourteenth of Luna of the first month must be sought through the cycle of the golden number nineteen."[40] This command shows that the church calendar henceforth was to be based on the nineteen-year cycle. Eventually the Jews followed the same regulation.

But though the Nicaean Council had set the passover back toward the first point of the spring equinox, yet the church soon recognized that Aries, the zodiac sign of the vernal equinox, did not extend as far as the primitive "first month" mentioned in Moses' command. She therefore added five days to the end of Aries, making her furthest paschal limit April 25. In reference to this Clavius, after quoting Theophilus, says:

"From this regulation it is plain that in that time [third century] the passover was wont to be celebrated from March 22 even to April 20, yet to which time there were afterward added five other days, because the first month of necessity required this, so that the passover could be celebrated even to April 25 inclusive. For the first month is not that one in which the sun runs through the whole of Aries, as the Fathers in the Caesarean Synod seem to have wished, but whose Luna 14 falls upon some one day from March 21 inclusive, upon which the equinox is, even to April 18 inclusive [the limits of Aries]. From which it follows that the paschal rite can be celebrated upon April 25, as we shall explain a little later."[41] [Italics mine.]

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39 Op. cit., p. 55; Socrates, "Historie Ecclesiasticae," lib. 1, cap. 6; atque Theodoretus, "Hist. Eccles.," lib. 1, cap. 9.

40 Clavius, op. cit., p. 56; Siderksy, "Chronology," p. 560. Note: The 19-year cyclo was adopted by the church council of 284 A.D. Cf. Siderksy, op. cit., p. 650.

41 Op. cit., p. 55.

The foregoing reference definitely shows that the period of the equinoctial moon, corresponding to the sign Aries, did not coincide with the so-called "first month" of Moses' command.[42] But even though the church added five days to the equinoctial period in which her paschal moon must occur, even so, the limits of this period did not then coincide with the limits of the period in which the barley harvest moon had to full--the latter being shorter, and open to only one full moon--while in the place chosen by the church for her Easter feast sometimes two full moons could happen.

The period appointed for Easter has had also other pronounced irregularities. The equinoxes, due to precession, have wandered far from their positions known in the infancy of astronomical knowledge. The whole ecliptic, since creation, is said to have shifted backwards as much as the sun moves in 81 days.[43] After the first century of the Christian era, every leap day which the Julian Calendar unnecessarily introduced, as in the centurial years not divisible by four, resulted in moving backward the position of the vernal equinox by one day. The wandering vernal equinox, which in 325 A.D., the Nicaean Fathers thought to be forever fixed, made necessary the correction of the calendar in 1582. It happened "that the pasch was celebrated very often 7 or 28 or 35 days other than in the generation which the decrees of the Fathers enjoined."[44]

The differences between the "full-moon-of-barley-harvest" Mosaic rule, and the "first-full-moon-after-the-vernal-equinox" Nicaean regulation of the church are vital. Though both were featured by a period of time, which was to be marked by the first light of the full moon, yet the barley-harvest period did not always coincide with the equinoctial,[45] and both rulings were wide apart in character, purpose, and meaning. This will be seen by the following outline:

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[42] Ex. 12:2.

[43] Ferguson, "Astronomy," (London, 1811), says: "From the shifting of the equinoctial points, and with them all the signs of the ecliptic, it follows that those stars, which in the infancy of astronomy were in Aries, are now in Taurus, those in Taurus in Gemini, etc." (p. 189.)

[44] Calvius, op. cit., Caput II.

[45] The moons were different in embolismic, or leap years.

BARLEY HARVEST MOON	EQUINOCTIAL MOON
1. A command of Moses for Jewish Time.	1. A decree of Nicaea for the church calendar.
2. Only one moon.	2. Could be two moons.
3. A permanent and regular control of Jewish feasts.	3. A very irregular index to the time of Easter.
4. Coincided with "first month," or Nisan.	4. Coincided with the sign, Aries, and often with Adar.
5. A sure index to the crucifixion Passover.	5. Not the paschal moon which marked the death of Christ.

Of these two methods of determining a festival feast, the barley harvest has been commonly regarded as a period too elastic to represent an actual point of time. But be it noted, that the controlling conditions relating to the barley-harvest moon in the time of Christ were as exact, if not more so, than those which have thus far governed the vernal equinox in its control over Easter. The time of barley harvest in the Ashes-Valley field across the Kidron was remarkably accurate and permanent in its regulation of the passover festival. The latter rain extended into the first week in April,[46] and very quickly thereafter the barley would ripen. Into this defined and limited period one full moon only could occur.

Three conditions--(1) the ending of the latter rain, (2) the regular period of the ripened barley, and (3) the fulling of the one moon possible in that limited time after the first week in April--exactly determined the paschal feast and all the other festivals of the Jewish year. The results were dependable and specific. This was the rule which Moses had commanded. It persisted to the generation in which Christ came, and definitely was followed by the Jews until the time of their general dispersion.[47] These facts lead to the one vital conclusion: That the Jewish year in the first century of the Christian era was governed by the barley harvest moon specification which had been ordained of God, and upon which the application of astronomy in relation to the crucifixion year is definitely and consistently dependent.

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[46] See Table 11, p. 23, on rain record.

[47] Sidersky, "Chronology of the Jews," pp. 615, 624.

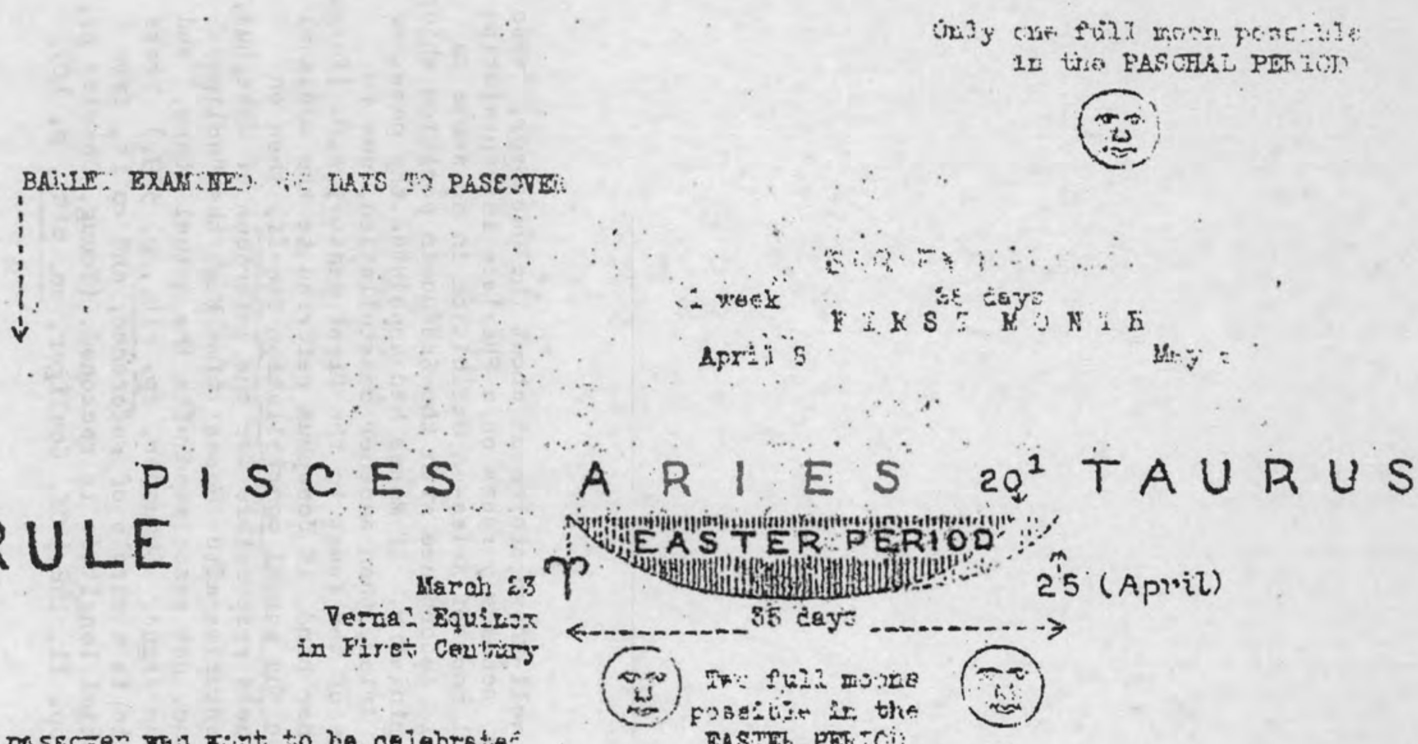
EASTER RULE

ALSO
(RABBINICAL RECKONING)

1 JEWISH MONTHS

2 JULIAN MONTHS

3 SIGNS OF ZODIAC



[1] "The passover was wont to be celebrated from March 22 to April 20, even to which time were added five other days, the first month requiring this."--Clavius, "Romani Calendarii," p. 65.

[2] "In the times of the Messiah . . . the earliest passover was April 5 . . . the latest was May . . ." --Scaliger, "De Emendatione," p. 20[illegible].

The Mosaic Passover Period involves a barley-harvest moon; the Easter Period, an equinoctial moon. In common years, the moons were the same; in leap years they were a month apart. If the time of the passover is wrong, the determinate date of the crucifixion is bound to be wrong--for a passover in March will occur upon a different day of the week from a passover in April of the same year. Consequently, all the March passover dates found in the tables of moons appearing in past and present discussion of the crucifixion date are thereby called in question--seeing that March passovers are not Mosaic, but Nicaean.

Insert, Part V,p. 21, as footnote.

[48]The real meaning of Josephus' well-known statement about the passover, "when the Sun is in Aries" ("Works," p. 75), seemingly rests on a Pharisee interpretation of the paschal moon as the equinoctial moon of Aries--a definition in no sense in accordance with the Mosaic rule, nor in accordance with the Sadducean position which was dominant in the time of Christ's ministry. If Moses had appointed the passover to be in the ancient constellation of Aries, then another constellation, due to precession, would have marked the time of the feast in the first century A.D. (Ferguson, "Astronomy," p. 189.) On the other hand, if Josephus referred to the zodiacal sign Aries, as is probable, and not to the actual constellation itself, then on another count Moses can in no way be held responsible for the inference of Josephus, for it was not until seven or eight centuries after Moses' time that the "ecliptic was divided into twelve equal divisions, not associated with the actual stars," and the constellations were replaced by the signs. (Maunder, op. cit., p. 319.) These signs have never changed. The ecliptic is a circle of reference; and on it, from its first point of Aries, every celestial longitude is reckoned. (Young, Charles A., "General Astronomy," New York, 1898, pp. 11, 142.) Cf. Scaliger, op. cit., p. 169.

C. Length of Christ's Public Ministry.

1. Daniel's 70th Week. When Jesus came into Galilee preaching, "The time is fulfilled,"[1] He referred to the "70th week" of Daniel 9.[2] According to Fraidl,[3] the Christian exegetes up to the Reformation, with but few exceptions, recognize a Messianic prediction in the prophecy.[4] Sir Isaac Newton was a later witness.[5] Ferguson's "Astronomy" was also one of many sources which early suggested to the Millerites the remarkable chronological relation of the "week prophecy" to the death of Christ.[6] Eusebius was perhaps the first to connect the half of this prophetic week with the public ministry of Christ.[7]

When the prophetic events in Daniel 9:23-27 are listed, they are found to include (1) the command that was to go forth to restore and to build Jerusalem (verse 25); (2) the anointing of the Messiah (verse 25); and (3) the cutting off of the Messiah (verse 26). This anointing and cutting off of the "Anointed One," outlined in prophecy give centuries before Jesus was born, finds its exact fulfillment in the beginning and ending of Christ's ministry. The Father and Holy Spirit bore witness to the anointing of Christ at His baptism,[8] and later, He himself preached openly that the event had been fulfilled.

Throughout the Christian era, there has been concerted agreement that in the prophecy of Daniel 9, the public ministry of Christ, ending in His death, is foretold. Fraidl insists that concerning no other prophetic text does so united an opinion exist.[9] The influence of this concept was in part transmitted to the

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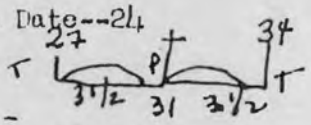
1 Mark 1:15.
2 White, Ellen, "Desire of Ages," p. 233.
3 Fraidl, Franz, "Die Exegese der 70 Wochen Daniels," Graz, 1883, pp. 2, 28, and 154, et al.
4 In the foregoing citation, Fraidl tabulated practically all the commentaries on Daniel 9, both of Hebrew and Christian scholars, from the time just preceding the first advent to the Reformation. See pp. 156-159.
5 Newton, Isaac, "Observations upon the Prophecies of Daniel" (London, 1733), ch. 10
6 Ferguson, James, "Astronomy," Vol. 1, p. 192. (Old Edition quoted in Midnight Cry, April 20, 1843, pp. 19, 20.
7 Mommert, Carl, "Zur Chronologie des Lebens Jesu," Leipzig, 1909, pp. 92, 93.
8 Matt. 3:16, 17.
9 Fraidl, op. cit.



Millerites by Ferguson's "Astronomy," from which we quote:

"Now, as it is generally allowed, that by each of Daniel's prophetic weeks is meant seven years, the middle of the week must be in the fourth year."[10]

This is specific reasoning, for it indicates that in the history involved, as pertaining to Christ's ministry, between three and four years are to be accounted for. One of the important features therefore offered by the "70 weeks" prophecy is its index to the length of Christ's ministry. Fraidl's designation of Gabriel's words in Daniel 9 as the "week prophecy" is significant.[11] It is indeed the only prophecy in either Daniel or the Revelation, which presents its time period in terms of the week. But inasmuch as all other prophetic periods are interpreted on the year-day basis, the "seventy weeks" is of course cataloged according to this same vital principle. Each week of the seventy, as Newton and Ferguson allow, must be a week of years. It is the location of the last week which concerns the death-year of Christ.

From the time of Daniel's first appearance before Nebuchadnezzar down to the time of the ninth chapter, he had seen in prophetic vision the leading nations of the world, even to the end of time. But not until Daniel 9 does the Jewish nation, as such, enter the vision. Daniel had been waiting and praying for some sign or symbol of his own people. The answer finally comes, in which Gabriel tells him plainly and simply that the seventy weeks refer to his own people, the Jews. Consequently the seventieth, or last week of the prophecy, must also refer to the Jews.

The Jewish nation had been organized by a covenant with God,[12] and had been ordained by a system of sacrifices and oblations,[13] but Gabriel solemnly declares that in the midst of the seventieth week, the sacrifices and oblations would cease. He also implied that the Messiah would be cut off during that same "week."[14]

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10 Midnight Cry, April 20, 1843, p. 19.
11 Fraidl, op. cit., Introduction.
12 Ex. 24:8; Heb. 9:19,20.
13 Heb. 9:1.
14 Dan. 9:25,26. Note: Since the seven weeks and three score and two weeks were to reach to Messiah the Prince, who was to be cut off after the three score and two weeks, therefore the "cutting-off" must be in the last, or seventieth week.

These two startling events of the prophecy not only bring it to an end in the time of Christ, but the two events coincide, showing that Jesus was to die in the midst of the week, for it was to be His death that would cause the Jewish sacrifices to cease.[15]

There are no features of the passion week of Christ that enter with more difficulty into the redrawing of the picture than those last scenes connected with the paschal rite itself, especially as relating to the Jews and their leaders. The harmonizing of some of the parts that are hard to understand has been ably presented with new and fresh meaning by Chwolson, who sees in the time of Christ a division in Jewish circles, as between the Pharisees and Sadducees, concerning the slaying of the paschal lambs on Friday.[16] We know from the "week" prophecy that God's appointed end had come for the Jewish service, that its meaning was lost, perhaps its form somewhat changed.[17] Jesus had not kept the third Passover at Jerusalem,[18] and now at the fourth, He "was standing at the point of transition between two economies and their two great festivals,[19] and ordains a new feast for His church before He suffers. "He, the spotless lamb of God, was about to present Himself as a sin-offering, and He would thus bring to an end the system of types and ceremonies, which for four thousand years had pointed to His death."[20]

In the uncertainty that surrounds the slaying of the lambs of the last Passover--their number, and the time of the offering--many, with Paul, see on the cross in the "midst of the week" the true Lamb of God, and say, "Even Christ our Passover is slain for us."[21] This Scripture has been quoted again and again by

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15 Heb. 10:5-9.

16 Chwolson, pp. 87, 129, 147. "Not the Pharisees, but the Sadducees were in power in Christ's time." (p.87.) Note: For thirty years, Daniel Chwolson was professor of Hebrew and Biblical Archeology in St. Petersburg University. At eighty years of age, he was a profound student of the text (1892).

17 "Desire of Ages," p. 33.

18 He remained in Galilee. John 6.

19 "Desire of Ages," p. 652.

20 Op. cit.

21 1 Cor. 5:7, margin. Cf. Frey, Joseph, "Scripture Types," New York, 1841, p. 107.

recent writers on the date of the death of Christ to show that on that passion 6th Friday, Nisan 14, Jesus the true Lamb, took the place of the typical lamb, which would appear to have been offered in the temple on the day before.[22] (Impossible according to Ex 12

2. Number of Passovers. The following outline makes plain how the passovers, during the public ministry of Christ, may be identified and numbered--four in all:[23]

First Passover. (John 2:13)

"And the Jews' passover was at hand."

Second Passover. (Luke 6:1)

"And it came to pass. . . that He went through the corn fields." Luke's "ears-of-corn Sabbath," or a spring barley harvest, witnesses to another harvest year, and therefore to another passover between Christ's return to Galilee to announce His mission,[24] as in Luke 4:14, and the death of John the Baptist in Luke 9 at the time of the third passover. The "feast of the Jews," spoken of in John 5:1, may be the passover of this second year of Christ's ministry.

Third Passover. (John 6:4)

"And the passover, a feast of the Jews, was nigh." This third passover was at the time of the feeding of the five thousand, which event is described by the three Synoptics, as well as by John. Hence, it should be noted, each reference to this scene in Galilee in the other gospels is a testimony that the third passover also is nigh, and this correlation harmonizes the chronology of certain events in all four narratives.

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22 Chwolson, op. cit., pp. 37-40.

23 A careful reading of the sequence of events in the "Desire of Ages," will lead the student to the same conclusion as in this outline. See also Armstrong, W. P., "International Standard Bible Encyclopedia," 1915, art., "Chronology of the New Testament." Vol. I, p. 646.

24 This was after the first passover, and after John had been cast into prison. The ears-of-corn Sabbath is mentioned by all three Synoptics. They uniformly place this event midway between the Baptist's imprisonment--which was after the first passover--and his death, which is always immediately connected with the feeding of the five thousand, a circumstance preceding the passover in John 6. This was without doubt the third. Since each passover represents a barley harvest, the one in Luke 6:1, given midway between two passovers, must therefore correspond to another passover, doubtless the second.

Fourth Passover. (John 13:1)

"Now before the feast of the passover." This fourth passover is recorded by all four evangelists.

The gospel narrative outlining four passovers therefore accords with the "seventy-weeks" prophecy of Daniel, that between three and four years were involved in the public ministry of Christ--or to be exact, three and one-half years. The accompanying Table illustrates this outline of the passovers.

D. Ancient Position of Jewish Passover.

1. The Mosaic Rules. In all the ancient references to the Passover, the "fourteenth day of the first month" is emphasized as the day on which the Passover was kept.[1] There were no double passover days in Old Testament times. If ceremonial defilement prevented an individual from observing the regular festival, then he was commanded to keep the service on the fourteenth day of the following month.[2] Thus is pointed out the importance of the day, which was numbered "according to the moon;" that is, the days of the month were the same as the days of the moon.[3] Indeed the Hebrew word "hodesh" for month, means "new" moon.

It was the actual new moon, not any fictitious new moon that regulated the great festivals, for it was an "observed moon."[4] On the other hand, the barley harvest, ripened by the sun, marked out the paschal month, for the first fruits of ripe barley must be waved in the temple on the 16th day of Nisan when Israel came into the land. In other words, the Jewish feast period began with the month of barley harvest; and its paschal moon, or moon of Nisan, was the appointed moon of barley harvest.

The agricultural calendars of Palestine show that April is the month for the ripening barley. "From the time of harvest or the middle of April to the middle of September, there is neither rain nor thunder."[5] The same story in agriculture is engraved on the Gezer calendar stone, whose fourth-named month has been translated "barley harvest."[6] In Palestine, March is the month of the latter rain, which lasts until the first week in April.[7] After this the barley corn ripens rapidly.

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1 2 Chron. 35:1.
2 Num. 9:11.
3 Josephus, Flavius, "Antiquities of the Jews" (Trans. by Whiston), Cincinnati, 1844, p. 75.
4 Maunder, E. Walter, "Bible Astronomy" (2nd Ed.), p. 297; Deut. 16:1.
5 Jahn, Johann, "Biblical Archeology" (Trans. by Upham), Andover, 1823, p. 22. See also Buhle, Johan, "Economical Calendar of Palestine," in "Calmet's Dictionary of the Bible," London, 1830, Vol. III, pp. 704, 705.
6 Lidzbarski, Mark, "Old Hebrew Calendar-Inscription from Gezer," in Quarterly Statement of Palestinian Exploration Fund, 1909, p. 29.
7 Quarterly Reports on Palestinian Exploration Fund, art., "Meteorology."

However, the Mosaic ceremony connected with the barley harvest, so vital in its control of the Jewish year, did not long survive the first century of the Christian era, because of the dispersion of the Jews. The period of persecution which followed the fall of the second temple ultimately brought about a fixed calendar for the Jews--one that was based upon an entirely different rule of intercalation than the ancient barley harvest regulation. About the 8th century A.D., the Karaites arose to oppose the influence of the Rabbanite fixed calendar,[8] and to restore the barley-harvest schedule as the important index to regulate the leap-year. This controversy over the Hebrew calendar raged for several centuries.[9] It really represented a rivalry between Palestine and Babylon for the prerogative of keeping time for the Jewish nation. Though the Karaites were Biblically correct, in the end the Babylonian Jews gained control of the calendar, and Karaism dwindled. Since 1780, the Karaites have been slowly compromising with the Rabbanites on this question, and today follow a fixed calendar.[10]

2. Fourth Century Changes. After the destruction of Jerusalem, the unity of the scattered Jews more than ever depended upon the festivals being observed on the same days.[11] But two vital changes overtook the ancient Hebrew Passover. First, as pertains to the day, the persecution of the Jews had made impossible the use of fire signals in Judea for announcing the new month. Therefore, in order to keep with certainty a feast day in common with the home land, two festival days--particularly for the Passover--became the custom among the scattered people. The Jews of Palestine, and those among the Greek churches, kept Passover on the 14th day of the moon, while the outlying groups of Jews kept on the safe side by both observing the Passover on the day appointed by the Scriptures, and on the day following, called "Second feast-day of the Diaspora."[12] In this manner the Passover came to be observed on both Nisan 14 and 15. In the end, the computed calendar of the Jews preferred

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8 Albîrûnî, "Chronology of Ancient Nations" (Trans. by Sachau), London, 1879, p. 69.
9 Malter, "Saadia Gaon," Philadelphia, 1921, pp. 70-77.
10 Kokisoff, Jufuda, "Brief Information on the Karaite Calendar," in Polish Encyclopedia (Trans. from Russian by Erna Born). Note: Kokisoff says, "Thus in the near future is to be expected a simplified calendar in the sense that out of three rules only one will be made, i. e., the first of the month will always be the first evening following the true new moon."
11 Sidersky, "Chronology of the Jews," p. 623.
12 Poznanski, in Hastings' Encyclopedia, art. "Jewish Calendar."

Nisan 15 for the feast, and it is a feature of the modern Jewish calendar of today.

This early controversy in Jewry formed the background of the bitter conflict over Easter, which began in the second century among the Christians.[13] The argument was still over the same question--the 14th or 15th of Nisan. At length, in the 4th century, the Council of Nicaea met this issue.[14] The Christian feast was placed on the first Sunday after the Jewish Passover, which was confirmed as "Luna 14" of the first month. This was appointed as the first full moon following the spring equinox, in place of the full moon of barley harvest, which on account of persecution had fallen into neglect.

Second, as pertains to the month, this decree of Nicaea was really the cause of the large series of March passovers which characterized the calendar of Dionysius in 532.[15] The Dionysian tables were the basis upon which the church built up her own ecclesiastical calendar. In the discussion that arose in 1582 over the Julian calendar, Scaliger said plainly that the so-called paschal moons of the Dionysian tables came largely in Adar instead of Nisan; that they were, in fact, principally March passovers.[16]

This change in the paschal month is vital in the relation of Jewish time to the Julian calendar in the first century, for it is the passover day which ties Jewish time to our common calendar.[17] It is to be particularly noted that if this passover day is in March, it will occur upon a different day of the week from a passover in April of the same year. Consequently, all the March passover dates in the first-century tables of moons given in the general discussion of the crucifixion date are thereby called in question. And it is therefore evident that if the passover month is wrong, the determinate date is bound to be wrong.

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13 Hales, "Chronology," p. 67.

14 Clavius, "Romani Calendarii Restituti Explicatio," cap. ii, p. 63. Note: The exact words of Clavius are: ". . . Concilii Nicaeni, quae semel, atque iterum inculcant, Pascha celebrandum esse a Luna Xiiii. primi mensis exclusive" (. . of the Council of Nicaea, which once and again enforced that the Pasch must be celebrated by Luna 14 of the first month exclusively);

15 Eusebius, Pamphilus, "Life of Constantine," Bk. III, Ch. 17.

16 Scaliger, "De Emendatione Temporum," p. 107.

17 Op. cit., pp. 106, 107, and Prologue.
Part V, Sec. E, Postulate I. (Table V)

E. Translation of New Moon for Nisan.

1. The Moon's Motion. In order to understand any astronomical argument which may pertain to the crucifixion date, it is necessary to review the relation of the moon to the sun and earth.[1] The path of the sun in the heavens is a great circle called the ecliptic. A belt 8° wide on each side of the ecliptic is known as the zodiac. This particular width was chosen by the ancients because the paths of the moon and all the principal planets keep within this belt, and it is therefore a very convenient circle of reference. And in reference to this, the longitude and latitude of a star is reckoned in degrees, minutes, and seconds.

About 800 years before Christ, the zodiac was divided into 12 parts called signs, at which time the signs were separated from the primitive constellations of the same name. Each sign is 30° in length. The signs kept the same names as the original constellations, all being named after some animal, with the exception of Libra. (The ones frequently referred to in this discussion are Pisces, Aries, and Taurus in the spring, and Virgo, Libra, and Scorpio in the autumn.)

Another great circle in the heavens is the celestial equator, which is an imaginary projection on the sky of the equator of the earth. At two points 180° apart--known as the equinoxes--the path of the sun crosses the celestial equator. At those times day and night are equal. When the earth is nearest the sun, as at perihelion (about December 31), her orbital motion is most rapid; and at aphelion, the opposite point of the ecliptic (about June 30), her motion is slowest. Any motion of the earth of course influences the moon's motion.

The moon travels around the earth every 29 1/2 days, and in that same time passes up and down in its path through the zodiac belt. Sometimes she is north of the sun, sometimes south. Her rate of travel through the zodiac is irregular, sometimes fast, sometimes slow, because of her distance from the sun and earth. When the moon is between the sun and earth, this position is called "conjunction," and the moon is new. At this time the moon cannot usually be seen for a period of

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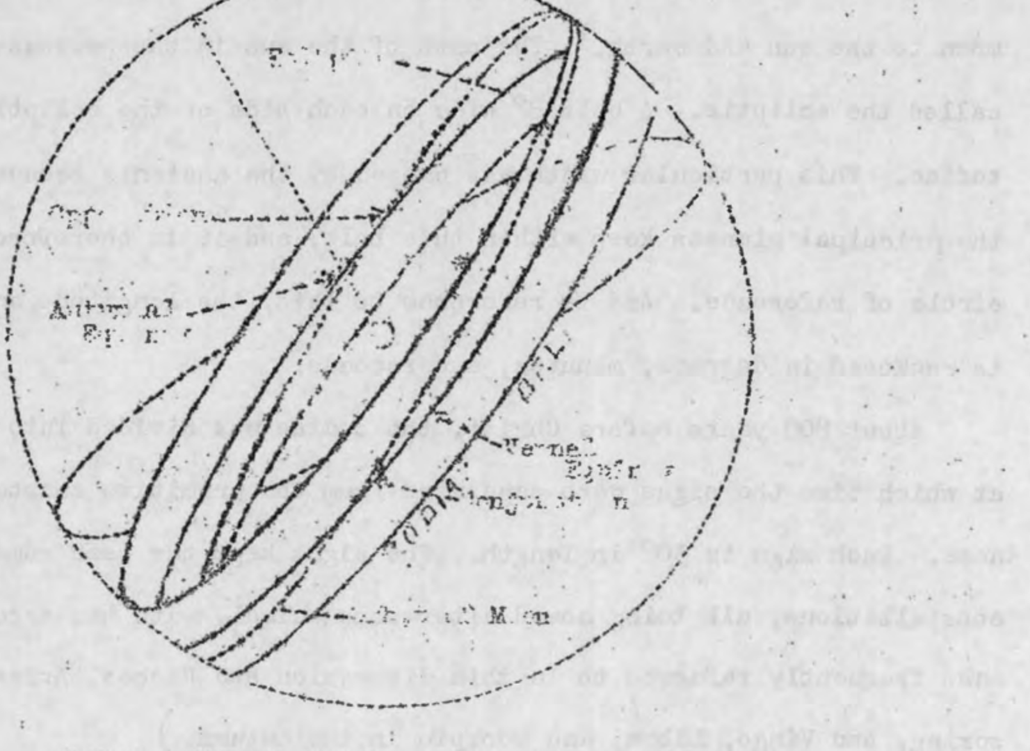
[1] The astronomical facts appearing here are found in any standard text on astronomy.

DIAGRAM V

PART V. Sec. [illegible]



MOON'S APPARENT MONTHLY COURSE IN ZODIACAL BELT

Through the center of the ZODIAC BELT runs the ECLIPTIC, the sun's apparent path in the sky, as seen from the earth. The moon's apparent path is also projected by the eye upon the [illegible] which she appears to travel every month. Though [illegible] apart, the paths of both sun and moon seem to be traced upon the same celestial belt. In one month's time the sun has advanced one sign only, while the moon has accomplished nearly the whole zodiac. Her orbit is inclined to the ecliptic with an angle of about 5 degrees, and upon this small inclination all her phases depend.[1] She passes through the zodiac in an irregular velocity, causing her movement north and south of the sun each month. Her smallest daily movement amounts to 11^{d} 4^{m} 33^{s}, and her largest, [illegible].[2] The sun requires 6 months to go from Aries to Libra, that is, from the Vernal Equinox to the Autumnal. The moon apparently travels this distance in about 2 weeks, as from new moon to full moon. In her daily [illegible] [illegible] the earth turns from Aries to Libra in 12 hours.

[1] Young, "Astronomy," p. 108.
[2] Geminus, "Elementa Astronomiae," p. 214.

from 1 to about 4 days.[2] When the earth is between the sun and moon, this relation is called "opposition," and the moon is full.

All of these facts and figures have a direct bearing upon the time it takes the moon to come into sight after conjunction, and they therefore take on a definite relation to the moon's changing rate of motion. From new moon to full moon, i.e. from conjunction to opposition, the moon travels through the first half of her monthly circuit around the earth. This first half of the moon's circuit was of great importance to the Jews, because of (1) their "new moon" feasts which were gauged by the conjunction and its attendant phasis; (2) the passover sacrifice right after the opposition or full moon of Nisan; and (3) the three special days in the fall--the New Moon Day of Tisri or Rosh Hashanah, the Day of Atonement, and the Feast of Tabernacles--which were connected with the new and full moon of Tisri. The true time of the moon in this period from conjunction to opposition runs in a cycle of 14 moons as follows:[3]

TABLE IV MOON'S CHANGING RATE OF MOTION
(In a 14 Moon Cycle)

Years in Cycle	Calendar Year	(1) New Moon				(2) Full Moon				(3) Period from New to Full Moon				(4) Period from Conjunction to Phasis[4]		
										d	h	m		d	h	m
1.	1930	Apr.	28	19h	8m	to May	12	17h	29m	--13	22	21	--	1	0	8
2.		May	28	5	36	June	11	6	11	--14	0	35	--	1	14	24
3.		June	26	13	46	July	10	20	1	--14	6	15	--	2	6	32
4.		July	25	20	41	Aug.	9	10	57	--14	14	16	--	1	23	14
5.		Aug.	24	3	36	Sept.	8	2	47	--14	23	11	--	2	15	29
6.		Sept.	22	11	41	Oct.	7	18	55	--15	7	14	--	3	6	13
7.		Oct.	21	21	47	Nov.	6	10	28	--15	12	41	--	2	19	4
8.		Nov.	20	10	21	Dec.	6	0	39	--15	14	18	--	3	5	43
9.		Dec.	20	1	23	Jan.	4	13	14	--15	11	51	--	2	14	32
10.	1931	Jan.	18	18	35	Feb.	3	0	25	--15	5	50	--	2	21	55
11.		Feb.	17	13	10	Mar.	4	10	36	--14	21	26	--	2	4	12
12.		Mar.	19	7	50	Apr.	2	20	5	--14	12	15	--	2	10	23
13.		Apr.	18	0	59	May	2	5	14	--14	4	15	--	1	18	1
14.		May	17	15	27	May	31	14	33	--13	23	6	--	1	4	17

[2] Hevelius, "Selenographia," p. 273; Note: Very seldom, according to Hevelius, does the phasis occur on the same day as conjunction. This research found two times in which phasis and conjunction coincided on the same day: Oct. 13, 1844 (Boston); Sept. 19, 1933 (Greenwich).

[3] The moon phases were taken from "American Ephemeris," 1930-31.

[4] The full moon cycle was computed by subtracting each new moon date from the next full moon date.

In a cycle of 14 lunar months, in Table IV, the period of time in days, hours, and minutes in column 3--"Period from New to Full Moon"--represents the actual time it takes the moon to go from new moon to full moon. In this cycle, she travels her half circuit around the earth from high accelerated velocity ($13^d\ 22^h\ 21^m$), to slow ($15^d\ 14^h\ 18^m$), and back again to high. In 14 rounds she completes her cycle, which represents the moon's varying motion.[5] From age to age, in saecula saeclorum, she has kept up this 14-moon cycle, the periods varying slightly each moon, or month.

The Translation Cycle, under column 4, represents the actual time in days, hour, and minutes it takes the moon to go from conjunction, when she cannot be seen, to her phasis, or first appearance. The phasis always marked the sunset beginning of each new month for the nations using the luni-solar year. These translation periods also run in a 14-moon cycle, which follows fairly closely the longer waves of the moon from conjunction to opposition. When the moon is slow, then the translation period is long--over 3 days; when the moon is fast, her translation is short, usually a little over 1 day. The following Diagram C shows how closely these two cycles correspond:

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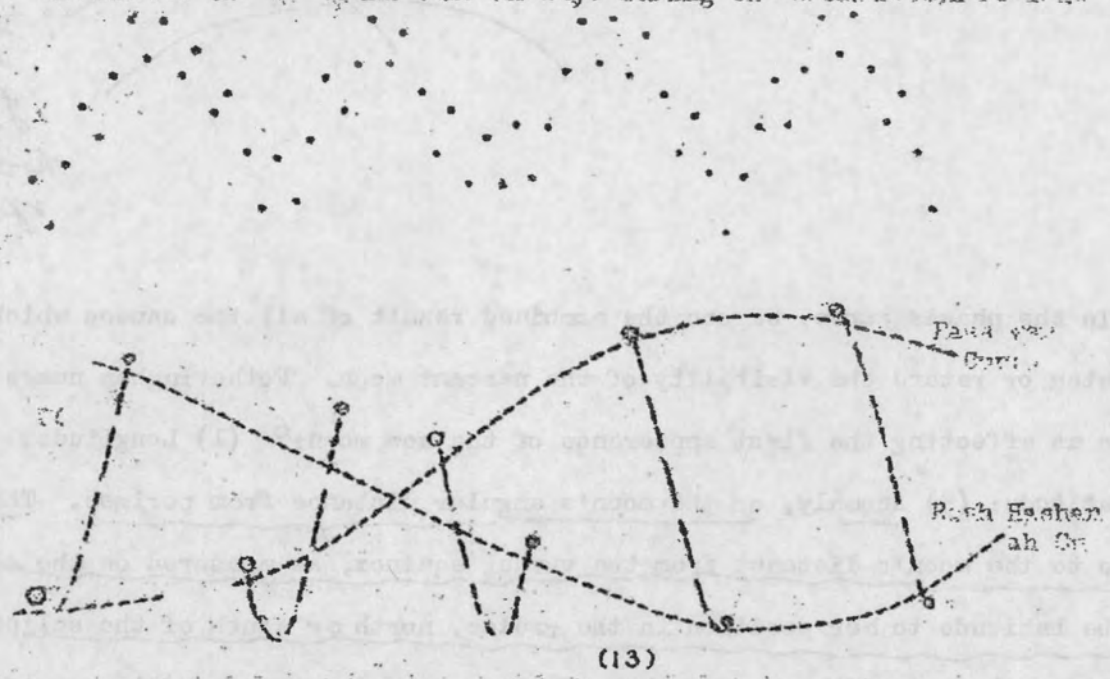
[5] Diagram C represents but a small portion of a large lunar sine curve covering over 20 years, in which the Translation Cycle was figured according to Postulate I, Table V, and the full moon cycle as in Table IV. Both curves keep the same defined relation throughout, showing the influence of the same lunar motion upon each curve.

Each spot or point in "I" represents the Translation Period for the corresponding Jewish month.

Ordinates of "I" equal time in days during the Translation Period



(13)

M H Jy S N D J M M Jy S N J M M Jy A O D F A Je A O D F A Je A S N J M M Jy S N J M M Jy S N D
A Je A O D F A Je A O D F A Je A S N J M M Jy S N J M M Jy S N D

Ordinates of "II" equal time in days from new moon to full moon.

Abscissae of "I" and "II" equal time of the lunar month of 29 and 1/2 days.

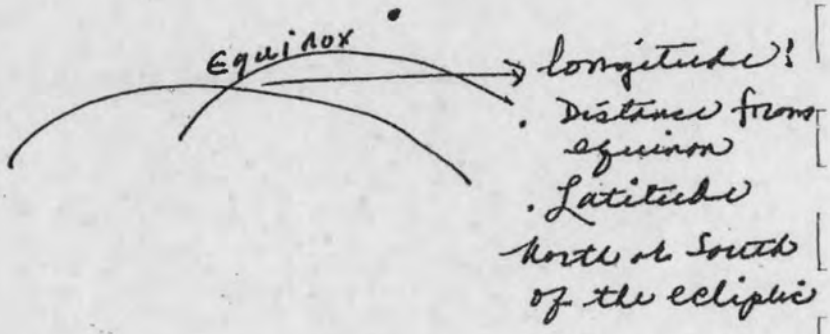
Each spot in "II" represents the time from new moon to full moon. The heavy red lines on the moon's curve correspond to the Jewish feast period from Nisan 1 to Tisri full moon.

The phases of the moon, from which the new-moon-to-full-moon periods were computed, were taken from the "American Ephemeris."

The figure "13" in red in the Jewish month translation, denotes an extra moon in the year 5681.

DIAGRAM C

THE MOON'S VARYING MOTION
(Controlling the Jewish Feasts)



In the phasis curve, we see the combined result of all the causes which conspire to hasten or retard the visibility of the nascent moon. Fotheringham names three causes as affecting the first appearance of the new moon:[6] (1) Longitude; (2) Latitude; (3) Anomaly, or the moon's angular distance from perigee. The longitude refers to the moon's distance from the vernal equinox, as measured on the ecliptic, and the latitude to her position in the zodiac, north or south of the ecliptic. Maimonides also gives these same three factors, summing them up into one conclusion--that "knowing the positions of the sun, the moon, and the moon's node, respectively, you have all necessary elements to establish by calculation whether the new moon will be visible or not."[7]

Hevelius has also left on record a complete description of the new moon and her phasis. He likewise presents the same three causes, though differently described, which result in the moon's visibility, early or late: (1) The obliquity of the

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[6] Fotheringham, "Date of the Crucifixion," Journal of Philology, (XXIX), 57. London, 1903, p. 105.

[7] Maimonides, quoted by Sidersky, "Chronology of the Jews," p. 668.

sphere leading to long or short settings; (2) the position of the conjunction, whether it is near the northern part of the zodiac or not; and (3) the relation of the moon to perigee; that is, her anomaly.[8] He names Pisces, Aries, and Taurus as being signs of long settings, and Virgo, Libra, and Scorpio as signs of short settings. Ferguson also testified the same when he said that the "ecliptic sets slowest in Aries, and fastest in Libra,"[9] a similar statement from Ferguson being printed in the Midnight Cry.[10] (We shall see this contrasting relation of the moon to these opposing signs--Aries and Libra--work out exactly as specified by astronomy in the event of the crucifixion and the October 22 date in 1844.) Hevelius further shows how these various causes or factors conform to the moon's motion:

"But if the causes mentioned as advancing the quick coming forth of the moon, do not always conspire, but even one is lacking, then on the next day after the interlunary period, this first phasis at length appears: but with two requisite causes absent, it can happen that finally the first phasis of the moon may fall in sight on the third day. But with all three conditions deficient, accelerating the rising of the moon. . . then this first appearance of the moon finally happens on the fourth day after conjunction with the sun."[11] [Italics mine.]

Then Hevelius adds the important observation that the "three requisite causes [for a quick phasis], as now told, commonly very rarely appear, so that the moon is in the signs of long settings [as in Aries], in perigee, and in the northern border, plainly in the time of conjunction or phasis."[12] Equally important is still another citation from the same paragraph that "the same rising of the moon does not commonly happen on the first day after the interlunary period [or. translation], but at length, on the second, often also on the third and fourth; this is plain to all observing her."

In harmony with this last statement, Scaliger shows that the Jews took a later moment for the moon's phasis:

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8 Hevelius, op. cit., pp. 274, 275.
9 Ferguson, op. cit., p. 244.
10 Midnight Cry, Apr. 20, 1844, p. 19.
11 Hevelius, op. cit., pp. 274, 275.
12 Hevelius, op. cit., p. 276.

"But the Jewish, Arabic, and Samaritan new moons usually exceed the size of the phasis [that is, the first slender streak of the moon] so that the civil new moons of the lunar months are of a triple kind: the Attic, as from conjunction; the Calippic from the waning of the moon; and the Jews, Samaritans, and Arabs from the 'shape' of the moon, from the third day, I say."[13]

With these two authorities on the moon's phasis, both Geminus in the first century B.C., and Hales in the 19th century, agree.[14]

The three causes of an early or late phasis, as given in the foregoing citations, have all entered into the visibility test for the first appearance of the moon after conjunction as outlined by those recently studying the computation of time in the first century.[15] But it is noticeable that in the results given, though many moons have been observed, a translation period extending to the 3rd or 4th day after conjunction is seldom seen. Usually the results are from 1 to 2 days--and thus are contrary to the testimony of Hevelius, Geminus, Scaliger, and Hales. The phasis often appears in the modern Jewish calendar even on the day of conjunction.[16] Questions have already arisen as to the validity of these visibility tests.[17]

See!

One question yet remains to be answered: "On what day of Nisan shall we place the full moon dates belonging to the years of Christ's ministry?" The following table represents the new and full moons of the years 28 to 33 A.D., which embrace all the years within which the ministry of Christ is usually located.[18]

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13 Scaliger, "De Emendatione Temporum," pp. 6, 105. Scaliger also emphasizes the "horned moon" as characteristic of the Hebrew phasis (p.). Hevelius devotes a whole chapter to the "horned moon"--an older crescent shape--and shows how such a phasis is identified (pp. 281-284).

14 Hales quotes as follows from Geminus: "Geminus, a Grecian astronomer says, 'that when the moon is in perigee, and her motion quickest, she does not usually appear until the second day, nor in apogee when slowest, until the fourth.'" ("New Analysis of Chronology," Vol. 1, London, 1830, p. 67.)

15 Fotheringham, Schoch, Neugebauer, Gerhardt, and Schaumberger, among others.

16 See American Jewish Yearbook. Note: According to Sidersky, the Jewish calendar has an interval of 48 hours, or more, between conjunction and phasis, and provides for one or two days additional by its system of postponements, "the purpose of which is to retard by one or two days the official new moons." (Sidersky, op. cit., p. 644.) Thus the Jewish reckoning recognizes the full translation period as demanded by astronomy and history.

17 Dittrich, E., "The Death of Jesus of Nazareth," Astronomical News, Vol. 241, May, 1931. Note: Dittrich observes that the calendar and the position of of the moon do not agree in these tests.

18 The spring of 27 A.D. does not come into this list, because the baptism took place in the fall of the year. The dates in Diagram D were computed from Schram's tables by Associate Astronomer Glen Draper of the U.S. Naval Observatory, Washington, D.C., leading computer of the "American Ephemeris and Nautical Almanac."

Part V--Crucifixion Date--38.

DIAGRAM D

A.D.	New Moons	Feria	Full Moons	Feria	Jewish Time
28	Apr. 13 16h 51m	Tuesday	Apr. 27 12h 23m	Tuesday	Tuesday
29	Apr. 2 21 15	Sabbath	Apr. 17 12 1	Sunday	Sunday
30	Mar. 22 20 12	Wednesday	Apr. 6 20 9	Thursday	Friday
31	Apr. 10 14 51 -13	Tuesday	Apr. 25 22 45 ✓	Wednesday	Thursday ✓
32	Mar. 29 21 58	Sabbath	Apr. 14 11 39	Monday	Monday
33	Mar. 19 13 14	Thursday	Apr. 3 17 27	Friday	Friday

See p. 39 - (next page) - night 13-14 moon is. full & Comple

As shown in Part V. Sec. A, it makes a fundamental difference on what day of Nisan the full moon is placed. Throughout early patristic writings, the passover day is repeatedly called Luna 14, that is, the 14th day of the moon,[19] and it is clear from Moses[20] that this was also Abib (or Nisan) 14. Therefore, inasmuch as the extreme limits of the full moon cycle, in Table IV, extend from 13d 22h 21m to 15d 14h 18m,[21] and because the translation period itself, according to history, uses up from 1 to 3 full days, and some over, it would be impossible for the full moon to fall on any other than Nisan 13, and harmonize with these periods. If 1 day is taken from 13d 22h 21m (the shortest period), the remainder coincides with Nisan 13; in like manner if 3 days are taken from the longest period, Nisan 13 is again proven.

In harmony with this, we have the testimony of Geminus, who definitely states that the earliest full moon comes on the 13th of the lunar month.[22] Aristobulos also maintained that the "day of the paschal festival began on the 14th of Nisan, after the evening when the moon stands diametrically opposed to the sun, as everyone can see at the time of full moon."[23]

* The Arabs had special names for each series of three nights of every month, which were derived from the state of the moon and her light. The fifth three nights

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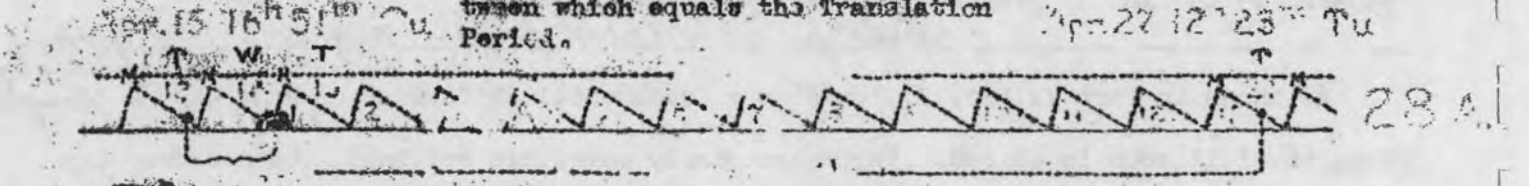
19 Clavius, "Romani Calendarii Restituti Explicatio," p. 63.
20 Ex. 12:2.
21 Table IV.
22 Geminus, op. cit., p. 129.
23 Caspari, C.E., "Introduction to the Life of Christ" (trans. by Evans), Edinburgh, 1876, p. 9; Eusebius, "Ecclesiastical History," bk. VII, ch. XXXII.

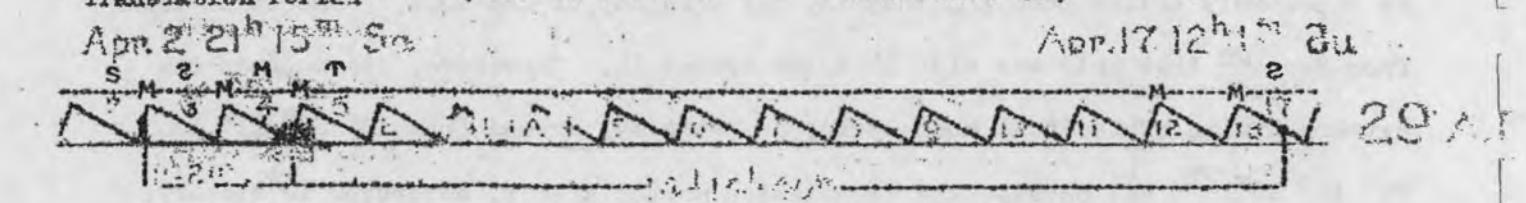
TRANSLATION FORMULA

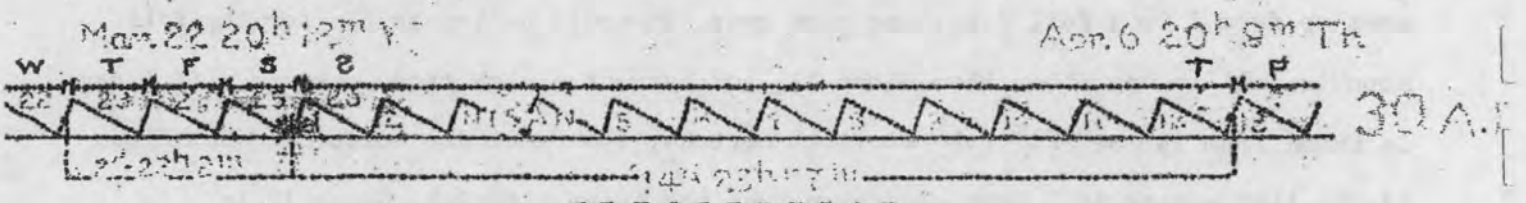
JERUSALEM (ME)

Place full moon date on Nisan 13, and count back to Nisan 1 and new moon date, the difference between which equals the Translation Period.

NEW MOON FULL MOON

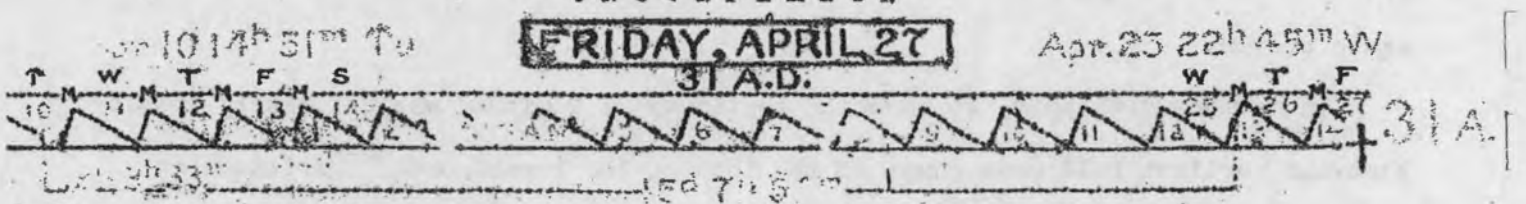


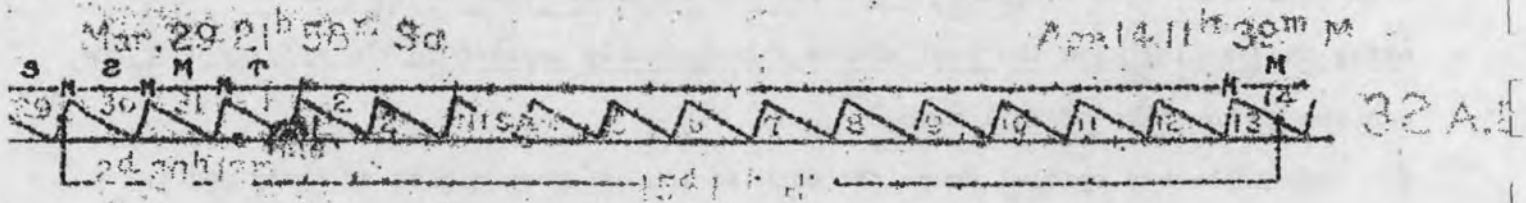


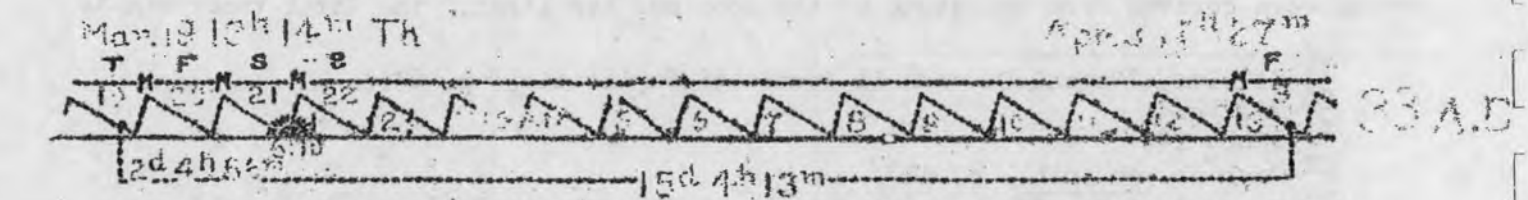


CRUCIFIXION

FRIDAY, APRIL 27
31 A.D.







The new and full moon dates were computed from Schram's Tables by Glenn Drape, Associate Astronomer at the U.S. Naval Observatory, Washington, D.C.

(13-15) were called bid, because they were white by the light of the moon. The night between 13 and 14 is called badr, because in it the moon is full, and her light complete.[24]

BROAD & Fuel
DA. 685

2. Calculation of Moon's Phasis. According to ancient practice, and in harmony also with later testimony, the full moon is marked on the day of Nisan 13, as in Table IV, and the days are numbered back to Nisan 1. If the moon fulls between sunset and midnight, the full moon dates are placed early on the 13th of Nisan, between sunset and midnight. Now notice the year 33 A.D., in connection with the Table V, Postulate I. The full moon time was April 3, $17^h\ 27^m$ J.C.T. (Jerusalem Civil Time), on Friday. This means 5:27 P.M., Friday, April 3. The place of the moon is therefore marked near the sunset on that day, calling it Nisan 13. Then count back by common calendar days to Thursday, March 19, on the 13th hour of which is conjunction. Number the days forward to Nisan 1, which is Sunday. From the 13th hour on March 19 to the sunset beginning of Nisan 1 is the period from conjunction to phasis, known as the "translation period."[25] A glance shows this to be two whole days and a few hours over.

14 2
13 1
12 2
11 3
10 21
9 22
30
31
1
2
3

From the Nautical Almanac, the sunset time for March 21 is found, which coincides with the beginning of Nisan 1. This is 6:10 P.M.[26] From the 13th hour on March 19 to sunset at 6:10, beginning Nisan 1, are $2^d\ 4^h\ 56^m$ for the translation period of Nisan 1, in the year 33 A.D. This means that the full moon date in the year 33 A.D. was on Friday, Nisan 13, and that the passover day fell on Nisan 14, Saturday, April 4. Fotheringham also agrees with April 4, Saturday, as being the passover in 33 A.D.[27] The real error in Fotheringham's Table consists in the fact that his passovers in the years 28, 29, 31, and 33 are a month too early. On the other hand, a full moon as

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24 Albîrûnî, op. cit., pp. 6, 75.
25 Op. cit., p. 114.
26 The same sunset table for every year can be used because the longitude of the sun is marked from a fixed point on the ecliptic--the vernal equinox--which does not change.
27 Op. cit., p. 107.

early as April 3 could not be a barley-harvest moon in Judaea, and is therefore too early for the passover feast. A moon later places the passover in 33 A.D. on Sunday.

The same manner of figuring is operative for 30 A.D. The full moon date is after sunset of April 6, which in Jewish time is Friday, and which we must call Nisan 13 according to Poltulate 1. Saturday then becomes the Passover, on Nisan 14. So then the year 30 A.D. falls out, because Friday is Nisan 13 and not 14.[28] in that year. The years 32, 29 and 28 likewise fall out, because their passovers are on Tuesday, Monday, and Wednesday, respectively. And the year 33 A.D. is out, because Friday is Nisan 13.[29] This then leaves 31 A.D. as the only year within the period of Christ's public ministry with a passover on Friday. It came on April 27, Nisan 14--meeting all the requisite factors.

Wed apr 25 → full moon nisan 13
th apr. 26 → nisan 14

The translation period of the moon has been described again and again all through the Christian era, especially by the Jewish chronologists. Hevelius puts it this way:

31 AD 25 26 27 28 13 14 15 16

"Quomodo vero haec observatio fuerit instituta, Rabbini eorum, & ex iis recentiores chronologi, abunde tradunt." (How this phasis [or observation] should be established, their Rabbins and their more recent chronologers abundantly report.)[30] [Italics mine.]

Possibly Hevelius was referring particularly to Maimonides, who lived in the early 13th century,[31] and worked out by spherical trigonometry the translation period of the moon.[32] This is not only based on higher mathematics, but also on the complex astronomy of the moon to which modern research testifies as the "deep things of astronomy." Nearly all the recent articles on the date of the crucifixion include a discussion of a simple form of Maimonides' complex figures, known as the "visibility test."

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28 According to Neugebauer, the moon at this time in 30 A.D. was over 2 days old, in harmony with Table V. (Neugebauer, P.V., "Tafeln der Mondphasen," Leipzig, First Century.)

29 Both Schoch and Fotheringham (op. cit., p. 107) place Friday, April 3, 33 A.D. on Nisan 13 by their tests for "visibility."

30 Hevelius, Johannes, "Selenographia," Gedanum, 1647, p. 273.

31 Maimuni's (Maimonides') "Neumondsberechnung," Teil III (trans. by Baneth), Berlin, 1902.

32 His complicated problem has been translated into German by Baneth. Fotheringha J.K., Journal of Philology, (XXIX) 57, London, 1903, p. 107.

It would consequently seem as if the modern application of this Jewish secret makes the translation period in general too short. On this basis--that is, if we should shorten the translation periods say by one day--all the full moon dates on Table V would be thrust forward by one day, to Nisan 14; and, as Fotheringham complained in his application of the problem, there would be no Fridays in the series.[33] But this same plan of the full moon on Nisan 14 throws out the years 28 and 29, because in the case of 28 A.D., the translation period would be only about 1 1/2 hours; and for 29 A.D., 21 hours--both too short. Therefore such a hypothesis falls out--that is, that the full moon occurs on the passover day itself.

The Postulate itself--that the full moon date must be placed on Nisan 13, in harmony with history--is thus its own proof; for it is the only position of the full moon providing sufficient time for a translation period of from 1 to 4 days. On the basis of this Postulate alone, astronomy can tie Jewish time to the Julian Calendar.

The translation period of the moon leading to Nisan 1, in the year 31 A.D., was $3^d\ 3^h\ 33^m$. This was one of the moon's long interlunary intervals. Not being the longest, it came well within the realm of historical testimony, which allows the moon from 1 to 4 days in which to appear after conjunction, and that "often also on the third and fourth day." This period of a little more than 3 days was but one of a cycle in which the moon's motion swings interminably fast and slow between her limits of acceleration. To the astronomer, the phasis of the moon on April 14, 31 A.D., was just an ordinary first appearance, more ordinary than as if her showing had been quick and rapid. But on April 25, Julian day number 1732495, toward midnight, the moon was in eclipse;[34] and on Friday, April 27, at noonday, the unaccountable darkness of the sun occurred, marking the death of the Son of God.

The following vital facts in reference to the passover of the crucifixion are made known by this simple astronomical method of translating the moon of Nisan, as illustrated on Table V:

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[33] Fotheringham, op. cit., p. 107.
[34] Oppolzer, Th., Tables in "Denkschriften der kaiserlichen Akademie der Wissenschaften." Wien, 1887, p. 344, No. 1910.

1. Nisan 14 was Luna 14, the Passover Day.
2. Nisan 14 was the day after the fulling of the moon.
3. Nisan 14 was the crucifixion-Friday.
4. Therefore, according to Table V, the only day of the entire series that answered to all these stipulations was April 27, 31 A.D.

F. Translation of the New Moon for Tisri.

Early in the spring of 1843, as shown in Part II, the Millerites began to study the problem of the translation of the moon in relation to the calculation of the Jewish month and year. Finding in Ferguson's "Astronomy" a table of lunar conjunctions and phases for the time of Christ,[1] they printed it in the Midnight Cry of April 20, 1843, together with his description of the moon's position. In another edition of his "Astronomy," Ferguson makes the statement that the 14th day of the Jewish month answers to the 15th day of the moon,[2] and that consequently, the passover was always kept on the day of full moon. But in the table given in the Midnight Cry, the full moons were placed in various positions--on the 12th, 13th and 14th of the Jewish month Nisan. On such a basis, all his translation periods could not but be irregular, and they would by no means correspond to the motion of the moon, which, if slow, requires more time for her phasis than when fast.

In the quotation given, Ferguson mentions the large angle which the ecliptic makes with the horizon in the spring (See Diagram D), and figures that at such a time, and in such a position, the moon would in 24 hours set about one hour later than the sun. Consequently--perhaps following the suggestion of Albîrûnî for a 24-hour translation constant (or mean period), as consistent with the Jewish computation--Ferguson's table was not very helpful to the Millerites in regard to the true translation period of the new moon, whose phasis was to mark the first day of a new month. Yet accuracy here was imperative if they were rightly to calculate Tisri 1, the 7th month for 1844.

Ferguson's table of the first-century spring moons was striking in that all the translation periods were short. It made all the new moons, but one, visible on the next day after conjunction.[3] In the paragraphs quoted from his "Astronomy,"

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1 Ferguson, "Astronomy," Vol. 1, par. 352. (Old Edition.)

2 Op. cit., (Edinburgh ed., 1811), p. 464. Note: This is contrary to Postulate 1, Table V, and to patristic testimony, which always called the paschal day, or Nisan 14, the 14th of the moon, i.e., "Luna 14."

3 Certain other computers, as Würm, Ideler, and Turner, use a constant period for translation, as suggested by Albîrûnî, on p. 68 of his "Chronology."

no mention was made of other important factors which control the translation of the moon, aside from her inclination and position in reference to the Zodiac. He gave the slowest moon of the series, as in the year 32 A.D., almost the same time for translation ($1^d\ 18^h\ 41^m$) as for the fastest moon, as in 28 A.D., for which his table allows $1^d\ 16^h\ 56^m$.[4] His exact table follows:[5]

"True time of conjunction at Jerusalem	d.	h.	m.		Moon visible at Jerusalem	Jewish full moon
"A.D. 28 Mar.	15	1	4	Morn.	Mar. 16.	Mar. 31. Wed.
29 Apr.	2	7	30	After.	Apr. 3.	Apr. 17. Sun.
30 Mar.	22	8	45	After.	Mar. 23.	Apr. 6. Thur.
31 Mar.	12	1	51	Morn.	Mar. 13	Mar. 27. Tues.
32 Mar.	29	11	19	After.	Mar. 31	Apr. 14. Mon.
33 Mar.	19	1	12	After.	Mar. 20	Apr. 3. Fri.
34 Mar.	9	5	12	Morn.	Mar. 10	Mar. 24. Wed."

As a matter of fact, Ferguson's first-century table--embracing the years of the 70th week--represents the very extremes of the moon's motion from new moon to full moon; that is, her fastest and slowest gait. Consequently, her translation periods should also correspond. Table V, on p.38a, shows the limits of translation in the years of Christ's ministry actually to be from $1^d\ 1^h\ 35^m$ for a fast moon, to $3^d\ 3^h\ 33^m$ for a slow one.

It was William Hales[6] who directed the Adventists to a source of authority on the phasis of the moon--to the "Isagogue" of the astronomer Geminus in the first century before Christ. Geminus taught that the earliest phasis of the moon is on the first day after conjunction, and the latest on the third or fourth. Scaliger also emphasized the third, as mentioned in Section E,[7] and Hevelius two to four days.[8] The error concerning the time of translation on the part of Ferguson, and the fact that he placed some of his passovers in March, too early for the barley-harvest, resulted in the ultimate rejection of his table by the Millerites, together

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4 Cf. table V on page 38a for the length of the moon's course.
5 Midnight Cry, April 20, 1843, p. 20.
6 Hales, "New Analysis of Chronology," London, 1830, Vol. 1, p. 67.
7 p. 37
8 p. 36

with his argument on the date of the crucifixion.[9]

In the early part of the 1844 movement, the leaders had started the year which they counted to be the last one of the 2300-year period, with the vernal equinox. This was the "Jewish sacred year 1843." But even before the vernal equinox of 1844 had passed, which they believed would close the Jewish year 1843, the Karaite teaching regarding the ancient Jewish mode of computing the moon's phasis, directed them to a closer study of the Jewish year, and its relation to the 2300-year prophecy, as noted in Part II, Sec. VI. Almost at the same time their attention was called to an autumnal ending for the prophetic year, as suggested by the 10th day of the 7th month--the Jewish day of Atonement and the Jubilee.[10] For this reason there does not seem to have been any attempt on their part to compute the translation period for the new moon of Nisan in 1844, although the Nisan conjunction was given in the Almanac as April $17^{d}\ 11^{h}\ 31^{m}$.

The Jewish date for starting another new month was also mentioned--this to correspond with the Karaite reckoning, the Rabbanite Nisan having been a month earlier, or in March. The whole attention was ultimately centered on the translation of the new moon of Tisri, 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."[11]

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

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[9] See Part II, Secs. VI, IX, and XII.
[10] Lev. 23:27; 25:9.
[11] Oct. 31, 1844, p. 141.

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.[12]

As has been stated, when the moon in her elliptical circuit is nearest the earth, she is said to be in perigee. Then her motion is rapid. When she is farthest away, as in apogee, then her motion is slow in relation to the earth. Her manner of travel, fast or slow, is most important as concerns calculation. In ancient times, this phenomenon was a guide in the starting of the Hebrew month,[13] and also came to the attention of the Millerites as an important factor to the translation of the moon as they were coming to their fundamental conclusions on the prophetic dates of the 2300-year period. As regards the real significance of conjunction, we should likewise understand that, being reckoned as from the center of the earth, this phase of the moon therefore represents that instant of time which would have a different local time designation for each longitude on the surface of the earth.

The quoted expression, "11 A.M. in Boston," in the foregoing reference, was obviously based on the difference in time between Boston and Jerusalem, which is 7 hours and 5 minutes.[14] No mention is made in the Midnight Cry or Advent Herald of an almanac for Jerusalem. In fact, it was said, "we have no certain means of knowing," when the Karaite passover month really commences there,[15] but the sunset time at Jerusalem on October 13 could well be considered near 6:00 P.M. If from this point of time, 7 hours are subtracted for the coincident time of Boston, the hour would be 11 A.M. To be exact, it would be 10:27 A.M.--if the true difference

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12 See "Conjunction," in Webster's International Dictionary.

13 Hales, ("Analysis of Sacred Chronology," Vol. 1, London, 1830, p. 67), includes a quotation from Geminus on the phasis of fast and slow moons.

14 The difference in hours between Boston and Jerusalem is the sum of $4^h\ 44^m\ 19^s$ (time of Boston, west from Greenwich) and $2^h\ 20^m\ 53^s$ (time of Jerusalem, east of Greenwich), or $7^h\ 5^m\ 12^s$.

15 Advent Herald, Sept. 11, 1844, p. 45.

in time, or $7^h\ 5^m$, be subtracted from the exact sunset hour in Jerusalem, on Oct. 13, which, for 31 degrees north latitude, is authoritatively given as 5:32 P.M.[16] In either case, the argument and conclusion would be the same--the beginning of Tisri 1, in Jerusalem was on October 13, and the corresponding time in Boston was still the 13th.

In Boston, the new moon of October, 1844, in conjunction, occurred October 11, $18^h\ 40^m$, reckoned from midnight, or 6:40 P.M.[17] Being a fast moon--her time from conjunction to opposition (or full moon) took $14^d\ 5^h\ 30^m$, or less than the mean--and her motion increasing, for she was nearing perigee, she could be visible on October 12, right after sunset. To quote from Fotheringham, who has summed up the factors which come into play as regards an early or late phasis of the moon:

"If again, the moon is near perigee it will move quickly; its right ascension [or longitude] and time of setting will advance rapidly, and there will be a tendency towards an early phasis; if it is near apogee, it will move slowly, and there will be a tendency toward a late phasis."[18]

Fotheringham followed the rules of Hevelius, as may be seen from a scanning of the "Selenographia." He found that under favorable circumstances--as when the moon is fast and in perigee, and new early in the evening--she could be visible the following evening.[19] The conditions all conspired for a quick phasis of the new moon in October, 1844, so that in Boston she could be seen within 24 hours after conjunction. But because of the difference in time between Boston and Jerusalem, her crescent was not seen in Jerusalem until the following evening. (Diagrams E & F.) The quick phasis in Boston was an unusual translation. Hevelius declares that the causes for such a rapid lunar translation seldom occur together.[20]

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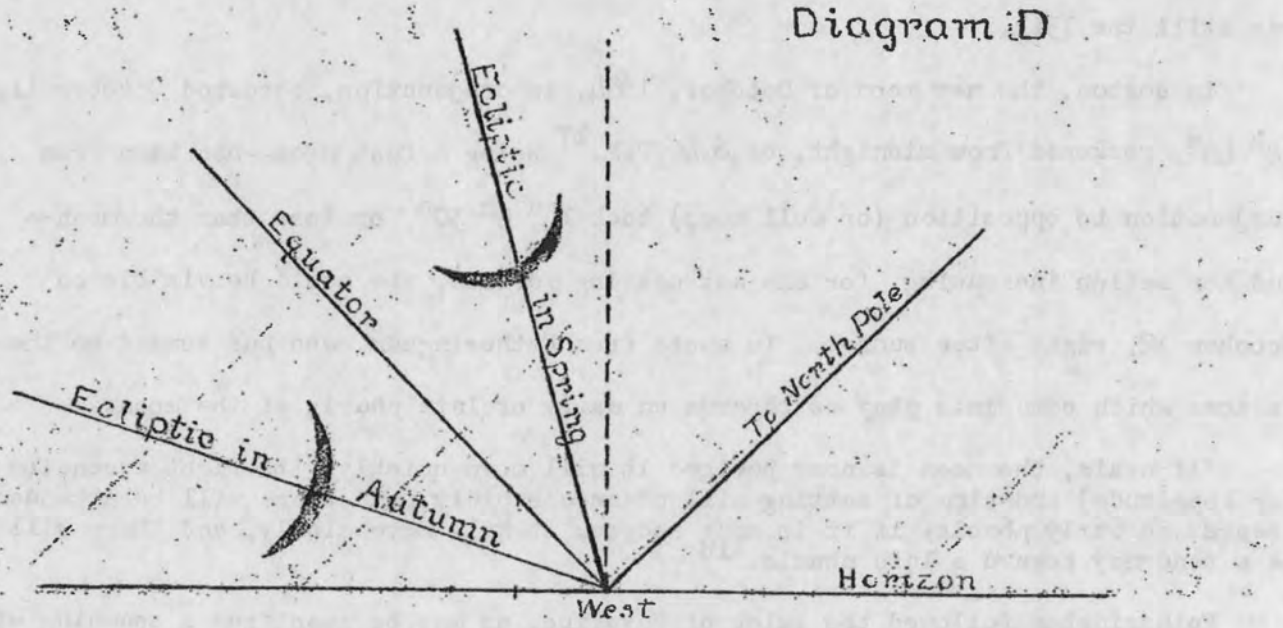
16 "American Nautical Almanac for 1939," p. 239.
17 Standard Almanacs for Britain, Germany, and France in 1844, as U.S. Nautical Almanac goes back only to 1858.
18 Fotheringham, J.K., Journal of Philology (XXIX) 57, 1903, p. 106.
19 Hevelius, "Selenographia," Gedanum, 1647, pp. 274, 275. (novennium haec tria)
20 Op. cit., p. 275. Note: Hevelius' exact words are (p. 276): "Etenim intra requisita vix una ingruent." (For within a period of nine years these three requisite [causes] with difficulty coincide.)

Diagram D



POSITION OF THE NEW MOON AT THE EQUINOXES

"The significance of the crescent being shown as lying on its back is seen at once when it is remembered that the new moon is differently inclined to the horizon according to the time of year when it is seen. It is most nearly upright at the time of the autumn equinox; it is most nearly horizontal, "lying on its back," at the spring equinox."--Maunder, Walter E., "Astronomy of the Bible," p. 316.

"If the moon is some distance north of the sun at the time of new moon there will be a tendency towards an early phasis; if it be some distance south of the sun there will be a tendency towards a late phasis. If, again, the moon is near perigee it will move quickly; its right ascension and time of setting will advance rapidly, and there will be a tendency towards an early phasis; if it is near apogee, it will move slowly, and there will be a tendency towards a late phasis."--Fotheringham, J.K., Journal of Philology, Vol. XXIX, 1903, pp. 105, 106.

The Adventists understood at least some of the factors controlling a rapid phasis of the moon, hence the sunset of October 12--marking the beginning of October 13, Jewish time--was rightly fixed upon, in New England, as the proper instant for the first appearance of the new moon. The sunset on that day was at 5:26, in Boston,[21] and there were yet 10 minutes in which the young moon, nearly 24 hours old, could be seen, for she did not sink beneath the horizon until 5:36 P.M.[22]

A check was also made by the Millerites on this same conjunction in Jerusalem which was dated Oct. 12, $1^h\ 45^m$, 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.[23] 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.[24]

The moon herself was scheduled to set soon after the hour of 6. Subtracting from this point of time the approximate difference in time between Boston and Jerusalem--that is, 7 hours--they arrived at 11 A.M. on the same October 13, as the coincident time of Boston. Diagrams E and F, which follow on p. 49, show this October conjunction in 1844, in its relation to these two cities:

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21 "American Nautical Almanac of 1939," p. 239. (Boston is 42° N. Latitude.)

22 "American Almanac," Boston, 1844.

23 Time from 1:45 A.M. on Oct. 12 to 5:33 P.M. at following sunset, Jerusalem.

24 Time from conjunction at 1:45 A.M. on Oct. 12 to moonset at 6:25 P.M. on Oct. 13, Jerusalem civil time. Moonset was computed from "British Nautical Almanac," 1844.

Had it been possible, in 1844, for one to telephone from Boston to the Patriarch in Jerusalem at sunset, on October 11, asking the time of day, he would have answered, "Yes, this is October 12, 1:45 A.M., and the moon is just now new; she is in conjunction"--except of course that the date would have been given in Jewish time. Let us therefore place, as in Diagrams E & F, the Boston P.M. clock along side the one in Jerusalem which is an A.M. clock, so that October 11, $18^h\ 40^m$ coincides with October 12, $1^h\ 45^m$, as the same instant of time.

From this point, mark off the days and sunsets for Boston and Jerusalem. Then note that every point of time in Jerusalem--as for instance midnight, ending Oct. 12--occurs 7 hours and 5 minutes earlier than the midnight ending Oct. 12, in Boston. Consequently, at sunset of October 12, in Jerusalem, because the new moon is too young to be seen, being only about 16 hours old, Tisri 1 begins the second sunset after conjunction. In contrast, Tisri 1 in Boston began the first sunset after the change. Therefore we see these first days of Tisri--the one in New England, and the other in Palestine--overlap each other for a period of nearly 7 hours. Diagrams E & F show the common instant of the two conjunction dates, the relation of the clock events of our civil time, and the position of the Jewish month Tisri in these two wide-apart places of the earth. This was understood and declared by the Millerites.

The translation of the moon was, in this instance of October 11 to 13, 1844, dependent upon the simplest of the principles which govern the moon's performance relative to the starting of the Jewish month. But the position of the moon was unusual in that her phasis in Boston occurred within 24 hours after conjunction. The scene at Jerusalem was carefully reconstructed by the Millerites, evidently to acquaint themselves with the inequalities of the moon in the land where God had said, "Observe the new moon,"[25] for the marking of their year and its holy feasts. It was right that they should do this, for Jerusalem is the prime meridian of ancient Jewish time, and of prophetic time. On October 13, in Jerusalem, the sun

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[25] Deut. 16:1.

set at 5:32, and at about 6:25 P.M. the moon also dipped below the horizon. So she was at least "one day and 17 hours old," as intimated in the reference from the Midnight Cry.

One more bit of evidence from this date offers itself to prove that in 1844 the right time was chosen for the phasis of the new moon of Tisri. In October, Jerusalem civil time, the full moon occurred on Oct. $26^d\ 7^h\ 26^m$. By placing this full moon date on Tisri 13, on the basis of the same postulate as for the Nisan moon, (See Part V, Sec. E), and marking off the calendar days, both Jewish and Gregorian, back to the beginning of Tisri--it can be noted that Tisri 1 began on sunset of October 13 in Jerusalem, which phasis, we have shown, corresponded to the phasis of October 12 in Boston. This check works both ways, so that the translation of the moon in 1844, for the meridian of Jerusalem confirms Postulate 1, which places the full moon on the 13th of the Jewish month.

Such was the problem that the earnest truth-seekers in 1844 faced and mastered. It was the harmonious conclusions of such precision in applied calendar science that "strengthened" them in their opinion that October 22 would be indeed the very 10th day of the 7th Jewish month Tisri. No other day could have answered the joint demands of the Scriptural law of the appointed feasts, the irregularities of the moon, the factors governing her translation, the undeviating course of the earth and sun, and the illusive geographical problem introduced by the difference in longitude between Boston and Jerusalem.

G. Summary of Conclusions.

1. Only by the true dating of the beginning and ending of Christ's public ministry is it possible to determine the correct chronology of the full 2300-year prophecy, and the related events of history.

2. The Jewish calendar of today--man's most complex system of computing time, and described by Joseph Scaliger as the "most ingenious and beautiful of all

systems"--is evidence of early Jewish development of a dependable method of reckoning time, in harmony with known and fundamental principles of astronomy and chronology.

3. Through the principles of astronomy and calendrical science, we are able to tie Hebrew time reckoning in the first century to the current Julian calendar of the Romans.

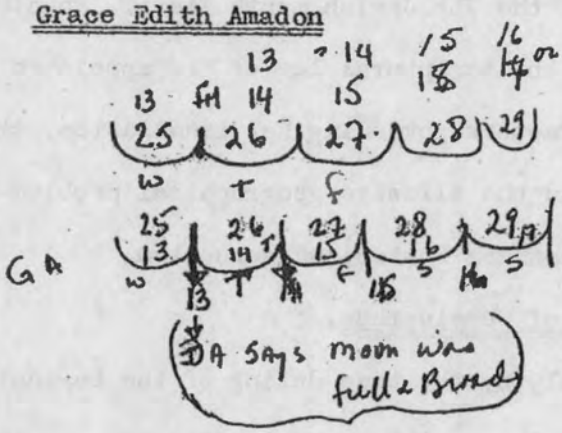
4. By a correlation of astronomical science, Biblical specification, and historical record, the disputed date of the crucifixion has been determined.

5. By means of this correlation, (a) the true placement of the paschal month Nisan, and (b) the date of the true paschal day (Nisan 14) have been shown.

6. Friday, April 27,, 31 A.D.,, Julian time, has been demonstrated to be the only date during the public ministry of Christ which satisfies (a) the Bible requirement for a Friday-passover crucifixion and (b) the definite demands of astronomy for the corresponding coincident positions of sun, moon, and earth.

7. The complementary relation between the crucifixion on April 27, 31 A.D. and the great antitypical Day of Atonement ushered in on October 22, 1844, at which time the 2300-year period ended, has likewise been demonstrated.

Grace Edith Amadon



JEWISH FEAST CYCLE (1843 and 1844)*
(Boston Civil Time)

		1 Jewish Month	2 New Moon		3 Full Moon	4 Festivals	5 Moon's Time	
	10	Tebet	Dec. 31	to	Jan. 16		=15d-13h- m	
1843	11	Sebat	Jan. 30	"	Feb. 14		=15 - 8 8	
	12	Adar	Mar. 1	"	Mar. 16		=14 -23 -56	
	1	Nisan	Mar. 30	"	Apr. 14	Passover	-14 -40 -40	
MOSAIC	2	Iyar	Apr. 29	"	May 13	(Apr. 14 =	=14 - 6 -15	172 days
	3	Sivan	May 29	"	June 12	Nisan 14)	=14 - 0 -16	between
also	4	Tammuz	June 27	"	July 11		=13 -21 -45	Passover
	5	Ab	July 27	"	Aug. 9		=13 -23 -11	1843 and
Rabbinical	6	Elul	Aug. 25	"	Sept. 8	Tisri 10	=14 - 4 -22	Atonement
	7	Tisri	Sept.23	"	Oct. 8	=Oct. 4	-14 -12 -23	
	8	Hesvan	Oct. 23	"	Nov. 7		-14 -21 -46	
	9	Kisleu	Nov. 21	"	Dec. 6		=15 - 6 -27	
	10	Tebet	Dec. 21	"	Jan. 5		=15 -12 -25	
1844	11	Sebat	Jan. 19	"	Feb. 4	Rabbinical	=15 -14 -24	
	12	Adar I	Feb. 18	"	Mar. 4	Passover	=15 -12 -16	
	13	Adar II	Mar. 18	"	Apr. 3	April 4	=15 - 6 -40	
	1	Nisan	Apr. 17	"	May 2	Passover	=14 -22 -43	172 days
	2	Iyar	May 17	"	May 31	(May 2 =	=14 -13 -53	between
MOSAIC	3	Sivan	June 15	"	June 30	Nisan 14)	=14 - 5 -50	Passover
only	4	Tammuz	July 15	"	July 29		=14 - 0 -10	1844 and
	5	Ab	Aug. 13	"	Aug. 27		=13 -22 - 2	Atonement
	6	Elul	Sept.12	"	Sept.26	Tisri 10	=13 -23 -57	
	7	Tisri	Oct. 11	"	Oct. 26	=Oct. 22	=14 - 5 -41	
	8	Hesvan	Nov. 10	"	Nov. 24		=14 -14 - 5	
	9	Kisleu	Dec. 9	"	Dec. 24		=14 -23 -16	

EMBOLISMIC

* Moon's phases computed from the British Nautical Almanac

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The spring of 1843 offers only one date that can possibly correspond to the new moon of Nisan -- March 30. From this spring moon, the Jewish year in 1843 began, the Passover coming on April 15, and after 172 days, Tisri 10 coming on October 4. Column 2 shows that the time from March 30 (the first new moon after the vernal equinox in 1843), to March 18, inclusive, the last new moon before the vernal equinox in 1844), is exactly 13 moons. In order to coalesce with the extra moon, the Jewish year should intercalate a second Adar, whose full moon would then come on April 3, 1844. This Adar moon could not be the Mosaic paschal moon, for it is too early--the latter rain not yet being ended, and the barley corn not yet being ripe in Palestine. Hence the next new moon, whose conjunction is on April 17, must mark the month Nisan in 1844. The Passover would therefore come on May 3, the day following full moon; and the Tisri new moon would of necessity fall in October; the day of atonement coming on October 22 at the end of 172 days from Passover. The one place for the new moon of Nisan on March 30, 1843, and also of the full moon of April 3, 1844--which must belong to Adar because it is too early for Nisan--represent two fixed positions of the moon that exactly determine the date of Tisri 10 in 1844 to be the 22nd day of October.

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART VI--RECAPITULATION, CONCLUSIONS, AND AFFIRMATORY STATEMENT

As we have just completed the detailed and technical study, in Parts IV and V, of two of the antecedent dates in the prophetic series--B.C. 457 and 31 A.D.--it is now desirable, in summation, to review rapidly, in serial, tabulated form, the historically connected line of thought running throughout Parts II to V, relating point to point, in order to draw a full-rounded conclusion.

A. Recapitulation of Parts II and III. From the "Introductory Statement of Problem and Purpose" in Part I, we passed progressively, in historical Parts II and III, from those early and essentially sound general positions of the pioneer Millerite leaders, on through a series of progressive corrections of erroneous detail to the ultimately accurate positions of the 7th month movement. These concerned and culminated in the determination of (a) the true beginning and terminal years of the 2300-year period; (b) the true 7th month of the closing year; and (c) the selection of October 22 as the true 10th day of the 7th month ending of the full prophetic period--with its 31 A.D. spring-crucifixion seal. These final conclusions were reached in this wise:

1. Miller and his associates first of all took their stand upon B.C. 457 as the conjoint starting point of the 2300 year-days and its initial 70 weeks--which, they affirm, stand or fall together--because 457 was attested by the vast majority of the highest authorities available, as the date of the decree of the 7th year of Artaxerxes. But at first the Miller leaders all ended the 70th week at the cross, which they placed in 33 A.D., chiefly upon the authority of the astronomer Ferguson. Consequently they terminated the 2300 years in the "Jewish year 1843," which would close in the spring of our Gregorian year 1844.

2. These early inaccuracies were corrected step by step, first by recognizing the Biblically-specified mode of reckoning the Hebrew sacred year, as

championed by the Karaite Jews. This placed it as from April to April--the time of the required "barley harvest new moon" for the month Nisan--instead of the popular reckoning from March to March, following the Rabbinical fixed calendar, which is computed on the position of the new moon nearest the vernal equinox. The Miller group deliberately and intelligently adopted the true Karaite reckoning, rejecting the Rabbinical calendar as not conforming to the Mosaic law. They recognized clearly that the correct placement of the first of the sacred year of necessity determined the accuracy of all subsequent sacred festivals of the year, particularly the Passover and the Day of Atonement.

3. The next correction was to recognize that the prophecy requires a full 490 and 2300 years, dated from the 457 starting point. So they rightly extended these periods into the years 34 and 1844 A.D., respectively, running both spans from autumn to autumn, and realized that all related dates in the prophetic series must harmonize with the terminus of the full period. Thus the way was prepared for the inevitable correction of the crucifixion date.

4. Miller and his associates first fixed upon a 33 A.D. crucifixion because--not having yet seen the true relationship of the cross to the 70th "week," and at first without knowledge of the chronological defect in the 33 crucifixion dating--that date seemed to harmonize with their early understanding of the requirements of the series, as well as being the position of the well-known Ferguson, and other astronomical authorities. In fact, a portion of Ferguson's work was even reprinted by J.V. Himes as part of the standard Adventist literature, so highly was it at first regarded.[1]

5. The shifting of the end-year of the 70 weeks, from 33 over to 34, led to a further study of the crucifixion date, and of the meaning of the "midst of the week" specification of the prophecy. By a further study of the Karaite reckoning, they discovered that the only Friday passover coming within the range of Christ's

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[1] Himes, Joshua V., "Bible Students Manual of Chronology and Prophecy," Boston, 1841, pp. 20-24.

public ministry was in the year 31 A.D.--this reckoning being based upon the twin stipulations of the barley-harvest and the visual-observation of the new moon for Nisan, operative in the time of Christ.

6. Thus Miller's associates came to see that the 33 crucifixion date had been reached by Ferguson on the mistaken basis that the Rabbins had correctly dated the beginning of the sacred year and its Passover, supposedly in harmony with first century practice. But the fixed calendar of the Rabbins, introduced by Hillel in the fourth century, was demonstrated to be approximately a month too early. Hence the 33 computation for the crucifixion was now recognized as erroneous and impossible.

7. Discovering from astronomy, moreover, that the only April Nisan coming within the circle of the prophetic "week" of years that could have a Friday crucifixion in harmony with the Mosaic law was 31 A.D., they found that in this date every demand was satisfied, and so took their stand uncompromisingly thereupon, with the astronomical support of the learned Hales and complete tables of the moon as their chief authorities. Eusebius of Caesarea, in the 4th century, was cited as concurring in the 31 A.D. crucifixion.[2]

8. Having fixed upon the correct terminal-year upon the basis of the 2300-year prophetic span, and having rightly fixed upon the crucifixion date--the series now standing as 457, 27-31-34, and 1844--the 7th month leaders determined the precise day on the basis of the 10th day of the 7th month Atonement type, just as the Passover type was exactly fulfilled to the month and day at the 1st advent.

9. Correctly beginning the true first month of the sacred year 1844 with the appearance of the new moon in April, the Millerite scholars knew that the 7th month must begin with the phasis, or appearance of the new moon in October--

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[2] Julius Africanus, of the close of the 3rd century, it may be added, likewise places the crucifixion in 31 A.D. See Fraidl, Franz, "Die Exegese der Siebzig Wochen Daniels," Graz, 1863, pp. 45-48.

that is, after the conjunction on the evening of October 11, as indicated by the current calendar. The choice of October, rather than September, was in harmony with the invariable number of days between the conjunction of Nisan and the conjunction of Tisri, and the similarly constant period from Passover to Atonement. And this dating of Tisri 1 was confirmed by them through a double-checked dating of the moon's phasis in New England and Palestine.

10. The accuracy with which the Millerite scholars were enabled to fix upon October 13 as Tisri 1, sprang from their acquaintance with both the ancient and modern reckoning for the time of translation of the moon, based upon no less authorities than Geminus, Scaliger, and Hales. The Millerite writers discovered that when the moon is fast, or in perigee--as on that 1844 October 13--one day only should be allowed before visibility after her change. In other words, she would become visible on the second evening, October 13. From the logic of this reasoning there was no escape. It was a simple and direct process that all could follow, yet which none could gainsay because of its scientific accuracy.

11. The remarkable accuracy of the reasoning and reckoning of the 7th month movement leaders was disclosed by Exhibits H and I, which showed the correlated relationship, in the problem, of the Biblico-Jewish day to the civil--the Biblical day embracing parts of two civil days. Therein was demonstrated astronomically the identification of Tisri 1 with October 13--and consequently of Tisri 10 with October 22, 1844, and so scientifically attesting the fundamental Millerite contention.

Summation: Parts II and III disclose the profound influence exerted upon the 1844 advent movement by the adoption of the Karaite mode of reckoning the sacred year, with its attendant festivals, as the divinely-appointed unit of measurement for the 2300-year master-prophecy. Finding the correct beginning of the year and the right dating of the crucifixion, these 1844 students of prophecy were led unerringly on to October 22 as the goal of their quest.

Yet, the Karaite reckoning was but simple adherence to the known laws of

astronomy and the Mosaic specifications. Its computation was both sound and accurate, and the resultant conclusions true and inescapable. Having been called back to the supreme Source of authority--the Word of God--leaders in the 7th month movement took their stand firmly upon this mandate. They probably never had an actual Karaite calendar before them for the year 1844, for they make no allusion to possessing or using such. And it was not needed--for the simple reason that their conclusions were drawn from the fact that Karaism differed from Rabbanism as regards the all-important barley harvest in its relation to the Passover, and its governing power over the intercalary month.

The understanding and discussion of these intricate astronomical problems by Millerite scholars was at once profound and scientific. They knew thoroughly the reasons for their positions, and fearlessly took their stand in the face of a hostile, scoffing world. The passage of time, and the appraising tests of scientific investigation only substantiate and fortify the fundamental conclusions.

Quite apart, however, from demonstrating that the Millerites rightly understood and consistently applied the Karaite reckoning, what is of infinitely more importance to us as a people, is that we are shown through Parts II and V that the Karaite mode of reckoning this true sacred year, month, and day, was intrinsically correct, and the Millerite conclusion valid. Verily, October 22 was the prophetically required tenth day of the 7th month of the end-year of the 2300-year prophecy!

B. Summary of Conclusions from Parts IV.[3] In Part IV, in establishing the certainty of 457 as the 7th year of Artaxerxes and the true beginning of the 2300-day prophecy, the following points, in resume, have been developed in the line of technical proof:

1. For purposes of chronology, as proved by the various synchronisms between Biblical and profane dates, the entire last year of a king's reign in

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[3] This resume of Part IV was prepared by L.H.Wood.--L.E.F.

Babylon, Persia, or Israel, is given to that monarch, which year is also called the "accession year" of the following ruler--the next year being the first year of the new king's reign.

2. By use of the well-authenticated eclipses of the 5th year of Nabopolassar and the 7th year of Cambyses, there has been demonstrated both the accuracy of this method, as well as a scientific means of interpreting the terminal years of the reigns of these kings in terms of our calendrical system.

3. By applying these same rules to the reigns of the Persian kings, and constantly checking results by means of "dated contract tablets" and inscriptional records, it has been shown that Xerxes' 21st year was 464 B.C.

4. Similar to the years containing the reigns of Jehoahaz and Jehoiachin--each reign less than a year--the death year of Xerxes, the fractional year's reign of the usurper Artabanus, and the accession year of Artaxerxes, are all included in the one year, 464.

5. From a study of Biblical and well-attested archaeological evidence, it has been shown that the Jewish civil year began with the month Tisri in the fall of the year, but that the Babylonian--and Persian--civil year and the Jewish sacred year began with the month Nisan in the spring. But in either case, the months were numbered according to the sacred year, Nisan being the <u>first</u> month, Iyar the <u>second</u>, etc., whether speaking in terms of the civil or sacred year.

6. Whether reckoned according to the Babylonian-Persian system of beginning the year about the time of the vernal equinox, or according to the Jewish system of beginning their same civil year about the time of the preceding autumnal equinox, the time of Ezra's arrival in Jerusalem could not be earlier than the late summer of 457 B.C.

<u>Summation</u>: Thus, by means of abundant evidence from history, astronomy, archaeology, and the Bible, the seventh year of Artaxerxes becomes one of the most thoroughly authenticated dates of all time.

C. Recapitulation of Argument in Part V.[4]--Because of the fact that up to the present time, the date of the crucifixion has not been established by any generally accepted statement of history, the conclusion set forth in Part V was largely based upon the principles of astronomy and calendrical science. The problem consisted in tying Jewish time in the first century to the Julian calendar. The following special features relating to the luni-solar year of the Hebrews, and some aspects pertaining to prophecy and the gospel narratives of Christ's ministry, constitute the foundation of the argument of this Report relative to the crucifixion date adopted by the 7th month movement leaders.

1. As step one in the procedure, the Jewish passover month Nisan was restored to its appointed place in the spring of the year, as commanded in the Mosaic law. Ancient Israel had no March passover. It was an April-Nisan that began the main Jewish feast period of the year--a period that was always the same length, extending 173 days from the Passover sunset to and including the Day of Atonement, or Tisri 10. According to Biblical specification, it was necessary that the passover feast should occur at the time of the full moon of barley harvest.

This primitive regulation was materially changed by the fixed calendars of both Jews and Christians, in the 4th century A.D., at which time the Jewish passover was appointed by the ambitious Christian Church to be a March feast, as a point from which she wished to regulate her own Easter festival. But March passovers would occur on an entirely different series of week days from April passovers of the same year. Upon this important distinction, the date of the crucifixion depends.

2. As step two, the Passover full moon was placed on the 13th day, near the middle of the Jewish month Nisan, as a fixed position, in contrast to the variable position of the conjunctive black moon, at the end of each month, which has a translation period of from one to four days.

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[4] This resume of Part V was prepared by Miss Grace Amadon.--L.E.F.

Valuable testimony from history was cited as to the true position of the full moon in the paschal month. Aristobulos, Eusebius, practically all of the patristic writers, and our leading modern authority, agree that the moon fulls on the day before the Passover, when at sunset the sun and moon face each other in the evening sky. In harmony with this, Josephus' much quoted phrase, "according to the moon" can better be understood. Furthermore, the placing of the paschal moon on the 13th day, is the only postulate which really harmonizes with the position of the "new moon day," as it allows a reasonable time for every new moon phasis in a regular cycle. On the contrary, if the paschal moon be made to coincide with the 14th of the month, in some years the translation period would have little more than an hour between conjunction and phasis--an impossible astronomical event.

From the combined testimony of Geminus, Scaliger, and Hevelius, and from the fact that on the walls of the Sanhedrin chamber, in the time of the patriarch Gamaliel, there hung a chart portraying various forms and shapes of the new moon, by which he examined the witnesses, it was concluded that the Jewish mode of computing the translation period of the moon apparently was much more than a mere test for visibility. The cycle of Table IV shows the limits of the period of the translation of the moon to be from twenty-two hours to four days, in contrast to the modern visibility test which allows much less time, or only about twenty to sixty hours. Computation shows that the phasis follows a regular cycle, in harmony with the moon. The double new-moon days and the so-called "postponements" of the modern Jewish calendar--which after all keeps pace with the moon, though the reasons therefor are not the same as in ancient practice--were considered good evidence of the longer time needed to establish the translation period from conjunction to "new moon day."

3. As step three, four passovers were outlined in the life of Christ, according to the gospel narrative.

4. As step four, the death of Jesus was presented as a complete fulfilment of the Messianic prophecy in Daniel 9--that He was really "cut off" in the "midst" of the seventieth week, as apparently first suggested by Eusebius.

Summation: On the basis of the foregoing stipulations, as outlined in the Bible, history, and the principles of astronomy--that there must be (1) four passovers during the ministry of Christ; (2) a crucifixion fulfilment in the "midst" of Daniel's prophetic 70th week; (3) a passover during the April barley harvest; and also (4) a paschal full moon on Nisan 13, the day before the Passover--only one year between 27 and 34 A.D. offered a Friday Passover. That day was Nisan 14, or April 27, 31 A.D. No other year of the six or seven usually chosen as the passion date satisfies even one of the foregoing counts. The fact that the year 31 A.D. fulfilled all four counts, which concern not only astronomy and the primitive laws of the Jewish nation, but also the demands of the prophecy of Daniel--a feature which one finds included in nearly every ancient and mediaeval treatise on chronology--demonstrated the selection of the year 31 A.D. as final.

While it has been shown to be true that the fragments of ancient history which have come down to the twentieth century fail to agree on any one certain date for the crucifixion of Christ, yet it is equally true and worthy of note that history has not been remiss as a witness, either to prophecy or to the life of Christ, in that she has faithfully recorded the specific rules by which we may compute Jewish time in the first century, and cause this primeval system of chronology to coincide with the common calendar of man.

And in such a manner, on the demands of Scripture, chronology, and history, and by the application of the basic principles of astronomy and the calendar, the position finally taken by the Millerite leaders in the autumn of 1844, as regarding the 31 A.D. crucifixion, has been demonstrated.

D. Closing Affirmatory Statement.--It was He who framed the sun, earth, moon, and stars, projecting them into their appointed courses and holding them there with the precision of Infinity, who ordained their cycles, not merely to rule the day and the night, but as undeviating measuring lines to tell off the great prophetic periods of divine revelation, and thus to signify the crucial epochs of the ages. It was He who, through the centuries, has guided the course of human events according to His own inscrutable scheme and schedule for man's redemption, who, through His prophet Daniel, gave the master key by which to unlock the mystery of the times, that we might understand the unfolding fulfillment of His matchless plan of salvation spanning the centuries, and now nearing its great consummation.

Dated from a decree that can be checked and rechecked by eclipse-marked reigns of Babylonian and Persian monarchs, this prophetic span was certified and sealed ~~sealed~~ by the death of the divine Son of God in the very year marked out by the first fully-dated, 70-week segment of the full prophecy. Christ came as the great antitypical Lamb of God, inerrantly foreshadowed by the passover lamb type, slain on the appointed month and day in the designated Jewish sacred year, to provide the vicarious, atoning sacrifice imperative for man's redemption. All this was accomplished at Christ's first advent, as He appeared on schedule time in humility, to become the predicted Victim of the cross.

Next, we are carried along by this mighty span of allotted years, through the eventful centuries of Christ's post-ascension ministry in the heavenly sanctuary, on to the very year, month, and day when He actually closed the first, and entered upon the second and final phase of Priestly ministry for man--God's great judgment hour--shortly to precede His second advent in glory. These consecutive periods and events, we affirm, have been told off to us by inerrant, time-marking cycles of the sun and moon, together with the concurrent records of man. There has been and can be no mistake in calculation here. And the certainty of it all was sealed by the cross in the midst of the prophetic 70th week.

Astronomy proves that there has been and can be no lost time.

Established thus by decree at its beginning, and certified by the cross--the greatest event of all past history--this prophetic span came to its appointed close on October 22, 1844, just as it has been traced. This sweeping period, with its specific terminal date, holds more in its amazing portent, and is fraught with greater consequence to man and the universe, than all the ambitious schemes of earthly conquerors, or all the imposing achievements of human statesmen, scientists, and scholars. Here both the epochs and the events in the divine plan of salvation are disclosed in sequence and relationship. Here this people silent as to the meaning and the actuality of the historical fulfillment of the final point in the series, the very stones must needs cry out--in parallel to Christ's declaration to those who would hush the hosannas of the child heralds before the great tragedy of the cross that certified this mighty end-event of the span, God's judgment hour.

Adventism's Deeper Significance

Such is the deeper significance of the great second advent movement. It is this that underlies its appearance on schedule time in the 19th century. Such is the amazing method, provision, and providence of God, covering time and eternity, and embracing heaven and earth. And such is the wondrous, infallible time-message of the spheres, ordained in the very beginning of human history not only for daily utility, but for signs and seasons and infallible measurements in disclosing the all-embracing, redemptive plan of the ages--for unto 2300 year-days, then shall the heavenly sanctuary be cleansed--with the end of sin's experiment at its close. It was a determinative act of God graciously made known in advance to man. Truly there is a God in heaven in whom we live, and move, and have our being, who is soon to close forever the last page of the troubled book of human history. Solemn but happy, then, the lot of those who sense the amazing meaning of the hour, and are truly giving to mankind heaven's appointed message pertaining to these remendous times.

Seventh-day Adventists alone are carrying this commissioned sanctuary truth to the world, as based on Daniel 8 and Revelation 14, and they will not fail in faithfulness to their heavenly mandate. This sanctuary truth, with its threefold chronological foundation, is indeed the vital heart of the advent movement and message. In the uncompromising words of Mrs. E.G. White--

"As a people, we should be earnest students of prophecy; we should not rest until we become intelligent in regard to the subject of the sanctuary, which is brought out in the visions of Daniel and John. This subject sheds great light on our present position and work, and gives us unmistakable proof that God has led us in our past experience. . . . Our faith in reference to the messages of the first, second, and third angels was correct. The great way-marks 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."[5]

Such was the firm foundation laid by the 7th month movement heralds of the first angel's message, between August and October, 1844. Such was the sure position maintained and strengthened by the pioneers of the third angel's message as the advancing light on the sanctuary truth explained the nature of the event which had actually transpired on that all-important day in the heavenly sanctuary above, and which now involved the testing truth of the Sabbath. And such is the sound foundation of the great threefold message that is to be proclaimed with ever-increasing power and certainty to the very end of our witness. Seventh-day Adventists took their irrevocable position upon clear evidence, such as is here portrayed. The full recital of the facts has but added luster to the established foundations of truth. Viewed from every angle, the substantiating verities in regard to the sanctuary question stand forth in towering majesty to the honor of God, and the comfort of its friends and adherents.

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[5] White, Ellen, G., Review and Herald, Nov. 27, 1883, p. 737.

Let there be no confusion or uncertainty upon the sanctuary truth. Acquaintance with its unassailable proofs, and their full justification before the world and the church, means spiritual confidence and satisfaction of soul, and in consequence, an aggressive forwarding of the banner of truth in the midst of the collapsing standards and growing uncertainties all about us. We are a people with a heavenly message, and a divine mandate to which we must ever adhere with unswerving allegiance.

LeRoy Edwin Froom

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART II--CHRONOLOGICAL DEVELOPMENT UP TO OCTOBER 22, 1844.

I. Original Miller Declaration. After William Miller's two-year period of intensive study of the prophecies, from 1816 to 1818, he spent several years in reviewing and checking upon his startling conclusion that the second advent of Christ was at hand, which would bring the end of this present world order. Finally he set down his deliberate conclusions in tabulated form in a handwritten statement of faith. However, this original "Statement of My Faith," dated September 5, 1822--which may be said really to mark the inception of the distinctive advent movement in North America--is without particularization, argument, or evidence regarding the crucifixion date, or its placement relative to the 70th week. It only anticipates the second advent in a general way as being at the end of the 2300 years "in, on, or before 1843."[1] It places the beginning of the 2300-year period back about B.C. 457 simply by implication rather than definite statement. See Exhibit A (1). It should be borne in mind that Miller reached his conclusions concerning the "year 1843" not simply the 2300-year prophecy alone, but upon the concurrent ending of a half dozen collateral lines of calculation, some of which largely dropped from the reckoning a little later.[2]

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[1] Photostat of original, dated "Hampton, Sept. 5th, 1822," in General Conference Advent Source Collection.

[2] See Section IV for tabulation.

II. Miller's 1831 Position. In a fuller autograph statement of faith, dated February 15, 1831--six months before beginning his public ministry in August, 1831--Miller specifies "1843 or 1847 at most" for the ending of the 2300-year and correlated periods.[1] With some uncertainty, he begins the 2300-year span tentatively with what he then believed to be the "20th year of the reign" of Artaxerxes, "about 455" B.C., and ends it "about 1845" A.D. See

Exhibit A (2). He also states that when Daniel's 1335 years are ended, they will "bring us down to 1843"--thus dating them from 508 A.D. However, an autograph Miller letter, dated August 9, 1831,--the month of his first sermon--fixes definitely and clearly upon B.C. 457 and 1843 as the terminal points for the 2300-year span, and couples with them the 1335 years from 508 to 1843 A.D., as a paralleling prophecy having exactly the same terminal date.[2] See Exhibit A (3).

This position on the 2300 years is consistently maintained and buttressed thereafter, as may be seen in Miller's first periodical articles in 1832;[3] in his 1836 permanent "Lectures," published in book form two years before other preachers began to join him;[4] and in the various advent periodicals as they began to be published, from 1840 onward.[5] Thus B.C. 457, the starting point of the 2300 years, becomes a fixed date in the advent movement,[6] attested by a galaxy of high authorities,[7] certified by various eclipse checks, and held undeviatingly by all Adventists until after the disappointment in 1844. So the Signs of the Times declares, editorially:

> "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."[8]

This was the first of the three great structural dates to be correctly determined and maintained. See Exhibit A (2 & 3).

A scientific demonstration of the soundness and certainty of the 457 date, prepared by Dr. L.H. Wood, with graphs and tables, appears in Part IV of this Report. This is designed especially for those desiring or needing to go to the bottom of the scientific evidence confirming this historic position.

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1 Photostat in Advent Source Collection.
2 Letter to Hendryx, "Hampton, Aug. 9, 1831." (In Advent Source Collection.)
3 Articles Nos. 2 and 3, for (Brandon) Vermont Telegraph (Baptist paper), 1832. (Photostat of original mss. from which articles were printed in Advent Source Collection.)
4 Miller, Wm., "Evidence from Scripture and History of the Second Coming of Christ, about the Year 1843," Troy (N.Y.), 1836, pp. 49, 52, 76, 88.

5 Signs of the Times, Boston, Vol. 1, 1840, and onward; Midnight Cry, New York, Vol. 1, 1842, and onward.
6 See, for example, Advent Herald, Feb. 21, 1844, p. 23.
7 Usher, Ptolemy, Blair, Prideaux, Ferguson, Horne, Watson, Hales, Funck, Cappel, Whiston, etc; Signs of the Times, Jan. 25, 1843, p. 108; Jan. 1, 1845, p. 165.
8 Signs of the Times, Apr. 12, 1843, p. 44.

GENERAL NOTE: It is particularly to be noted that the documentation appearing hereafter is frequently but typical of a large body of supporting statements, often too numerous for tabulation, but which buttress or amplify the citations that do appear. Frequently it is the sum total of numerous allusions, direct statements, or emphases that determines the conclusion recorded, rather than any single statement.

III. Miller Calculation Involvements. The original Miller application of the 2300 years--from B.C. 457 to 1843 A.D.--fixes, however, upon a 33 A.D. crucifixion as the terminus of the 70th week,[1] on the authority of one group of chronologists and astronomers favoring that date, chiefly James Ferguson.[2] This position is followed by Miller and all of his associates up until the spring of 1844.[3] From the very outset, Miller recognized that, in studying Daniel's prophetic periods, he was dealing with Hebrew or Biblical sacred years, which extended from spring to spring, instead of from January to January, as with our present calendar year.

His "Jewish year 1843" (common or Rabbinical reckoning) is specified as from the vernal equinox on March 21, 1843, to the vernal equinox on March 21, 1844,[4] without fixing upon any definite time or day within the period for the anticipated advent.[5] This general position is followed, at first, in practically all early charts, periodical articles, and book statements from Miller's early associates.[6] See Exhibits B and A (3). Thus Miller says:

"I am fully convinced that some time between March 21st, 1843, and March 21st, 1844, according to the Jewish mode of computation of time, Christ will come, and bring all his saints with him; and that then he will reward every man as his work shall be."[7]

The early Adventist leaders take their stand irrevocably upon the postulate that the 70 weeks constitute the first part of the 2300 prophetic days, consistently maintaining that if this connection between the 70 weeks of Daniel 9 and

the 2300 days of Daniel 8 does not exist, their whole system of exposition is shaken to its very foundation; while if it does exist--as they affirm--then the system must stand as impregnable.[8] This position they steadfastly maintain, citing a notable group of antecedent expositors as evidence of its propriety and soundness. This proposition was, of course, an equally fundamental principle of Adventist interpretation, along with that of the correct beginning of the period.

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1 Miller, Wm., "Evidence," pp. 49, 52; Midnight Cry, Apr. 13, 1843, pp. 14,15.
2 Ferguson, William. (1710-1776.) Eminent astronomer of Scotland. Patron of George III. Most important work, "Astronomy Explained Upon Sir Isaac Newton's Principles, and Made Easy to Those Who Have Not Studied Mathematics," (Ed. by David Brewster), 5 volumes, 1823, pp. 334-337; Playfair, James, "System of Chronology," Edinburgh, 1784; et cetera.
3 Signs of the Times, Apr. 5, 1843, pp. 33-35; Dec. 20, 1843, p. 152. Appears continually; for example, Midnight Cry, Apr. 13, 1843, pp. 13-15.
4 Miller, Wm., Signs of the Times, Jan. 25, 1843, p. 147; Midnight Cry, June 15, 1843, p. 107.
5 Signs of the Times, Jan. 4, 1843, p. 121; Midnight Cry, Nov. 21, 1844, pp. 161, 162.
6 Charts: Signs of the Times, May 1, 1841, pp. 20, 21; June 11, 1841, p. 39; Apr. 26, 1843, p. 61; May 24, 1843, p. 92 (reprinted in Midnight Cry, June 8, 1843, p. 99); Midnight Cry, Nov. 18, 1842, p. 4; Mar. 17, 1843, p. 59; July 20, 1843, p. 175; Aug. 31, 1843, p. 14.
7 Signs of the Times, Jan. 25, 1843, p. 147.
8 Signs of the Times, Apr. 12, 1843, p. 44.

GENERAL NOTE: The citations appearing throughout, it will be observed, are taken principally from the leading Millerite periodicals published in Boston and New York. These are not only thoroughly representative, but much of the tract and pamphlet literature of the movement originally appeared in article form in these journals, and rightly represents the progressive development of their positions. These are supported, however, by the books and pamphlets of the movement.

IV. Paralleling Prophetic Outlines. At the outset there is proportionally heavy emphasis upon subsequently-abandoned paralleling prophetic periods which were presumably to end in Miller's original "year 1843,"--such as the 6000th year from creation;[1] the 7 times of the Gentiles (2520 years) dated from B.C. 677, and beginning with the reign of the Gentiles over the Jews;[2] the grand jubilee of jubilees (2450 years) from B.C. 607, commencing with the desolation of Judea;[3] and the two "days," or 2000 years, from B.C. 158--the year erroneously chosen

for dating the League between the Jews and Romans.[4] But especially is the 1335-year period, from 508 A.D. to 1843, stressed as next in determining value to the 2300 years in fixing the close of the prophetic periods at the expected second advent and destruction of the earth-sanctuary by fire.[5] In fact, it is called "a binder"--tied to the 2300 days, having and insuring a common time ending.[6] See Exhibit A.

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1 Midnight Cry, Feb. 22, 1844, pp. 243, 244.
2 Signs of the Times, Jan. 25, 1843, pp. 147-149; Midnight Cry, Feb. 24, 1843, pp. 3, 4; Feb. 22, 1844, pp. 243, 244.
3 Signs of the Times, Jan. 25, 1843, pp. 147-149; Midnight Cry, Feb. 24, 1843, pp. 3, 4.
4 Idem.
5 Signs of the Times, Jan. 25, 1843, pp. 147-149; Apr. 5, 1843, p. 33; Jan. 31, 1844, p. 195; Midnight Cry, Apr. 13, 1843, p. 15.
6 Midnight Cry, Apr. 13, 1843, p. 15.

V. **Autumnal Types Noted.** Early in May, 1843, Miller calls attention to the autumnal Hebrew festivals as typifying the second advent, in contrast to the vernal feasts as fulfilled at the first advent:

"All the ceremonies of the typical law that were observed the first month, or vernal equinox, had their fulfillment in Christ's first advent and sufferings; but all the feasts and ceremonies in the seventh month or autumnal equinox, can only have their fulfillment at his second advent."[1]

This printed statement is frequently cited thereafter, especially in the latter half of 1844, as the real initiation of the "7th month movement" idea.[2] Some even looked with interest upon the 7th month in 1843.[3] But this definite concept seems largely to lie dormant until the early part of 1844.

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1 Miller, Wm., Signs of the Times, May 17, 1843, p. 85.
2 For example, see Advent Herald, Sept. 18, 1844; Oct. 3, 1844, p. 101; Midnight Cry, Oct. 11, 1844, p. 115.
3 Midnight Cry, Oct. 31, 1844, p. 140.

VI. Associates Revise Terminal Date. As far back as April, June, and December, 1843,[1] and February, 1844,[2] --months before Miller's original date expires for the ending of the "Jewish year 1843" at the time of the vernal equinox in 1844--his associates (Joshua V. Himes, Sylvester Bliss, Josiah Litch,

Nathaniel Southard, Apollos Hale, and others) begin to shift Miller's original date for the ending of the 2300 years from the March equinox over to April, 1844.[3] See Exhibit C. Early in this period, a Signs of the Times editorial declares:

"Now there is a dispute between the Rabbinical, and the Caraite Jews, as to the correct time of commencing the year. The former are scattered all over the world, and cannot observe the time of the ripening of that harvest in Judea. They therefore regulate the commencement of the year by astronomical calculations, and commence with the first day of the new moon nearest the vernal equinox, when the sun is in Aries. The Caraite Jews on the contrary, still adhere to the letter of the Mosaic law, and commence with the new moon nearest the barley harvest in Judea; and which is one moon later than the Rabbinical year. The Jewish year of 1843 A.D., as the Caraites reckon it in accordance with the Mosaic law, therefore commenced this year with the new moon on the 29th day 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."[4]

And Himes, after the spring equinox, says the Jewish year has not yet expired:

"After its [the Jewish year 1843] commencement, he [Miller] gave it as his opinion that the Lord would come some time between the 21st of March, 1843, and the 21st of March 1844. This time has now passed by, and we are a few days beyond the time to which he believed the days might extend. . . .Although the Jewish year has not expired, but extends to the new moon in April, as we explained in our last, yet our time will be regarded by our opponents as having passed by.[5]

Miller was at first unaware of the departure from the Biblical mode of computing the beginning of the Hebrew sacred year, that had crept in among the Jews through the course of centuries. So he roughly placed the "Jewish year 1843" as from "equinox to equinox." But as pressure from opponents forced the Millerites to defend their position on the Jewish year, Miller's associates were compelled to study deeply into its history, with the result that they were led to make the first correction in their calculation as pertains to the exact time of beginning of the Jewish sacred year. The "Jewish sacred year" extends from spring to spring, it should be noted, and takes the number or dating, in our Gregorian calendar, of the Gregorian year with which the greatest number of months in the Jewish sacred year coincide. So the Jewish year 5604 largely corresponds with, and consequently takes the number of, 1843. This principle was clearly recognized and applied by the Miller leaders.[6]

This correction of the beginning of the Jewish sacred year was made deliberately, on the basis of the Karaite (or Caraite) reckoning for the Jewish sacred year, with its "new moon of barley harvest" Scripture specification for its first month, Nisan, as noted in a foregoing citation. The Karaite Jews--Karaite meaning "literal adherence to the law"--came into prominence under Anan in the 8th century of the Christian Era.[7] This was in protest to the departures of the Rabbanite Jews, (or Rabbinical, as the terms are used interchangeably), pertaining to the time stipulations of the Penteteuch for the appointed feasts of the sacred year, which, according to Scripture, began with the new moon of Nisan, nearest the time of barley harvest in Judea, and therefore usually fell in April.[8] The Rabbanite Jews, on the contrary, from the 4th century of the Christian era onward, regulated the year by a fixed calendar, and began the year with the first day of the new moon nearest the vernal equinox, when the sun is in Aries, the first sign. Consequently their passover moons largely fell in March, as the Millerites clearly understood.[9]

There was as much controversy between these two Jewish groups back in the Middle Ages, as between the Pharisees and Sadducees of Christ's day, only now the controversy centered in the barley harvest versus the vernal equinox as the basis for computing the sacred year. The practical importance of this question can scarcely be overestimated in its effect upon the advent movement, for if this beginning month is not correctly timed, then every succeeding festival, including the Day of Atonement, is dislocated from its divinely appointed place.[10]

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1 Midnight Cry, Apr. 27, 1843, p. 30; Signs of the Times, June 21, 1843, p. 123; Dec. 5, 1843, pp. 133-136.
2 Midnight Cry, Feb. 22, 1844, pp. 243, 244.
3 Midnight Cry, Mar. 21, 1844, p. 284; Apr. 4, 1844, p. 297; Apr. 25, 1844, p. 325; Advent Herald, Mar. 27, 1844, pp. 60, 61; Apr. 3, 1844, pp. 68, 69; Apr. 24, 1844, pp. 92, 93.
4 Signs of the Times, June 21, 1843, p. 123.
5 J.V.H.[imes], Midnight Cry, Apr. 4, 1844, p. 297.
6 Midnight Cry, Apr. 25, 1844, p. 325.

[7] Poznañski, Samuel, "Karaite Literary Opponents of Saadia Gaon," Jewish Quarterly Review, London, 1908, Vol. X, pp. 22-41; "Ben Meir and the Origin of the Jewish Calendar," Jewish Quarterly Review, Oct., 1897; Hastings, "Encyclopedia of Religion and Ethics," (1913 ed.), Vol. III, Art., "Calendar (Jewish)."
Albîrunî, "Chronology of the Ancient Nations," (Tr. by Sachan), London, 1879, pp. 68,69.
Malter, Henry, "Saadia Gaon, His Life and Works;" Philadelphia, 1921, pp. 72, 81.

[8] Jahn, "Biblical Archaeology," (Tr. by Upham), Andover, 1823, pp. 22,112; Michaelis, J.D., "Commentatio de Mensibus Hebraeorum," (Trans. by Bower), in Horne's "Introduction," Philadelphia, 1841, Vol. II, Part II, Ch. VII, p. 74, note; Buhle, J.G., "Economical Calendar of Palestine," (English trans.) in Calment's "Dictionary of the Bible," London, 1830, pp. 700--707; Scaliger, Julius, "De Emandatione Temporum," Lib. II. 107. Francofurti, MCXCIII.

[9] Midnight Cry, Apr. 25, 1844, p. 325.

[10] See further in Sec. VII, for Karaites.

VII. Karaite Reckoning Espoused. Running practically all through the two leading journals of the Millerite movement--the Signs of the Times (changed on Feb. 14, 1844, to Advent Herald) and the Midnight Cry--there is repeatedly stressed this time distinction between the Rabbanite and the Karaite reckoning for the true Jewish year--the Rabbanite spring festival being in March; the Karaite usually a month later, in April.[1] The Karaite calendar is deliberately adopted by the Millerite leaders, as it is based upon the conforms to the Biblical demand of a "barley-harvest new moon" for the first Jewish month, Nisan, and its Passover. The following extract is from a long editorial statement appearing both in the Advent Herald and the Midnight Cry, makes this apparent:

"That the Caraite Jews are correct, is plain from the 23d of Lev., which requires that the barley shall be ripe at the passover, on the fourteenth day of the first month, and which, at Jerusalem, is one whole moon later than the Rabbins keep the passover, and who pay no attention to this requirement of God. . . .It will thus be seen that the true Jewish year extends to the New Moon in April. Those who would pursue this farther, are referred to No. 16, Vol. 6, [Signs, Dec. 5, 1843] of this paper, where the structure of the Jewish year is more fully shown."[2]

This involved harmonizing the lunar months with the solar year, which accumulated over a month's difference every three years or so, and therefore necessitated the introduction of an additional moon, known as the intercalary month Ve-Adar (second Adar), between Adar, the last month of the Jewish sacred

year, and Nisan, the first or Passover month. From this point of time--the true first month,--the autumnal festivals of the seventh month are located.[3]

After the Roman dispersion of the Jews from Palestine, the Rabbins, in order to secure uniformity, changed the reckoning of their sacred year in the time of Hillel, about 360 A.D.--or 360 C.E. (Christian Era), as the Jews ordinarily tabulate it--from its natural, divinely commanded form from of old--regulated by the barley harvest and the observation of the new moon--to an artificial, astronomical form, influenced by the Roman ecclesiastical calendar, beginning their new year with the new moon on or nearest the vernal equinox.[4]

The Jews were forbidden by Rome to announce their festival days, and Christians who observed Easter on the 14th day, were guilty of "the 14th day heresy."[5] Following the Council of Nicea, ecclesiastical Rome began to assume the power to proclaim an Easter Sunday to follow as the next day after the ancient Jewish passover of the 14th day, which the church arbitrarily set to be the first full moon after the vernal equinox.[6] The subsequent calendrical reckonings of the Rabbinical Jews differ, therefore, from those prior to the fourth century. So, following the time of Hillel, the first month Nisan was wholly separated from the barley harvest factor, usually coming a month earlier than the Scriptural requirement, as later revived by the protesting Karaites.[7]

The Rabbanite calendar is therefore rejected by the Millerites as neither Biblical nor astronomically accurate as pertains to the new year, the passover, and the Day of Atonement.[8] The accounts of travelers confirmed the position of the Karaites. The evidence found in Buhle's old "Economical [or Agricultural] Calendar of Palestine" was one of the determining factors, together with Calman's then recent observations.[9] Parallel listings of both calculations of the "movable" Atonement feast ultimately appear in the Midnight Cry, tabulating September 23 for the Rabbanite date, and October 22 for the Karaite date, in the year 1844.[10] Even after the disappointment, adherence to the Karaite position on the reckoning of the year is still maintained. See Exhibit D.

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1 Midnight Cry, Apr. 27, 1843, p. 30.
2 Advent Herald, Mar. 20, 1844, pp. 52, 53; reprinted in Midnight Cry, Mar. 28, 1844.
3 Albîrunî, "Chronology," pp. 62, 63.
4 Midnight Cry, Mar. 28, 1844, p. 289; Oct. 11, 1844, p. 117; Scaliger, "De Emendatione Temporum," pp. 108, 194; Horne, T.H., "Introduction to the Critical Study and Knowledge of the Holy Scriptures," Phila., 1841, Vol. II, p. 74.
Sidersky, David, "Astronomical Origin of Jewish Chronology," in Mémoires présentés par divers savants à L'Académie des Inscriptions et belles-lettres de l'Institut de France," Vol. XII, part 2, ch. II and III, secs. 21 and 22, pp. 623-626, Paris, 1913.
5 Scaliger, Joseph, "De Emendatione Temporum," lib. ii. 105; Eusebius, "Ecclesiastical History," Bk. V, chs. XXIII, XXIV, pp. 222, 223 (1847 London ed.); Graetz, Heinrich, "History of the Jews," (Tr. by Wogue and Bloch), Paris, 1888. Vol. III, p. 207.
6 Clavius, Christopher, "Romani Calendari A Gregorio XIII P.M. Restituti Explicatio," Tom. V, Moguntiae, MDCXII, Caput. III. 54.
7 Jahn, "Biblical Archaeology," pp. 22, 112.
8 Advent Herald, Mar. 20, 1844, pp. 52, 53.
9 Buhle, J.G. (Eng. trans.) in Calmet's "Dictionary of the Bible," London, 1830, pp. 700-707; Calman, E.S., American Biblical Expository, New York, April, 1840, pp. 399-415.
10 Advent Herald, Sept. 25, 1844, p. 60, with editorial card.

VIII. Crucifixion Date Shifted. After the spring disappointment, at the passing of the "Jewish year 1843" (in April, 1844), the "Jewish year 1844," instead of the former, becomes, in Adventist terminology, the corrected and accepted terminal point for the 2300 years, as witness the Midnight Cry:

"The Jewish year which synchronizes the nearest with A.D. 1843 must be a year, the greater part of which is contained within that year. This, therefore, must be the civil year commencing in October, 1842, and the ecclesiastical year ending April, 1844, nine months of each being included in A.D. 1843. The new moon in April being passed, we are consequently beyond 1843, not only Gentile, but Jewish, civil and ecclesiastical time, and are now in the year 1844, according to our chronology."[1]

The accuracy of this contention is attested by (Lopez' contemporary Jewish "Lunar Calendar."[2]

There then occurs a correspondingly necessary and logical shift of the ending of the 70 weeks from 33 over to 34 A.D.--which is in fact the true terminus.[3] This change was effected by shifting the crucifixion date either back a couple of years or forward to 34, as some were prone to do, on the authority of another

group of chronologists, while Ferguson[4] and the 33 A.D. authorities were abandoned because of their obvious error.[5] Two excerpts must suffice, but these clearly show that the abandonment of the 33 crucifixion date was occasioned by following the Karaite calendar position to its logical conclusion, which disannulled the 33 A.D. Friday passover, as will be discussed in Section IX, which follows. The first citation appeared in April, 1844, the second back in December, 1843:

"A correspondent wishes for an explanation of a statement. . .on the calculation of Ferguson in determining the date of the death of Christ. The statement is this--'Before the defect in Ferguson's calculation was discovered, the year 33 was considered the true date. It is now otherwise.' The writer asks, 'What is that mistake?' It is this: His calculation supposes that the Jews fixed their passover at the time of Christ's death, by the astronomical process now in use among the Jews. As this was not then in use, the basis of Ferguson's calculation is wanting, and of course it is defective." [6]

"It will be seen, therefore, if the Caraite Jews are correct (and the Mosaic law settles the question that the Passover cannot be observed till the barley harvest is ripe), that an astronomical calculation of the day of the week on which the first full moon after the vernal equinox in A.D. 33., would fall, cannot prove the day of the week on which the true Passover would be observed that year, and consequently cannot prove the year of the crucifixion. We said it could not prove the day of the week on which the true Passover would be observed: if the first full moon after the vernal equinox in 33 came on Friday, the next full moon would be 29 1/2 days later. But as the Jews reckoned from the first appearance of the moon, which is seen sometimes 29 and sometimes not till 30 [days] after the appearance of the previous moon, we should have no means of knowing whether the 14th day from its appearance would be on Saturday, 29 days from the 14th of the previous moon, or on Sunday, 30 days from the same period. If, therefore, the Caraite Jews are correct, while the calculations of Ferguson as to the day of the week on which would fall the first full moon after the vernal equinox, are perfectly correct, they give us no certain clue to the day of the week on which the true Passover came, and consequently cannot determine the year of the crucifixion."[7]

Contenders for this position held the crucifixion as still marking the end of the 70th week. Others, and evidently the majority, began to favor a 31 A.D. crucifixion date, placing the cross in the "midst" of the 70th week,[8] and cite Eusebius as a witness to the 31 date.[9] Still others in this transition period, not clear on the "midst"[10]--whether denoting the precise middle or a more elastic term--assumed the 34 A.D. terminus for the 70th week, independent of the time in the 70th week in which the crucifixion took place.[11] In any event, 34 was now the terminus of the 70th week, harmonizing with the grand terminus in 1844.

See Exhibit A.

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1 Midnight Cry, Apr. 25, 1844, p. 325.
2 Lopez, Moses, "A Lunar Calendar of the Festivals . . . Observed by the Israelites Commencing Anno Mundi 5566 and Ending in 5619," (1805 to 1859.) Newport, 1806.
3 Midnight Cry, Apr. 13, 1843, p. 15; June 27, 1844, p. 398; Signs of the Times, June 21, 1843, p. 123; Dec. 5, 1843, p. 136.
4 Ferguson, James, "Works of. . .Astronomy" (Trans. by Brewster), Vol. I, pp. 334-337, Edinburgh, 1823.
5 Signs of the Times, Dec. 5, 1843, p. 134; Midnight Cry, Feb. 22, 1844, pp. 243, 244; Apr. 11, 1844, p. 310; Advent Herald, March 20, 1844, pp. 52, 53; Mar. 27, 1844, pp. 60, 61; Apr. 10, 1844, p. 77.
6 Midnight Cry, Apr. 11, 1844, p. 310.
7 Signs of the Times, Dec. 5, 1843, p. 134.
8 Signs of the Times, Dec. 20, 1843, p. 148.
9 Idem; Eusebius, Pamphilus, "Ecclesiastical History," (Tr. by Cruse). London, 1847, Bk.VII, ch. xxxii, pp. 322,323.
10 Signs of the Times, Dec. 5, 1843, p. 131; Dec. 20, 1843, p. 148.
11 Midnight Cry, Feb. 22, 1844, pp. 243, 244.

IX. Seventh Month Movement. Beginning first in an article written February 16, 1843,[1] and continuing progressively throughout 1844, Samuel S. Snow stresses the autumnal Jewish seventh month, Tisri, as the true ending of the prophetic 2300-year span, dated from the seventh month of B.C. 457. In May, 1844, Snow writes:

"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 glorious 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."[2]

This position reaches its final printed form in the True Midnight Cry of August 22, 1844, first published at Haverhill, Mass., after the epochal Exeter campmeeting.[3] Snow's argument is built upon the Karaite true reckoning for the sacred year--embracing both the 10th day of the 7th month ending, and a 31 A.D.

spring crucifixion. Regarding the right year (1844) as now settled upon the basis of the outline prophecy periods, he sets forth the specific day of the expected advent as October 22, in this true year, on the basis of the 10th day of the 7th month atonement type.[4] He definitely shifts the date of the cross from the end of the 70th week, in 34 A.D., as still held by some, back to the specified "midst" of the 70th week in the spring of 31 A.D.[5] For this he cites William Hales as his chief chronological authority,[6] along with the contrasting testimony of the Rabbanite and Karaite calendars--the Rabbanites affirming 33 A.D., and the Karaites declaring for 31 A.D., as the only Friday passover falling within the circle of years embracing Christ's public ministry.[7]

Support for Snow's position grew slowly but steadily.[8] Thus the second and third of the three great structural dates of the 2300-year span come to be correctly determined and consistently maintained by all participating in the seventh month movement--until after the disappointment on October 22. See Exhibit A (5).

The writings of the Christian Jewish scholar, Joseph Samuel C.F. Frey, exerted a marked influence upon Snow and his associates in fixing upon October 22, 1844, as the precise 10th day of the 7th month fulfilment of the atonement autumnal type, in parallel to the death of Christ as our great antitypical Passover Lamb, accomplished historically on the exact year, month, day, and even hour specified in prophecy.[9] Writing on Oct. 14, 1844, just before the disappointment, Himes states in the Advent Herald that he had had inserted, in several daily papers in Boston, an explanation of the Adventist expectation concencerning October 22, in which these words appear:

"As the types of the Jewish law, the Passover, the waving of the sheaf of first fruits, and the Pentecost have been honored by the greatest events of the Christian dispensation, viz.: the death of Christ, 'our passover,' his resurrection, and the bestowment of the gifts of the Holy Ghost, this led us to the belief that as the work to be done by our Lord at his second coming, is typified by the transactions of another great typical institution of the same law, the national atonement, or cleansing of the people 'from all their sins before the Lord,' on the 10th day of the 7th month--he will then appear for the salvation of his people."[10]

It was the exactness of this Passover fulfilment that had won Frey to Christianity,[11] as he calculated the crucifixion year on the basis of the 70-week prophecy and year-day principle, and the month and day on the basis of the stipulated 14th day of the 1st month for the sacrifice of the typical passover.[12] This gave force to Snow's paralleling contention regarding the atonement day which had been previously intimated by Miller.

A scientific demonstration of the soundness and the certainty of the 31 A.D. spring crucifixion, prepared by Miss Grace Amadon, appears as Part V of this Report. This has been made available especially for those equipped with sufficient astronomical background to follow and evaluate the full evidence involved in the conclusions reached, which evidence has been checked by Mr. Glen Draper, of the United States Naval Observatory, and other experts.

Concerning the seventh month movement, Mrs. E.G. White makes this sweeping declaration:

"Of all the great religious movements since the days of the apostles, none have been more free from human imperfection and the wiles of Satan than was that of the autumn of 1844. Even now, after the lapse of many years, all who shared in that movement and have stood firm upon the platform of truth, still feel the influence of that blessed work, and bear witness that it was of God."[13]

It should be added, parenthetically, that these Adventist writers in 1844 were sedulous students of the scholars who had gone before them. They had mastered their writings, and constantly allude to and quote from them. Large volumes had been written, such as Faber, just on the 70 weeks alone,[14] and ponderous sets devoted much space to the discussion of Old and New Testament chronology, involving the 7th year of Artaxerxes, the year of the crucifixion, et cetera.[15] The thoroughness of the Millerite writers' acquaintance with the best authorities of the past was truly noteworthy, and deserves our admiration. They were familiar with and pressed upon such citations as this:

"There is no number in the Bible whose genuineness is better ascertained than that of the 2300 days. It is found in all the printed Hebrew editions, in all the MSS. of Kennicott and De Rossi's collations, and in all the ancient Versions, except the Vatican copy of the Septuagint, which reads 2400, followed by Symmachus; and some copies noticed by Jerom, 2200; both evidently literal errors in excess and defect, which compensate each other, and confirm the mean, 2300."[16]

As a related part of the 7th month movement position, Snow, Storrs, and Litch adjust the beginning of the 1335-year period from 508 to 509 A.D., in order to bring its close into harmony with the now generally accepted ending of the 2300 years in 1844, which is recognized as the grand, synchronous ending of all these interrelated prophetic periods.[17] See Exhibit A (4 & 5). This adjustment to 509 is specifically accepted as an integral part of the general 7th month movement position, and appears in all the leading papers,[18] the Advent Herald and Midnight Cry, for instance, stating, editorially:

"We refer the reader to Bro. Snow's argument. One thing, however, is evident; all those periods must terminate together, none of them are yet terminated, and the longer periods we should expect, would point to the termination of the shorter ones. We are therefore fully justified in expecting [in] the present Autumn the termination of all the prophetic periods."[19]

"The twenty-three hundred years of Daniel must very soon expire--the thirteen hundred five and thirty years will end at the same time, and Daniel will stand in his lot."[19]

The famous and effective 1843 cloth chart, and the various other antecedent charts published in the advent papers--which incorporated the 2520 years (7 times), the 2300 years, and the 1335 years, with their respective beginning dates, as all terminating in the "year 1843,"--were not used in the relatively brief great 7th month movement, as they were made before the correction and shift from the 1843 to the 1844 terminal as the end-date of all the outline periods involved.

Now, on August 22, 1844, Snow published this remarkable statement in the very heart of his True Midnight Cry, the document which really gave form and impetus to the 7th month movement:

"This event [the crucifixion] took place, according to Doctor Hales, one of the ablest and best chronologers, in the spring of A.D. 31. Ferguson has placed it in A.D. 33; but in order to prove it he assumes the Rabbinical mode of reckoning the year, which is not correct. They commence the year with the new moon in March; but the Caraites with the new moon in April.--The word Caraite signifies 'one perfect in the law.' These accuse the Rabbins of having departed from the law, and conformed to the customs of the heathen; and the charge is just, as they regulate their year by the vernal equinox, in imitation of the Romans; whereas the law says nothing of the vernal equinox; but required, on the 16th day of the first month, the offering of the first fruits of the barley harvest. But if the year be commenced according to the Rabbins with the new moon in March, the barley harvest could not possibly be ripe in 16 days from that time. The Caraites are therefore undoubtedly correct. Now our Lord was crucified on the day of the Passover, as is evident from John xviii.28. It was likewise the day before the Sabbath, as is

proved by John xix. 31. According to the Rabbinical reckoning, the Passover occurred on the day before the Sabbath in A.D. 33, and not for several years before or after. But according to the Caraite reckoning, the Passover occurred on that day in A.D. 31. Therefore, that was the year of the crucifixion. The covenant was confirmed half a week by Christ, and the other half by his apostles."[20]

In order to grasp the significance of Snow's strong and really revolutionary stand on a 31 A.D. crucifixion as a Karaite reckoning, it is necessary first to take a retrospective glance. After the passing of Miller's "year 1843," about the time of the spring equinox in 1844, this significant statement, among others, appeared during the discussion:

"For if the Jews commenced their years in the time of our Saviour, in accordance with their present calendar, Ferguson's calculation, which is based upon it, would prove the crucifixion to have been on the 3rd of April, A.D. 33: but if it was not then in use, it does not demonstrate that the crucifixion was in that year. On this point the whole question of 33 turns."[21]

The vital point of the argument in this quotation lies in the difference, which was even then becoming increasingly apparent, between the erroneous basis of Ferguson's conclusions concerning 33 as the death-year of Christ, and the only true basis of calculation which could be applied to the first century. This difference turns, in the ultimate, upon the complex stipulations of the modern Jewish calendar. From the united testimony of authorities on this question, three principal contrasts are to be noted between it and the Hebrew regulations operative in the time of Christ. These are:

1. The computed Rabbinical Jewish calendar of the 4th century onward, does not observe its New-Moon festivals on a Sunday, Wednesday, or Friday, or its Pascha on a Monday, Wednesday, or Friday. These "illicit days" are exempted according to the rules adu and badu.[22]

2. Since the time of its fixation, in the 4th century, the Rabbinical Jewish calendar has ignored the Mosaic law of the barley sheaf connected with the passover, and has a Nisan which begins principally in March, the Pascha always taking place at the time of the first full moon after the vernal equinox, before the harvest is ripe in Judea.[23]

3. The modern Jewish Passover, as Nisan 15, coincides with the full moon unless a day illicita interferes, which advances the feast one day.[24] The ancient command of "Passover on the 14th" is no longer observed. Nisan 15, as the day of the full moon, obliterates the divinely appointed astronomical interval between conjunction and the first day of Nisan.[25] (This latter feature will be more fully discussed in Part V, which see.)

Because these pronounced features of the Rabbanite calendar had, from the 9th century onward, been strenuously opposed by the Karaite scholars, the argument pertaining to the date of the crucifixion began ultimately to center around these three lines of difference, and were designated by the Adventists in the 7th month movement as contrasting Rabbanite and Karaite positions for a Friday passover during the ministry of Christ. And down through the centuries, this has indeed been the index finger to the problem. Consequently, from the viewpoint of calendar science, from the evidence of the moon's behavior in her relation to the earth, from the harmonizing of the solar and lunar equations governing the Hebrew year--which, by the command of God, was to conform both to the sun and also to the moon--and from the demands of the prophecies of Daniel as well as of history, as pertaining to the ministry of Christ, the thought of these 1844 students of prophecy was focused upon the year 31 A.D. as the only possible alternative for the previously-held 33 A.D. passion of Christ.

The year 30 was rejected, obviously, for the reason that it cuts short the working period of Christ by one passover, and because it does not fit the specifications of the prophetic "midst" of the week. (The question of the four passovers will likewise be discussed in Part V.) So, on the foundation of the Mosaic teaching, the 7th month leaders concluded that--

1. The Passover-Nisan is an April Nisan, when the "rain is over and gone;"
2. The barley ears must be ripe by the middle of Nisan, or about the 14th day; and,
3. The Passover festival can come on any day of the week, there being no days

illicita.

Ferguson's choice of the year 33, with April 3 as a Friday passover, was consequently rejected as Rabbanite in character, because occurring on the first full moon after the equinox, before the barley could possibly be ready for the festival offering. And if Ferguson's crucifixion-Friday, as of April 3,[26]-- though actually the day of a full moon, with her phasis on the eastern horizon at sunset--were placed in its proper relation to the 14th day of Nisan, the day on which the lambs were slain, that Friday, according to the testimony of the early Jewish writers in and before the time of Christ, was Nisan 13, the day before the regular passover of the Jews, and could not have been the day on which Jesus was crucified.[27]

Of this fact, the Karaites give evidence from computations which have crept into their modern system of calculation.[28] Calendar science also confirms this ancient rule relative to the Jewish passover, for if the full moons were placed on Nisan 14, then there would be some first days of Nisan in the interval which would actually precede the phasis, or first appearance, of the new moon.[29] According to Hales, "the true Paschal full moon was the day before,--Thursday,--when Christ celebrated the Passover with his disciples."[30]

The 7th month movement leaders were thus left with the year 31 A.D. as the Karaite year for a Friday passover, because of its relation to the ripening barley in April. That crucifixion April full moon occurred after sunset, near the end of the calendar day, on April 25, 31 A.D., or according to the astronomical "Julian day number," 1732495.[31] Another Jewish day had begun, and it was Thursday. At sunset of this day, the full moon, low on the eastern sky, faced the setting sun in the west--a sign that the evening of the passover had come. We have a testimony concerning this very position of the moon and sun, handed down to us since the days of Ptolemy Philadelphus, and included in a fragment from the "Canon Paschalis" of the learned Anatolius, bishop of Laodicea in the third century, A.D.

The authority quoted is Aristobulos, Eusebius passing on to posterity his remarkable statement:

"'Aristobulos,' it is there said, 'maintained that at the paschal festival the sun as well as the moon must necessarily have passed the equinoctial point; that the day of the paschal festival began on the 14th of Nisan after the evening, when the moon stands diametrically opposed to the sun, as any one can see at the time of full moon. The sun then stands in the sign of the vernal equinox.'"[32]

The Karaites understood this ancient rule for the Pascha. And on this basis, and from the fact that they undeviatingly taught that the feast should always come in the time of the ripening barley, their name was used by Snow and his associates as authority for a Friday passover in the year 31.

In order to grasp this group of facts, it must be borne in mind that the persecution of the Rabbinical Jews in the fourth century brought great confusion to that group in regard to their festival days, which they were not allowed to announce.[33] And when finally, of necessity, they thereupon developed a computed system, it was molded under the distinct influence of the councils of the Catholic Church, who dictated the position of the 14th day of Nisan to be that of the first full moon after the spring equinox, as from this point the church regulated her own Easter feast.[34]

These facts in Jewish history were well known to Joseph Scaliger,[35] and also to Sir Isaac Newton,[36] whom the Millerite leaders had studied. But both of these chronologers erred in allowing five passovers to the years of Christ's ministry. Consequently their testimony, along with that of Ferguson concerning the day of the crucifixion, was deliberately and understandingly set aside by the men of the 7th month movement in locating the cross in the midst of Daniel's prophetic 70th week.

Never should it be forgotten in this connection, that, reaching clear back to the times of pagan Rome, the emperor, as Pontifex Maximus, ever claimed and exercised the power of control over the calendar.[37] And when we reach the period of the professed Christian Roman Emperors, beginning with Constantine, we observe the same control exercised in fixing the Christian festivals, particularly as regards Easter.[38] Constantine, presiding over and controlling the Council of Nicea in

325, there regulated and fixed--under the influence and at the behest of the Catholic bishops--the Easter feast to occur on the first "Lord's Day" following the first full moon, either on or after the vernal equinox, based upon the "Cycle of the Golden Numbers" (the 19-year cycle), as commanded by the Council of Nicea.[39] This was made obligatory by Roman civil law.[40]

This politico-ecclesiastical decision profoundly influenced the attitude of the Jews, and forced the fixation of their sacred calendar, particularly as regards the time of their passover, contrary to the express command of Jehovah.[41] The developing Catholic Church sought, in this way, to settle the 4th century controversy created by the "moon question" in relation to the passover. But Clavius plainly declares that both the day and date of the appointed "paschal rite" of the church is not the "true way."[42] These two factors--Christian and Jewish--consequently constitute the erroneous basis upon which many noted scholars have calculated a 33 A.D. crucifixion date. 33 A.D. is thus both the distinctively Catholic crucifixion date, and the much-sought Rabbinical Jewish Friday-passover that would coincide with a year in Christ's ministry.

Furthermore, the title and office of Pontifex Maximus, laid aside by the Roman emperors, was assumed by the Bishop of Rome. And the power to regulate the calendar persisted throughout the period of papal supremacy, as witness Gregory XIII and his famous "Gregorian calendar" reform, with its ten-day adjustment, effected through aid of the great scholars, Scaliger, Calvius, and Lillius. This did <u>not</u> affect, however, the consecutive serial days of the week ending with the Sabbath, which have continued undeviatingly through the centuries--Friday, October 15, 1582, taking the place of Friday, October 5, of the same year.[43]

Thus we see that the Little Horn's subtle manipulation of the "times and laws" of God, outlined in Daniel 7, extends out beyond the flagrant Sabbath aspect, to effect universally accepted ecclesiastical calendar changes, both Christian and Jewish, which in turn had to be discarded by the Millerite leaders before they could reach a true conclusion as to the 31 spring crucifixion in the midst of the

70th week[44]-- thus to establish the certainty of the 1844 autumnal terminus of the 2300 years.

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1 Midnight Cry, February 22, 1844, p. 243, 244; Advent Herald, April 3, 1844, p. 69; Midnight Cry, June 27, 1844, p. 397; Advent Herald, Aug. 14, 1844, p. 15; True Midnight Cry, Aug. 22, 1844, Haverhill, Mass., pp. 1-4; Midnight Cry, Oct. 10, 1844, pp. 106, 107.

2 Snow, S.S., Midnight Cry, May 2, 1844, p. 353.

3 Advent Herald, Aug. 21, 1844, p. 20; Midnight Cry, Oct. 31, 1844, p. 140.

4 True Midnight Cry, Aug. 22, 1844.

5 Idem; See also Eusebius, "Proof of the Gospel," Bk. 10, ch. 7, pp. 136, 137, (New York, 1920 ed.).

6 Hales, Wm. (Died 1821. Irish clergyman and scientific author). "New Analysis of Chronology and Geography, History, and Prophecy," London, 1830, Vol. II, p. 518. (Highly commended by Horne and Orme.)

7 True Midnight Cry, Aug. 22, 1844.

8 Midnight Cry, June 27, 1844, p. 398; Advent Herald, Aug. 21, 1844, p. 20.

9 Snow, S.S., True Midnight Cry, Aug. 22, 1844, p. 4; Advent Herald, Oct. 2, 1844, p. 71; Midnight Cry, Oct. 10, 1844, p. 105.

10 Advent Herald, Oct. 30, 1844, p. 94.

11 Frey, Joseph S.C.F., "Judah and Israel," New York, 1840, pp. 8,9.

12 Frey, "Scripture Types," New York, 1841, Vol. I, pp. 93--109; "Joseph and Benjamin . . . the Controversy between Jews and Christians," New York, 1841, Vol. II, pp. 194--199, 254--259.

13 "Great Controversy" (1931 ed.), p. 401.

14 Faber, Geo. S., "Dissertation on the Prophecy Contained in Daniel ix. 24-27, Generally Denominated the Prophecy of the Seventy Weeks," London, 1811.

15 Horne, Prideaux, Usher, etc.

16 Hales, Wm., "New Analysis of Chronology," London, 1830, Vol. II, p. 512.

17 Midnight Cry, Feb. 22, 1844, pp. 243, 244; True Midnight Cry, Aug. 22, 1844, pp. 1-4; Advent Herald, Oct. 16, 1844, p. 86.

18 Midnight Cry, Mar. 21, 1844, p. 284; Sept. 12, 1844, p. 74; Oct. 12, 1844, p. 123; See also Advent Herald, Voice of Truth, etc.

19 Advent Herald, Oct. 16, 1844, p. 86; Midnight Cry, Sept. 12, 1844, p. 74.

20 True Midnight Cry, Aug. 22, 1844, p. 2, first published at Haverhill, Mass., and printed and reprinted in the various Adventist papers.

21 Advent Herald, March 27, 1844, p. 60.

22 Albîrunî, "Chronology of Ancient Nations," London, 1879 (Trans. by Sachau), pp. 66, 144.

23 Scaliger, J., "De Emendatione Temporum," p. 107.

24 Compare Passover day with date of paschal moon. See any "Nautical Almanac."

25 Albîrunî, "Chronology," p. 159; "American Jewish Year Book 5678" (for 100 year Calendar), Philadelphia, 1917. See tables for Nisan 15.

26 Ferguson, James, "Astronomy," Vol. I, p. 334, Edinburgh, 1823.

27 Harkaui, A., and Katzenelson, L., "Hebrew Encyclopedia" (Russian), St. Petersburg, Vol. IX, art. "Karaites."

28 Kokisoff, Jufuda, "Karaite Calendar," Odessa, 1880.

29 See Hypothesis I, Table II, in Part V, of this Report for full explanation.

30 Hales, Wm., "A New Analysis of Chronology," London, 1830, Vol. I, p. 100, Note.

31 See Table I, in Part V of this Report; "American Ephemeris and Nautical Almanac for the Year 1939," Washington, D.C., 1937, p. 808.

[32] Caspari, C. E., "A Chronological and Geographical Introduction to the Life of Christ," (Trans. by Evans), Edinburgh, 1876, p. 8; Eusebius Pamphilus, "Ecclesiastical History" (Trans. by Crusé), London, 1847, Bk. VII, Ch. XXXII, pp. 322, 323.

[33] Graetz, Heinrich, "History of the Jews" (Trans. by Wogue and Bloch), Paris, 1888, Vol. III, p. 207.

[34] Clavius, Christopher, "Explanation of the Restored Roman Calendar," Moguntiae, 1612, ch. 3.

[35] Scaliger, "De Emendatione Temporum," p. 106.

[36] Newton, Sir Isaac, "Observations on Daniel and the Apocalypse," London, 1733, pp. 85-162. Note: From the discussion of Newton in reference to the prophecies, the year of Christ's ministry, and the luni-solar year of the Jews, it is evident that he closely followed Scaliger in his conclusions.

[37] Peck, H.T., "Dictionary of Classical Literature and Antiquities," art., "Pontifex," p. 1300, New York, 1896; Lamont, Roscoe, "The Roman Calendar and Its Reformation by Julius Caesar," Washington, D.C., 1919, p. 6.

[38] Clavius, "Explanation of Restored Roman Calendar," pp. 54-56.

[39] Idem., p. 56; Lamont, "Roman Calendar," pp. 6-8, where Bull, dated "Tusculum, 1581" appears.

[40] Justinian, "Corpus Juris Civilis" (Trans. by Scott), Cincinnati, 1932, Vol. 12, bk. I, Tit. I, secs. 2, 4 (3); Title xii, sec. 7; Vol. XVII, "New Constitution 131," ch. IV.

[41] Sidersky, David, "Astronomical Origin of the Jewish Chronology," part 2, ch. IV, sec. 45, in "Mémoires . . . de à l'Académie . . . de France," Paris, 1913; Scaliger, "De Emendatione Temporum," pp. 105, 106.

[42] Clavius, "Explanation," p. 56.

[43] Lamont, "Roman Calendar," p. 8.

[44] Sidersky, "Jewish Chronology," ch. III, sec. 30, p. 634, and 80-year Table of First Century on p. 628.

X. Entry Upon Tarrying Time. After passing the April, 1844, ending of the "Jewish year 1843," as the formerly understood terminus of the 2300-year span, on the basis of the Karaite reckoning, and pending the promulgation and general acceptance of the 7th month movement position, a marked settling down into a waiting attitude characterizes nearly all of the Millerite leaders and papers, based upon expressions in Habakkuk 2:3 and Matthew 25, on the "tarrying time," during which period there is little activity.[1] Leaders are slow about accepting the 7th month position, resting back upon this "tarrying time" phrase of the parable.

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[1] Midnight Cry, Mar. 21, 1844, p. 280; Advent Herald, Apr. 24, 1844, pp. 92, 93; May 1, 1844, p. 97; Midnight Cry, June 6, 1844, p. 373; Advent Herald, July 17, 1844, p. 188; Aug. 14, 1844, p. 14; Aug. 21, 1844, p. 21; Midnight Cry, Oct. 3, 1844, p. 101; Signs of the Times, Aug. 6, 1843, p. 180.

XI. Movement Becomes All-Absorbing. From August, 1844, onward, the "tenth day of the 7th month movement," or "true midnight cry," steadily gains momentum and place among Adventist preachers and papers. In September and early October, the Snow True Midnight Cry article of August 22 is printed and reprinted both separately and in practically all Adventist journals.[1] Giving the "cry" becomes the all-absorbing burden, as all other aspects and corollaries pale into insignificance.[2]

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1 Midnight Cry, Oct. 3, 10, 1844, etc; Advent Herald, Oct. 2, 9, 16, 1844, etc.
2 Midnight Cry, Sept. 26, 1844, p. 96.

XII. Pioneers Capitulate Tardily. The most prominent Millerite leaders are the last to take their stand for the October 22 date. Miller finally capitulates on October 6, still holding, however, to his former "1843" terminus at the equinox in March, but making the applied "tarrying time," of Habakkuk 2:13 and Matthew 25, extend to October 22, as the expected day of the advent on the basis of the types. Miller is almost alone in failing to change from 1843 to 1844 for the terminal date of the 2300 and 1335 year periods, and in correcting the crucifixion date from 33 to 31 in the "midst" of the 70th week.

It should be clearly understood that the 7th month movement, so far as the general emphasis and support of the specific day, October 22, is concerned, was confined to a few weeks prior thereto.[1] The leaders, and the leading papers which voiced their attitude, were still markedly conservative, even when they began to espouse the Snow position, at first using such expressions as "about October 22 or 23," or "coincides nearly with October 22."[2]

Only Snow and those accepting his position are, from August onward, positive in conviction, and specific and aggressive as to specifying the day. The majority are hesitant. It is ultimately the gripping consciousness of actually living within the fateful seventh month, with its attendant experiences, that brings the great hose of Adventist preachers and people to final acceptance and intensive support of the October 22 date.[3]

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[1] Midnight Cry, June 27, 1844, p. 397; Advent Herald, Sept. 11, 1844, pp. 45, 47; Sept. 18, 1844, p. 52; Midnight Cry, Oct. 10, 1844, p. 108; Oct. 12, 1844, pp. 122-127.
[2] Midnight Cry, Oct. 3, 1844, pp. 98, 102; Oct. 19, 1844, p. 133.
[3] Advent Herald, Oct. 30, 1844, p. 93; Midnight Cry, Oct. 31, 1844, pp. 140, 141.

XII. Basis of Precise Calculation. Following the Biblically and astronomically sound original Karaite reckoning for the true Jewish sacred year, the Adventist leaders fix upon October 22 as the true 10th day of the true 7th month by applying this direct and simple formula: As the true "first month" began with the appearance of the new moon in April, 1844, so the true "seventh month" in that year must begin with the appearance of the corresponding new moon after its change on the evening of October 11, the new moon becoming visible on the 13th, as every current calendar informed them. Therefore, they declared, the 10th day of the 7th month would fall upon October 22, New England-time reckoning.[1] See Exhibit E. Here is a typical statement:

"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 October 22. 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]

The time calculations for the specific day were complicated by the fact that not only does the Jewish sacred year differ from our Gregorian year--running from April to April, instead of from January to January--but the Jewish or Biblical day is from sunset to sunset, instead of our arbitrary civil reckoning from midnight to midnight. All calculations must therefore accord with Biblical reckoning, and then be translated into our present Gregorian calendar, civil-time reckoning.

It is also desirable to remember that the Jewish day takes the number or dating of the civil day with which it corresponds for the greatest number of hours; and in modern times from the astronomical point of view, it is the coincident day in which the sun crosses the meridian at midday.[3]

This Millerite conclusion is reached with remarkable cogency, soundness, and exactness. Three consecutive civil days stand out in indissoluble connection in their process of reckoning: First, October 11, with its change of the moon, or conjunction, in the evening; next, October 12, with its first appearance of the new moon crescent in New England; and third, October 13, as the first day of Tisri, the true first day of the seventh month of the sacred year. See Exhibits F and H.

October 11 the Millerite leaders got from the astronomical dating of the common, local almanacs--such as the American, Farmer's, Great Western, New Troy,[4] etc.--and the moon's position in relation to the earth for the year. October 12 they designated for the appearance of the new moon, on the testimony of Hales, Geminus,[5] and others.[6]

From the very fact that the moon's position was then nearest the earth, that is, in perigee--and the only new moon of the entire year that was in perigee--and her motion therefore the most rapid in her course, they rightly adopted the acknowledged ancient and modern reckoning, allowing one day only for her translation, that is, between conjunction and the first appearance of the new moon in perigee. See Exhibit G. This conclusion was also in accordance with the rules of modern astronomical research as regards the phasis, or first appearance, of an autumnal new moon, which allows about 22 or 23 hours for visibility, whereas the new moon in October, 1844, had nearly 24 hours between conjunction and the first sunset.[7] Hence, the 13th of October (or 1st of Tisri), would necessarily be the day immediately following this sunset observation of the new moon--or October 13, Boston civil time reckoning. Consequently, the 10th day of Tisri could come only on October 22, or in the astronomical nomenclature, Julian day number 2394862.[8]

It should ever be remembered that the interval between the vernal and autumnal conjunctions (which conjunctions determine the passover and atonement feasts), was always a fixed interval--the number of days in the intervening months never changing, as no intercalary months or days ever intruded into this period. From spring conjunction, or moled (Jewish term for "mean conjunction"),[9] to the fall

conjunction, there are always exactly 177 days,[10] and from the passover (Nisan 1) to and including the day of atonement (Tisri 10), 173 days.[11] (Fuller discussion of these fixed periods will appear in Part V.) Thus the principle of calculation was relatively simple, and the likelihood of error greatly reduced.

Because every Jewish or Biblical day, extending from sunset to sunset, includes parts of two civil days, which are counted from midnight to midnight, the Jewish day takes the number or dating of the civil day with which it coincides for the greatest number of hours. In Boston, only 22 hours and 55 minutes elapsed between conjunction on Elul 29 (the last day of the 6th Jewish month, or Oct. 11), and the sunset-beginning of Tisri 1 (the 1st day of the 7th month, or Oct. 13)--thus they are really less than one full 24-hour day apart, although dated the 11th and 13th respectively. (A fuller discussion of this, too,--and related features--will appear in Part V.) This seemingly puzzling anomaly becomes simple and understandable through the study of Exhibits H and I. All becomes clear when the inevitable relationship between Jewish and civil time is grasped. It is similar in principle to the "3 days and nights" of Christ's entombment, which was in reality but one full day and parts of two others.

No intricate mathematical or astronomical calculation was necessary, so the Adventist position was easily understood by the common people. Nevertheless, a scholarly mastery of the astronomical and chronological aspects of the question was a conspicuous characteristic of Millerite leadership and literature. It was because of this that their arguments could not be gainsaid by the scholars of the time.

Definite note is taken, in the Midnight Cry of October 3, of the fact that the Rabbanite Jews had already observed September 23 as the 10th day of the 7th month,[13] and that this was doubtless a month too early. In the same journal on October 11, we read:

"The day [of atonement] is observed by the Jews more than any other in the year, though they observe it one month earlier than the true time, as we think it evident from the fact that barley is not ripe in Judea on the 16th day of the first month, as they reckon time; but the law of Moses required a sheaf to be waved before the Lord on that day."[14]

No Adventists looked for the second advent on September 23, the Rabbanite date, because for a year and a half they had all been following the Karaite reckoning for the sacred year--both for the Jewish year 1843, and for 1844--which reckoning placed the first Jewish month in April, and in consequence the seventh month in October--and therefore not in September.

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1 Advent Herald, Sept. 25, 1844, p. 60; Midnight Cry, Oct. 11, 1844, p. 117; Oct. 3, 1844, p. 101; Signs of the Times, Dec. 5, 1843, pp. 134,135;
2 Midnight Cry, Oct. 31, 1844, p. 141; Advent Shield, Jan., 1845, pp. 276-279.
3 Midnight Cry, Editorial, Oct. 11, 1844, p. 117.
Schram, Robert, "Kalendareographische und Chronologische Tafeln," Leipsig, 1908, Cf. discussion of Julian day numbers.
4 "American Almanac and Repository of Useful Knowledge for the Year 1844," Boston, published by David H. Williams, 1843; "The Great Western Almanac for 1844," published by Jos. McDowell, (calculations by Charles F. Egelmann), Philadelphia, 1843; "The Farmer's Diary and Western Almanac for the Year 1844," (calculations by Horace Martin), Bath, N.Y., 1843; etc.
5 Gemini, "Elementa Astronomiae" (Trans. by Manitius) Lipiae, 1898, p. 129.
6 Midnight Cry, Oct. 31, 1844, pp. 140, 141.
7 Fotheringham, J.K., Journal of Philology (XXIX) 57, 1903, London, pp. 105, 106; Hevelius, "Selenographia," Gedanum, p. 275.
8 Note. In 1582, at the same time that Gregory XIII was revising the calendar for the centuries ahead, Joseph Justus Scaliger undertook the great task of laying out a calendar for the ages past, extending his system 4713 years before Christ. In this reckoning he gives each day a number, and these are known by astronomers as the "Julian day numbers." In this manner every day for past, present, or future is accounted for. According to this system, the Julian day number for

Oct. 22 = 2394862
Oct. 13 = 2394853

See "American Ephemeris and Nautical Almanac for the year 1939," Washington, D.C., 1937, p. 811.
9 Sidersky, David, "Astronomical Origin of Jewish Chronology," in "Mémoires présentés par divers savants à l'Académie des Inscription et belle s-lettres de l'Institut de France," Vol. XII, part 2, Paris, 1913, ch. I, sec. 2, p. 603, note 1.
10 Sidersky, "Astronomical Origin of the Jewish Chronology," in "Mémoires par divers savants," Vol. XII, part 2, p. 607, ch. I, sec. I, Table on Jewish year; ch. I, sec. 8, p. 612, Paris, 1913; Scaliger, "De Emendatione Temporum," p. 85.
11 Woolhouse, W.S.B., art. "Hebrew Calendar," Encyclopedia Brittannica, 11th ed. Note: Inasmuch as the passover came at the time of barley harvest, and the month of March was the month of the latter rain that matured this harvest, it is evident that the month of Nisan began with the first new moon following the vernal equinox. At times it became necessary to introduce an intercalary month in the lunar year to make this possible. The interval, however, from the fourteenth day of the first month (the passover) up to and including the tenth day of the seventh month (the day of atonement), never varied, always being one hundred seventy-three days.

The months of Hesvan, Kisleu, and Tebet sometimes varied as to whether they had twenty-nine or thirty days. Thus the number of days from the day of atonement around through the winter to the passover varied at times as much as thirty-two days. But the interval between the passover and the day of atonement was always constant although about 6 days less than the number of days between the equinoxes. Unless the new moon happened to fall less than 6 days after the vernal equinox, this constant interval would make the first of Tisri come at the time of the first new moon following the autumnal equinox. The arbitrary Rabbinical position of fixing the various festivals according to a perpetual calendar permitted the paschal new moon on certain years to fall before the time of the vernal equinox, and this would bring the new moon for the first of Tisri fully two weeks, at times, before the autumnal equinox. But this is neither the Karaite position, nor is it the true Biblical position.--H.L.W.

12 Computed from tables of German "Jahrbuch" for 1844, pp. 58, 59; French "Connaissance des Temps" (for 1844), pp. 42, 43; "American Ephemeris Nautical Almanac for 1844;" "British Ephemeris;" (Fotheringham, J.K., Journal of Philology (XXIX) 57, 1903, London, pp. 105, 106; Hevelius, "Selenographia," Gedanum, p. 275.)

13 Midnight Cry, Oct. 3, 1844, p. 101.

14 Midnight Cry, Oct. 11, 1844, p. 118.

XIV. Full Ultimate Commitment. The final issues of practically all the leading Adventist papers before the great day of expectation now stress their absolute confidence in the October 22 expectation, and the chronological involvements heretofore specified.[1] The solemnity produced by this consciousness, during the last ten days preceding the crisis hour, is profound in its sobering and energizing effect. The leading Adventist spokesmen said, We are now actually living within the fateful 7th month![2] The Snow and Storrs articles predominate in all Millerite papers, and editorial endorsements give full support. The Midnight Cry, for example, was issued on October 10, 11, 12, and 19--each with either the Snow or Storrs articles, or both. There were then no papers until after the "Day" had passed.

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1 Advent Herald, Oct. 2, 1844, pp. 68, 69; Oct. 9, 1844, pp. 73,76; Oct. 16, 1844, p. 88; 2nd ed., p. 81; Midnight Cry, Oct. 3, 1844, pp. 97,98,104; Oct. 11, 1844, pp. 117-120; Oct. 19, 1844, pp. 133, 136.

2 Midnight Cry, Oct. 19, 1844, p. 133.

LeRoy Edwin Froom

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART IV--DATE OF ARTAXERXES' DECREE TO RESTORE AND BUILD JERUSALEM

In the consideration of so important a line of prophecy as that of the twenty-three hundred days, it is most essential that the date of its beginning be determined with as much certainty as possible. It is beyond the province of this Committee to deal with the theological evidence that the seventy weeks and the twenty-three hundred days have the same point of origin, but the sole object of Part IV will be to determine, if possible, the exact year in which Artaxerxes' decree to build and restore Jerusalem was given.

From Ezra 7:7-26, it is quite plain that the decree of Artaxerxes was given in the seventh year of his reign, and that Ezra, acting upon this decree, left Babylon on the first day of Nisan and arrived in Jerusalem on the first day of Ab. (Ezra 7:9) In order to determine this year accurately, in terms of our calendrical system, it is necessary to know (a) how the chronological years of a king were named and reckoned, (b) at what point in the year the new year came--whether spring or fall--and (c) how to interpret the date thus found in terms of our calendrical system. The problem has been studied according to the following outline:

A. The determination of chronological method.

B. The location of well-authenticated eclipses as anchors.

C. The application of proper chronological methods to the reigns of kings, checking the same by the Canon of Ptolemy and with various clay tablets found in excavations of the sites in question and dated with definite years in the king's reign.

D. Final application of the various principles in the working out of the definite date.

A. Chronological Method Verified by Biblical Synchronisms

Scholars are not united in applying the term "accession year," used in connection with the rulers of ancient kingdoms. It is spoken of as "accession year" on the dated tablets, but in Scripture it is usually referred to by the statement, "----------began to reign in the ----- year of -----." (1 Kings 22:41; 2 Kings

13:10; etc.) Many refer to this system by the term "antedating."[1]

Upon the proper interpretation of this term "accession year", depends the correct reckoning of any chronological period, for otherwise the length of a king's rule may be an entire year out. Over a period covering the reign of several kings it is easily seen that this error would rapidly mount up, making any accurate determination impossible. The problem is vastly greater than taking some special king list and adding together the lengths of reigns. If possible the method used in recording the number of years of a king's rule must first be determined.

In Scripture, however, there are given a series of references where certain years of a Jewish ruler are equated with certain years of a corresponding Babylonian ruler during the reigns of Nabopolassar, Nebuchadnezzar, and Amel-Marduk that show clearly how this accession year is considered. By study of Table I, pp. 5, 6,[2] one will notice eight of these so-called synchronisms marked "S" as follows:

Synchronism No. 1

"The word that came to Jeremiah concerning all the people of Judah in the fourth year of Jehoiakim the son of Josiah, king of Judah; that was the first year of Nebuchadnezzar king of Babylon; The which Jeremiah the prophet spake unto all the people of Judah, and to all the inhabitants of Jerusalem, saying: From the thirteenth year of Josiah the son of Amon, king of Judah, even unto this day, that is the three and twentieth year, the word of the Lord hath come unto me, and I have spoken unto you, rising early and speaking; but ye have not hearkened." Jer. 25:1-3.

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[1] Albright, W.F., "The Seal of Eliakim," Journal of Biblical Literature, LI (1932), 96. See also Mowinckel, "Die Chronologie der israelitischen und jüdischen Könige," in Acta Orientalia, X (1932), 200-204.

[2] The Egyptian chronology followed here is according to J.H. Breasted's "History of Egypt," 1912 edition. Psamtik reigned 54 years, giving way to Necho in 609 B. C., pp. 581, 582. Thus he began his reign in 663 B. C., with which date A.T. Olmstead, "History of Assyria", p. 417, agrees. Ashurbaniapal reigned 22 years and died in 626 B. C., (p. 627.) Nabopolassar revolted and ordered his subjects to date their business records by his year as king of Babylon. (p. 634.) The earliest dated tablet in Nabopolassar's reign is for 2 yr./--mo./9 da. (Strassmaier, "Zeitschrift für Assyriologie," Vol. IV. 136). Necho began to reign in 609 B. C. (Breasted, "History of Egypt," p. 582.) Necho killed Josiah; the people appointed Jehoahaz king. Necho deposed him and appointed Jehoiakim king. (2 Chron. 35:20-36:4; 2 Kings 23:29-35). Josiah reigned 31 years. (2 Kings 22:1).

The same formula is used for recording the "accession year" of Jehoahaz (2 Kings 23:31), and also that of Jehoiakim (verse 36), as was used in recording that of Josiah (2 Chron. 34:1). "---------- was --------- years old when he began to reign," showing that his age is reckoned to his accession year, and not to his first year. Twenty-three years cover the time from the 13th of Josiah through the accession and three months of Jehoahaz, and the accession of Jehoiakim, up to and including the latter's 4th year.[3] Only by so doing can one make these 23 years span the period required, for Jewish reckoning is always "inclusive reckoning,"[4] taking account of both the opening and closing years in any given period.

Synchronism No. 2

"The word that came to Jeremiah concerning all the people of Judah in the fourth year of Jehoiakim the son of Josiah, king of Judah; that was the first year of Nebuchadnezzar king of Babylon." Jer. 25:1.

Here the 4th year of Jehoiakim equals the 1st year of Nebuchadnezzar.

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[3] This year was the date of the battle of Carchemish where Nebuchadnezzar defeated Necho. (Jer. 46:2). Breasted, ("History of Egypt," p. 583,) makes the battle of Carchemish 605, but Olmstead, ("History of Palestine and Syria," p. 510,) puts this campaign correctly in 604. G. Cameron, ("History of Early Iran," p. 219,) infers the same date by making Nebuchadnezzar's reign 604-562.

[4] A clear example of "inclusive reckoning" is seen in the fact that Jehoiakim rebelled after serving Nebuchadnezzar three years. 2 Kings 24:1. Because of the conditions spoken of in the next few verses, a fast was proclaimed (Jer. 36:9). Jeremiah wrote a message which is read to Jehoiakim, who in anger cut the roll and burned it. Jer. 36:22. It is during this same year that Nebuchadnezzar had the dream of the great image (Dan. 2), and Daniel interpreted it for the king.

Note.--The idea of counting the entire death year of a king as an integral part of his reign, and beginning the first year of the succeeding king with the beginning of the next calendar year, is an ordinary procedure in Biblical chronological reckoning. Notice how it is followed in the chronology of the patriarchs. Adam was 130 years old when he begat Seth.

According to Gen. 7:6, 11, Noah was 600 years old in his 600th year--not in his 601st year, as is reckoned in modern times. Therefore Seth was born in Noah's 600th year, and at the beginning of his 601st year Seth was counted as one year old. So the record in Gen. 5:3-5 checks. Adam lived 800 years after he begat Seth and all his years were 930 (800 plus 130). In this way no fractions of years are counted, and yet the chronology is accurately maintained. This method may be checked by figuring the years of Methuselah's life. By any other method he survives the flood year.

Coupling the recognized length of Nabopolassar's reign (21 years)[5] with the fact that the eclipse of the moon, taking place in 621, occurred in the fifth year of his reign,[6] gives no alternative but to make the "death year" of Nabopolassar the "accession year" of Nebuchadnezzar as shown in the table. Thus the statement in Daniel 1:1--"In the third year of the reign of Jehoiakim king of Judah came Nebuchadnezzar king of Babylon unto Jerusalem, and beseiged it"--is in perfect harmony with Jeremiah 25:1. Nebuchadnezzar was king--it was his

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[5] The latest dated tablet for Nabopolassar's reign is for 21st year/ 2mo./ 19 da. (Strassmaier, "Zeitschrift für Assyriologie," Vol. IV, 145.) This was also the accession year for Nebuchadnezzar, as well as the 3rd year of Jehoiakim, thus accounting for the statement in Daniel 1:1, and 2 Kings 24:1. Nebuchadnezzar at this time took Daniel and his companions captive and this year was the first year of the 70 years' captivity, as prophesied by Jeremiah the following year. (Jer. 25:1-11). Ptolemy's Canon agrees (Wachsmuth, Curt, "Studien der Alten Geschichte" (1895), pp. 305, 306) in giving Nabopolassar 21 years. Cameron, ("History of Early Iran," p. 219) places Nebuchadnezzar's reign as 604-562, forgetting his accession year in 605. He has Nabopolassar's reign as 626-604 (p. 232), but tablets and scholars agree in giving him 21 years. If 626 is his accession year, 625 is his first year, and 605 would be his 21st and the accession year of Nebuchadnezzar.

[6] "In the fifth year of Nabopolassar, which is Egyptian-127th year of Nebonassar--close to the eleventh hour--27th or 28th of the Egyptian month Athyr, some one noticed the moon at Babylon commence her eclipse. Formed in the greatest phase of this eclipse a quarter of the diameter of the meridinal part of the luminary. Since the eclipse commenced at five hours after midnight, and reached the center about six hours, which made in that case at Babylon, 5 1/2 to 1/3 hours, the sun was exactly in the 27th d. 3' of the ram--it is clear that the time of the middle of the eclipse was for Babylon, 5 1/2-1/3 hours equinoxial, and for Alexandria, 5 hours only after midnight. Or the time since the epoch is 126 Egyptian years, 86 days, 17 hours equinoxial." (M. Halma, Translator, "Composition Mathematique de Claude Ptolemae," (2 vols.), Paris, 1813, Vol. II, 340 f.) This corresponds to April 21, 621 B. C., the year in which the Scroll is found, the 18th of Josiah. (2 Kings 22:3-14; 2 Chron. 34:8-22).

Note.--Caludius Ptolemy (A. D. 70-151) was a native Egyptian mathematician and astronomer. According to his own personal testimony, he observed the heavens at least from 127 A. D.--151 A. D., doing most of his work at Alexandria. He compiled a list of kings, starting with the reign of the Babylonian ruler, Nabonassar, beginning his "era" with the first of the month Thoth of the year 747 B. C., the Egyptian New Year. He used a yearly "yard-stick" of exactly 365 days, thus making the New Year wander back through the months at the rate of one day every four years. This list of kings from Nabonassar down to his own time is known as the "Canon of Ptolemy." In his "Almagest," the latest translation of which is in French by M. Halma, entitled, "Composition Mathematique de Claude Ptolemae" (2 Vols., Paris; 1813-1816), he records eclipses of sun and moon falling in certain years of various reigns, thus securely anchoring his king-lists. Many of these eclipses have been carefully checked with other sources (see Pinches, T. G., "Proceedings of the Society of Biblical Archaeology," Vol. II, pp. 193-204), and according to S. R. Driver, "the recently-discovered contemporary monuments have fully established the accuracy of the Canon." ("Encyclopedia Britannica," 11th ed, Vol. III, p. 841, note 2.)

Table I

COMPARATIVE CHRONOLOGIES OF NEOBABYLONIA, PERSIA, EGYPT, AND ISRAEL, 627 B. C. - 443 B. C.

B. C.	Egypt	Judah	70 years	Jehoiachin's Captivity	Prophet		Assyria Babylonia	Persia	Reference
627	Psametik I 37	Josiah 12					Ashurbani-apal 21		1 p. 2
626	38	13			Jeremiah 1		Nabopo-lassar A 22		1 p. 2
625	39	14			2		1		
624	40	15			3		2		1 p. 2
623	41	16			4		3		
622	42	17			5		4		
621	43	18			6		⊛ 5		5 p. 4
620	44	19			7		6		
619	45	20			8		7		
618	46	21			9		8		
617	47	22			10	S¹	9		
616	48	23			11	Jer. 25:1-3	10		
615	49	24			12		11		
614	50	25			13		12		
613	51	26			14		13		
612	52	27			15		14		
611	53	28			16		15		
610	54	29			17		16		
609	Necho 1	30			18		17		1 p. 2
608	2	Jehoahaz 31 Jehoiakim A			19		18		1 p. 2
607	3	1			20		19		
606	4	2			21		20		
605	5	3	1		22		Neb'-zar 21 A		4 p. 4
604	6	4	2		23		1		Jer. 25:1 4 p. 4
603	7	5	3		24	S²	2		3 p. 3
602	8	6	4		25		3		
601	9	7	5		26		4		
600	10	8	6		27		5		
599	11	9	7		28		6		
598	12	10	8		29	S³	7		
597	13	Jehoiachin 11 Zedekiah A	9	1	30		8		2Ch. 36:5-10 2Kg. 24:10-18 p. 7
596	14	1	10	2	31		9		
595	15	2	11	3	32		10		
594	16	3	12	4	Call of Ezekiel		11		
593	Psamtic II 1	4	13	5	1		12		6 p. 7
592	2	5	14	6	2		13		
591	3	6	15	7	3		14		

B. C.	Egypt	Judah	70 years Captivity	Jehoiachin's Captivity	Prophet		Babylonia	Persia	Reference
590	Psamtik II 4	Zedekiah 7	16	8	Ezekiel 4		Neb'-zar 15		
589	5	8	17	9	5		16		
588	Hophra (Apries) 1	9	18	10	S⁴ 6		17		7 p. 8
587	2	10	19	11	7	Smiting of	18		Jer. 32:1 p. 8
586	3	11	20	12	S⁵ 8	the City? 1	19		Eze. 33:21 Jer. 39:2 p. 8
585	4	Gedaliah (Governor)	21	13	9	2	20		2 Kings 25:8
584	5		22	14	S⁶ 10	3	21		
583	6		23	15	11	4	22		
582	7		24	16	12	5	23		
581	8		25	17	13	6	24		
580	9		26	18	14	7	25		
579	10		27	19	15	8	26		
578	11		28	20	16	9	27		
577	12		29	21	17	10	28		
576	13		30	22	18	11	29		
575	14		31	23	19	12	30		
574	15		32	24	20	13	31		
573	16		33	25	S⁷ 21	14	32		p 9
572	17		34	26	22		33		
571	18		35	27	23		34		
570	19		36	28			35		
569	Ahmose II 1		37	29			36		8 p. 9
568	2		38	30			37		
567	3		39	31			38		
566	4		40	32			39		
565	5		41	33			40		
564	6		42	34			41		
563	7		43	35			42		
562	8		44	36			43 Amel Marduk A		
561	9		45	37	S⁸		1		8 p. 9
560	10		46	38			2 Nergal Sarusur A		p. 9
559	11		47	39			1	Cyrus	
558	12		48	40			2	1	
557	13		49	41			3	2	
556	14		50	42			Nabunaid 4 A	3	11 p. 12
555	15		51	43			1	4	
554	16		52	44			2	5	

accession year. The next year was counted his first year. Thus the twenty-three years of Jeremiah reach back to the "death year" of Ashurbaniapal and the "accession year" of Nabopolassar.

Synchronism No. 3

"Jehoiakim was twenty and five years old when he began to reign; and he reigned eleven years in Jerusalem: and he did that which was evil in the sight of the Lord his God. Against him came up Nebuchadnezzar king of Babylon, and bound him in fetters, to carry him to Babylon. Nebuchadnezzar also carried of the vessels of the house of the Lord to Babylon, and put them in his temple at Babylon. Now the rest of the acts of Jehoiakim, and his abominations which he did, and that which was found in him, behold, they are written in the book of the kings of Israel and Judah: and Jehoiachin his son reigned in his stead. Jehoiachin was eight years old when he began to reign; and he reigned three months and ten days in Jerusalem: and he did that which was evil in the sight of the Lord. And when the year was expired, king Nebuchadnezzar sent, and brought him to Babylon, with the goodly vessels of the house of the Lord, and made Zedekiah his brother king over Judah and Jerusalem." 2 Chron. 36:5-10.

"At that time the servants of Nebuchadnezzar king of Babylon came up against Jerusalem, and the city was besieged. And Nebuchadnezzar king of Babylon came against the city, and his servants did besiege it. And Jehoiachin the king of Judah went out to the king of Babylon, he, and his mother, and his servants, and his princes, and his officers: and the king of Babylon took him in the eighth year of his reign." 2 Kings 24:10-12.

Jehoiakim reigned 11 years (2 Kings 23:36), Jehoiachin reigned three months and then was taken prisoner to Babylon in the same year, which also became the accession year of Zedekiah, as well as the first year of Jehoiachin's captivity. Inasmuch as the king is not dead, he is counted as ruler, and Zedekiah is thought of as a regent ruling for him. Therefore the period of his captivity is an important one.[7] The discovery of stamped jar handles in Palestine with Jehoiachin's name on them, verifies this hypothesis. (See Albright, op. cit. pp. 77-84, 102, 103). Thus the 11th year of Jehoiakim's reign, the accession year of Zedekiah, and the first year of Jehoiachin's captivity are equated with the 8th year of Nebuchadnezzar. The Babylonians had been before Jerusalem for nearly a year. (Jer. 39:1; 2 Kings 25:1).

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[7] The fifth year of Jehoiachin's captivity is the year of Ezekiel's call. Eze. 1:1. It is also the first year of the reign of Psamtik II. (Olmstead, "History of Palestine and Syria," p. 523; Breasted, "History of Egypt," p. 601).

Synchronism No. 4

"The word that came to Jeremiah from the Lord in the tenth year of Zedekiah king of Judah, which was the eighteenth year of Nebuchadrezzar." Jer. 32:1.

That the accession year of Zedekiah was properly equated with the 8th year of Nebuchadnezzar is shown by the above synchronism. This would be the only way the 10th year of Zedekiah could synchronize with the 18th year of Nebuchadnezzar.[8]

Synchronism No. 5

"And it came to pass in the twelfth year of our captivity, in the tenth month, in the fifth day of the month, that one that had escaped out of Jerusalem came unto me, saying, The city is smitten." Eze. 33:21.

Here the 12th year of Jehoiachin's captivity is synchronized with the 1st year of the "smiting of the city." Ezekiel received word on the fifth day of the tenth month, and the temple was burned the tenth day of the fifth month; so it took practically five months for the news to reach him.

Synchronism No. 6

"And in the eleventh year of Zedekiah, in the fourth month, the ninth day of the month, the city was broken up." Jer. 39:2.

"Now in the fifth month, in the tenth day of the month, which was the nineteenth year of Nebuchadrezzar, king of Babylon, came Nebuzaradan, the captain of the guard, which served the king of Babylon, into Jerusalem." Jer. 52:12

"And in the fifth month, on the seventh day of the month, (which is the nineteenth year of king Nebuchadnezzar, king of Babylon,) came Nebuzaradan, the captain of the guard, a servant of the king of Babylon, unto Jerusalem." 2 Kings 25:8.

Here the eleventh year of Zedekiah is synchronized with the nineteenth year of Nebuchadnezzar. This is the date of the third and final campaign against Jerusalem.

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[8] It was in the year 588--the 17th year of Nebuchadnezzar and the 9th year of Zedekiah that Hophra (Apries), began his reign in Egypt. (Olmstead, "History of Palestine and Syria," p. 525; Breasted, "History of Egypt," p. 601.)

Synchronism No. 7

"In the five and twentieth year of our captivity, in the beginning of the year, in the tenth day of the month, in the fourteenth year after that the city was smitten, in the selfsame day, the hand of the Lord was upon me, and brought me thither." Eze. 40:1.

The twenty-fifth year of Jehoichin's captivity is synchronized with the fourteenth year of the smiting of the city.

Synchronism No. 8

"And it came to pass in the seven and thirtieth year of the captivity of Jehoiachin king of Judah, in the twelfth month, in the five and twentieth day of the month, and Evil-merodach king of Babylon, in the first year of his reign, lifted up the head of Jehoiachin king of Judah, and brought him forth out of prison." Jer. 52:31.

The thirty-seventh year of the captivity of Jehoichin is synchronized with the first year of Evil-merodach (Amel Marduk). This limits Nebuchadnezzar's reign to 43 years, as shown in Table I, page 6.[9]

By a comparison of these eight synchronisms with the details of the Table I (pp. 5, 6), and with Chart A (p. 11), it will be noted that they cover the entire period of Nebopolassar's and Nebuchadnezzar's reigns.

If one will take the pains to follow these various synchronisms through point by point, he will find that the transition made between the sacred and secular chronology is so firmly anchored that it is impossible to move a peg one way or the other. This is all the more remarkable as it is the first and only place in Biblical history when this is done. These synchronisms extend, therefore, from the accession year of Nebopolassar through the accession years

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9 The latest dated tablet for Nebuchadnezzar's reign is 43 yr./ 5 mo./ 9 da. Ungnad, "Vorderasiatische Schriftdenkmaler," Heft III, 36). Ptolmey's Canon agrees. (Curt Wachsmuth, "Studien der Alten Geschichte," p. 305). The latest tablet for Amel Marduk is dated 2 yr./ 5 mo./ 17 da. (Clay, "Babylonian Expedition," Vol. VIII, p. 34.) This year is also the accession year for Nergal Sharusur. The earliest tablet found for him is dated Acc. yr./ 3 mo./ 20 da. (Ungnad, "Vorderasiatische Schriftdenkäler," Heft IV, 32). Ahmose began his reign in 569. (Olmstead, "History of Palestine and Syria," p. 536; Breasted, "History of Egypt," p. 601). The latest tablet for Nergal Sharusur is dated 4 yr./ 1 mo./ 2 da. (Evetts, "Nergal Sharusur," p. 69). The earliest tablet found for Nabunaid is dated Acc. yr./ 2 mo./ 15 da. (Clay, "Babylonian Expedition," Vol. VIII, p. 39). Much archaeological evidence has been found indicating that Belshazzar is a historical character, the son of Nabunaid (Nabonidus), and co-regent with him on the throne of Babylon. (Dougherty, R. P., "Nabonidus and Belshazzar," pp. 137, 192).

of both Nebuchadnezzar and Amel Marduck (Evil-merodach), giving three instances of the use of the "accession year" idea.

From a careful study of these data, the following important method of chronological reckoning is demonstrated; namely, For purposes of chronology, the entire last calendar year of a king's reign is given to that monarch, and is also called the accession year of the following ruler, the next year being called the first year of the new king.

B. Location of Well-Authenticated Eclipses as Anchors

All of the above data may be verified without the use of any definite anchor in the way of harmonizing the dates of these ancient kingdoms with our modern calendrical system. That is, the synchronisms between Biblical and profane history do not rest upon the astronomical determination of any of these lines. So far as the synchronisms go, they would be true regardless of where the whole block of years was placed in the space of time, but in order to interpret any of these dates in terms of modern reckoning, recourse is had to definite events that are linked up with astronomical phenomena.

During this period from the reign of Nabopolassar to the reign of Artaxerxes, there are recorded two events happening in the time of eclipses of the moon, both in Egypt and in Babylon; one taking place in the fifth year of Nabopolassar[10] (621 B. C.), and the second in the seventh year of Cambyses (523, B. C.).[11]

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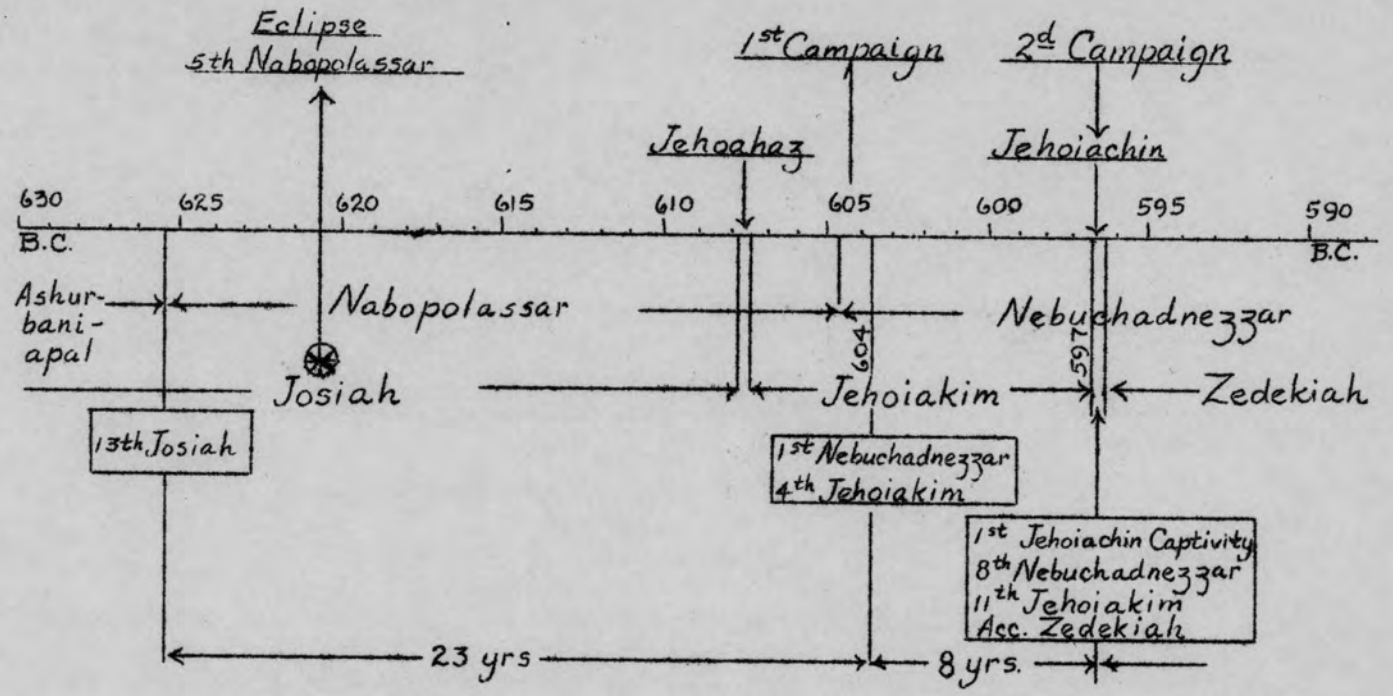
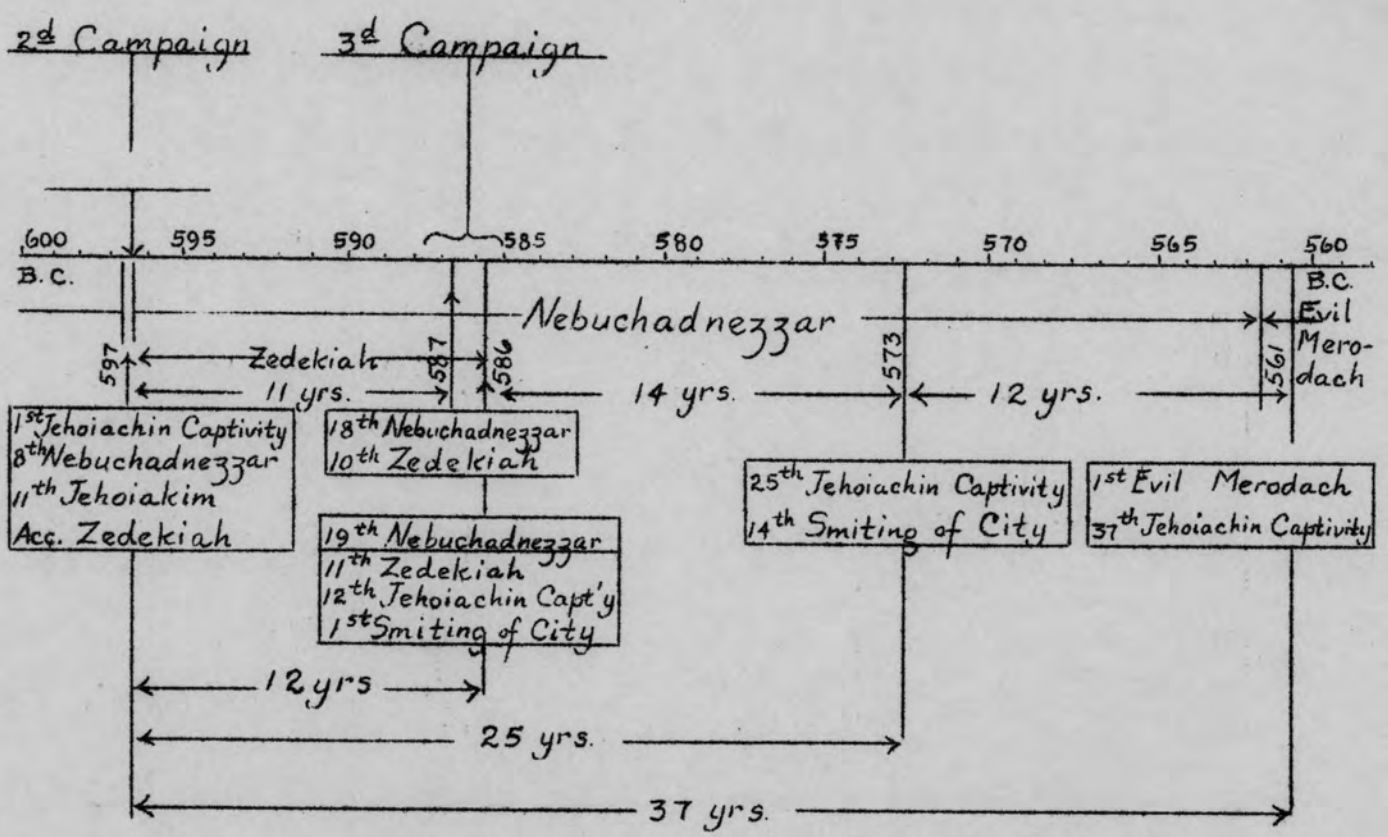
[10] See Note 6, p. 4.

[11] The eclipse of the moon in the 7th year of Cambyses has been attested by two witnesses, Ptolmey's Canon and the Cambyse (400) Tablet. "In another eclipse arriving in the 7th year of Cambyses--which is the 225th year of Nabonasser 1 hour before midnight on the 17th or 18th of the Egyptian month Phamenoth--one saw in Babylon the eclipse of the moon of the part of its diameter in the northern part. . . . which corresponds to 224 Egyptian years, 196 days." (Halma, M., "Composition Mathematique de Claude Ptolemae," I, 341, 343). The Cambyse Tablet as translated by Strassmaier says, "On the 7th of Cambyses, in the night of the 15th Dazu, 1-1/2 kasbu (3 hours) after the nightfall, the eclipse of the moon was entirely visible. It covered the northern half of the disk of the moon." (Sidersky, "Etude sur la chronologie Assyro-Babylonienne," Paris, 1916, p. 41; Kügler, "Zeitschrift für Assyriologie," Vol. XVII (1903), 238).

CHART A


Eclipse
5th Nabopolassar
1st Campaign
2d Campaign
Jehoahaz
Jehoiachin
630
625
620
615
610
605
600
595
590
B.C.
B.C.
Ashur-bani-apal
Nabopolassar
Nebuchadnezzar
Josiah
Jehoiakim
Zedekiah
604
597
13th Josiah
1st Nebuchadnezzar
4th Jehoiakim
1st Jehoiachin Captivity
8th Nebuchadnezzar
11th Jehoiakim
Acc. Zedekiah
23 yrs
8 yrs.


2d Campaign
3d Campaign
600
595
590
585
580
575
570
565
560
B.C.
B.C.
Nebuchadnezzar
Evil Mero-dach
597
Zedekiah
11 yrs.
587
586
14 yrs.
573
12 yrs.
561
1st Jehoiachin Captivity
8th Nebuchadnezzar
11th Jehoiakim
Acc. Zedekiah
18th Nebuchadnezzar
10th Zedekiah
25th Jehoiachin Captivity
14th Smiting of City
1st Evil Merodach
37th Jehoiachin Captivity
19th Nebuchadnezzar
11th Zedekiah
12th Jehoiachin Capt'y
1st Smiting of City
12 yrs
25 yrs.
37 yrs.

By the use of the principle before stated, whereby the death year of the king is called the accession year of the succeeding ruler, by use of the information obtained from the Canon of Ptolemy, and from the dated tablets found in the excavations, the reigns of the various kings between Nabopolassar and Cambyses are seen to fit exactly into the interval necessary from the fifth year of Nabopolassar to the seventh year of Cambyses,[12] as shown in Chart B (p. 13) and a continuation of chronological Table II (p. 14).

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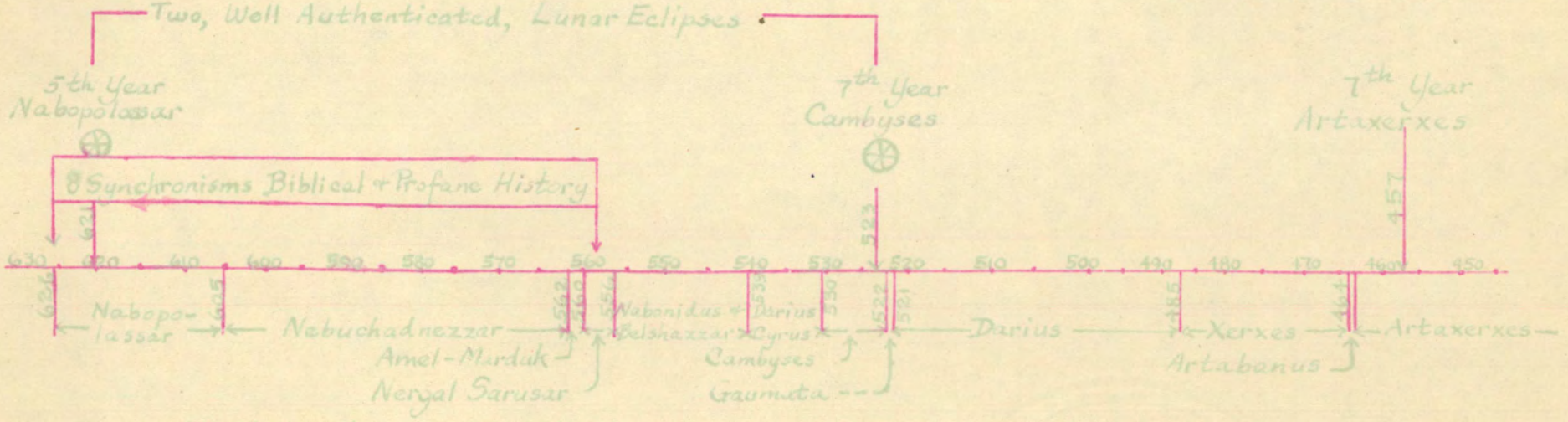
[12] The latest tablet for Nabunaid is dated 17 yr./ 9 mo./ ? da. (Strassmaier, "Zeitschrift für Assyriologie, IV, Nabunaid, 1055). Ahmose reigned for 45 years, and died in 525. Psamtik III ruled but a few months when the country fell into the hands of the Persians, and became one of the provinces of that nation until Alexander's time. (Breasted, "History of Egypt," p. 595).

CHART B

APPLICATION OF ACCESSION-YEAR PLAN TO REIGNS OF BABYLONIAN & PERSIAN KINGS



All dates begin with the "accession-year" of the king which is the same as the "death-year" of the previous ruler (See Table for details)

Table II (Continued from Table I)

B.C.	Egypt		70 years	Jehoiachin's Captivity	Prophet		Babylonia	Persia	Reference
553	Ahmose II 17		53	45			Nabunaidz	Cyrus 6	
552	18		54	46			B 4	7	
551	19		55	47			E L 5	8	
550	20		56	48			S H 6	9	
549	21		57	49			A 7	10	
548	22		58	50			Z 8	11	
547	23		59	51			Z 9	12	
546	24		60	52			A 10 R	13	
545	25		61	53			C 11	14	
544	26		62	54			O- R 12	15	
543	27		63	55			E 13	16	
542	28		64	56			G 14	17	
541	29		65	57			E N 15	18	
540	30		66	58			T 16	19	
539	31		67	59			17	Cyrus & 20	
538	32		68	60				Darius 1	
537	33		69	61				2	
536	34		70	62				Cyrus (1) 3	
535	35							(2) 4	
534	36							(3) 5	
533	37							(4) 6	
532	38							(5) 7	
531	39							(6) 8	
530	40							(7) 9 Cambyses A	
529	41							1	
528	42							2	
527	43							3	
526	44							4	
525	Psamtic III A 45							5	7 p. 8
524	E							6	
523	G Y							7	22 p. 9
522	P T							Gaumata, A 8	
521	A							Darius, A	
520	P							1	
519	E R							2	
518	S I							3	
517	A							4	

C. Application of Chronological Methodology to the Reigns of Persian Kings

Having discovered the chronological method used in recording the reigns of Babylonian rulers, it is not difficult to apply it in continuing the dates for the reigns of the various kings from the time of Cambyses down to the time of Artaxerxes. This has been done in the continuation of the main table, (III), pp. 16, 17, giving a line for each year.

Thus, Darius' accession year is found to be 521, with 520 as his first year, and 519 as his second year, when the decree for the restoration of Jerusalem was made. (Ezra 4:23, 24; 6:8-12).

Tablets have been found which harmonize with the Canon of Ptolemy and which show that Darius reigned for thirty-six years.[13] This makes 485 both the last year of Darius and the accession year of Xerxes.[14] At this time Artabanus usurped the throne for a few months, but still this same year can be counted as the accession year of Artaxerxes. Thus the year 464 is at once the death year of Xerxes, the accession and death year of Artabanus, and the accession year of Artaxerxes. (See continuation of Table III, pp. 16, 17.)

D. Final Application in Working Out of Definite Date for 7th Year of Artaxerxes

It is a recognized fact among the scholars dealing with the problem, that the Babylonians dated the commencement of their year in the spring about the time of the vernal equinox.[15] That the Jews had a system of double reckoning

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[13] The latest tablet found for the reign of Darius is dated 36 yr./ 6 mo./ 22 da. (Peiser, "Keilschriftliche Acten Stücke," XIX). This would make Xerxes accession year 485 and his first year 484. Olmstead, "History of Palestine and Syria," p. 560, places 485 as the last year of Darius, but counts the 21 years of Xerxes as beginning that year, not giving any room for Xerxes accession year.

[14] The latest record found for the reign of Xerxes is an Aramaic papyrus from a community of Jewish mercenaries located at Yeb, later Elephantine, dated in the 21st year of Xerxes. Sayce, A. H., and Cowley, A., "Aramaic Papyri Discovered at Assuan," Plate B). According to Diodorus, Xerxes was murdered by Artabanus, who took the throne and reigned some seven months. Thus the year 464 would be the accession year of Artaxerxes. That he came to the throne some time in the fall of the year is evidenced by a comparison of Nehemiah 1:1; 2:1; and Ezra 7:7-9.

[15] Kugler, F. X., Sternekunde und Sterndienst in Babel, Buch II, Teil 1, p. 26.

Table III (Continued from Table I & II)

B.C.	Egypt	Persia	Reference
516	E	Darius 5	
515	G	6	
514	Y	7	
513	P	8	
512	T	9	
511		10	
510	A	11	
509		12	
508	P	13	
507	E	14	
506	R	15	
505	S	16	
504	I	17	
503	A	18	
502	N	19	
501		20	
500	P	21	
499	R	22	
498	O	23	
497	V	24	
496	I	25	
495	N	26	
494	C	27	
493	E	28	
492		29	
491	5	30	
490	2	31	
489	5	32	
488		33	
487		34	
486		35	
485	3	Xerxés A 36	12 p. 15
484		1	
483	3	2	
482		3	
481	2	4	
480		5	

B.C.	Egypt							Persia	Reference
479	E							Xerxes 6	
478								7	
477	G							8	
476	Y							9	
475								10	
474	P							11	
473	T							12	
472								13	
471	A							14	
470								15	
469	P E							16	
468	R							17	
467	S							18	
466	I							19	
465	A							20	
464	N							Artabanus 21 Artaxerxes A	13 p. 15
463								1	
462	P							2	
461	R							3	
460	O							4	
459	V							5	
458	I							6	
457	N							7	
456	C							8	
455	E							9	
454								10	
453	5							11	
452	2							12	
451	5							13	
450								14	
449								15	
448								16	
447	3							17	
446	3							18	
445	2							19	
444								20	
443								21	

may be seen from the fact that their sacred year began in the spring with the first new moon following the vernal equinox, and the fact that the civil year began in the fall at the first of Tisri which was the first new moon following the autumnal equinox. That this was true may be shown from a comparison of Nehemiah 1:1, 2:1, and Ezra 7:7-9.

In Nehemiah 1:1 the prophet is speaking of a visit to Shushan the palace, in the month Chisleu in the twentieth year. After the events of Chapter 1, in the first verse of Chapter 2, the prophet goes on to relate succeeding events that happened in the month of Nisan in the same twentieth year of the king. This shows that in the twentieth year of the king, the month Nisan, which was in the spring, came after the month Chisleu, or the ninth month, which was in the fall. If this sequence happened in the twentieth year, it would happen in any year, therefore in the first year.

In Ezra 7:7-9, the prophet speaks of leaving Babylon on the first day of the first month, and arriving in Jerusalem on the first day of the fifth month in the seventh year of the king. If the fifth month of the year followed the first month of the year in the seventh year, it would have the same order in the twentieth year, or in the first year. Therefore, the reckoning of the regnal years by the Jews began sometime between the fifth month and the ninth month, all of which is in harmony with their two systems of calendrical reckoning at the present time, their civil year beginning in the fall and their sacred year in the spring. (See Chart C, p. 20.)

Chart D (p. 21) is spread out over the years 465 to 456, and shows graphically--whether one accepts the Babylonian reckoning of time or the Jewish reckoning--that the seventh year of Artaxerxes would fall in the year 457. Anyone taking the time to go through the data submitted herewith must be convinced that any other year than 457 for the beginning of the 2300 years, in the 7th year of Artaxerxes, could be named only through a lack of taking under consideration the various factors involved, such as the method of applying

the term "accession year," the synchronisms given by Biblical and profane history, and the anchors given by astronomical observation.

There seems to be no other date in history that has been more firmly established both from Biblical and history standpoints, than this seventh year of Artaxerxes. When one realizes that 457 B. C. is the starting point of the great twenty-three hundred day prophecy, reaching from that time down past the crucifixion to the time of the great judgment hour, one is deeply impressed with the infinite care taken by the Lord in preserving such an important record as this.

Lynn Harper Wood

CHART C

THE JEWISH CIVIL YEAR

Tishri	Marcheswan	Kisleu	Tebet	Shebet	Adar	Nisan	Iyyar	Sivan	Tammuz	Ab	Ellul
Sep.-Oct.	Oct.-Nov.	Nov.-Dec.	Dec.-Jan.	Jan.-Feb.	Feb.-Mar.	Mar.-Apr.	Apr.-May	May-June	June-July	July-Aug.	Aug.-Sep.

Sequence of events in Nehemiah 1:1; 2:1
of the 20th year

Sequence of events in Ez. 7:7-9
of the 7th year.

Therefore in any year this must be the sequence of months

Therefore the regnal years are reckoned according to the "civil year"

and not according to

THE JEWISH SACRED YEAR

Nisan	Iyyar	Sivan	Tammuz	Ab	Ellul	Tishri	Marcheswan	Kisleu	Tebet	Shebet	Adar
Mar.-Apr.	Apr.-May	May-June	June-July	July-Aug.	Aug.-Sept.	Sept.-Oct.	Oct.-Nov.	Nov.-Dec.	Dec.-Jan.	Jan.-Feb.	Feb.-Mar.

CHART D

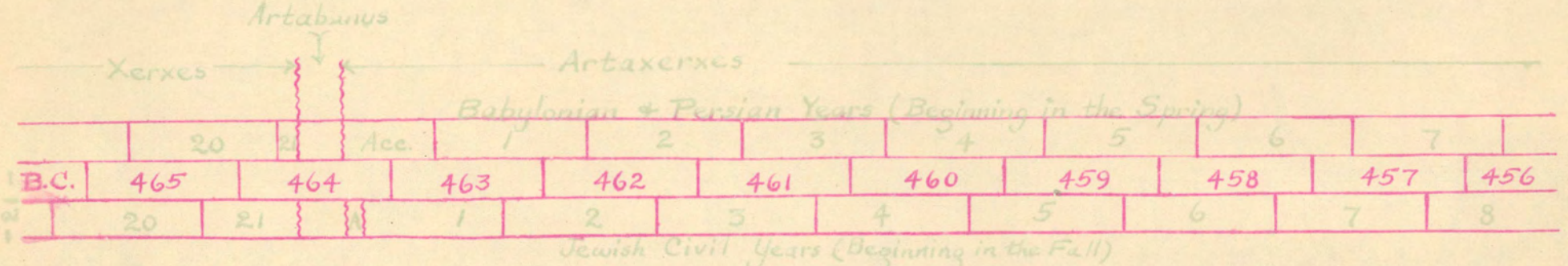

Table showing 457 to be the 7th year of Artaxerxes, whether counted according to the Babylonian method of beginning the year in the spring, or according to the Jewish method of beginning the year in the fall — 1st of Tishri. (Comp. Neh. 1:1; 2:1; Ez. 7:7-9.)

REPORT OF COMMITTEE ON

HISTORICAL BASIS, INVOLVEMENTS, AND VALIDITY OF THE OCTOBER 22, 1844, POSITION

PART V--CRUCIFIXION DATE, AND ASTRONOMICAL SOUNDNESS OF OCTOBER 22

A. The Problem and the Factors Involved.

Factor 1. In archaeological reports, in astronomy, theology, and history, the date of the death-year of Christ is a theme frequently discussed. It would appear that no generally accepted authority on the passion date, in either science or theology, exists today. Every discussion, however, in both astronomical journals and religious periodicals, reaches out for new evidence from the Bible. Early patristic testimony, fragments of ancient calendars on parchment or stone, ecclesiastical records which have survived the centuries, are still so wide apart in meaning that it seems virtually impossible to establish the crucifixion date from the standpoint of history alone.

There are related sources upon which constant demand is made by those considering the subject. These include the various calendars of the nations, their standard and local almanacs, the Jewish year book and system of keeping time, the ancient "boundary stones" and tablets with their revealing figures and difficult cuneiform, the dated business contracts of old Babylon, the Assuan papyri, various other ancient manuscripts, the prophecies of Daniel--for almost no chronologist, heathen or Christian, omits Daniel--and above all the New Testament record of the life of Christ.

In the endeavor to fix upon the crucifixion date, a year with a Friday passover in a period consistent with the time of the public ministry of Christ has for some time been the accepted index to the problem. This is the lead followed in the majority of current articles on the date of the crucifixion. But aside from the persistent stand of Catholic writers for April 3, 33 A.D.,[1] and of the Rabbins for a Friday passover in that year, none of late seem to draw a

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[1] Sidersky, David, "Astronomical Origin of Jewish Chronology," ch. II, par. 30, in "Memoires presentes par divers savants a l'Academie des Inscriptions et belles-lettres de l'Institut de France," Paris, 1913, Vol. XII, part 2; Boylan, Patrick, "Date of the Crucifixion," Studies, March, 1933, p. 1.

conclusion without an alternative date.

Factor 2. The variety of conclusions offered by these scholars may be charged to three principal causes:

a. The location of the paschal moon in the proper spring month;

b. The determination of the true day of the Hebrew first month, with which the full moon coincides; and

c. The number of passovers in the ministry of Christ.

Factor 3. It should be made perfectly plain that if these two coordinate facts concerning the passover moon--her position in the zodiac and her place in the month--are not definitely located, and pointed out with accepted authority, no astronomical list of new and full moon dates for the spring months of the suggested years of Christ's ministry can be of any use whatever in deciding this question. Nearly every writer builds his argument upon such a list. However, all these tables of the moon are practically the same, though taken from French, German, or English ephemerides (almanacs).

In the quest for solving the prophecies concerning Christ, some of these moon tables go back many centuries, covering 3000 years or more of time, and marking out the phases of the moon from year to year. The difficulty in calculation does not lie in an error in these dates which astronomy offers the student of prophecy and chronology, because they are in the main attested and correct. In fact, they can be easily computed and proved from known positions of the moon in our own century, by trailing her back through the one hundred cycles she has coursed around the earth since the first century A.D., from 1930 to 30 A.D.--and similar intervals of time.

Today we can learn from a standard almanac the moon's position in her orbit; when she is fast and when she is slow; when she is near the earth, and when she is far away; when north of the ecliptic--the apparent course of the sun--and when south. Her very same performance has been determined for the first century, and her position in the sky mapped out in the time of Christ. The difficulty, we

would emphasize, does not lie in a variation of these lunar tables which astronomy offers to the field of research in the twentieth century.

Factor 4. Before the cause of the numerous dates offered for the crucifixion can be understood--and the several years, 28 to 35 A.D., are by different writers considered possible--the early history of the change from Passover to Easter must be taken note of. Almost contemporaneously, both Jews and Christians were striving to fix their methods of marking time.[2] Because they had been scattered by Rome's persecution, and could no longer "observe" the moon, and flash their fire signals from mountain to mountain to proclaim the new month, the Jews felt compelled to compute a fixed calendar. The early councils of the Christian church, convened by the state, were likewise seeking the prerogative of regulating the calendar, which function had formerly been assumed by the ancient pontifex maximus of Rome. Mar-Samuel of Narhardea,[3] in the third century, pioneered a computed calendar for the Jews; and the Council of Nicea in 325 A.D. did the same for the Church. In the end, both the Jewish patriarch and the pope kept the charge, the one for Jewry, and the other for Christendom. But the ecclesiastical Council of Nicea dictated a change in the time of the Jewish passover, upon which the church wished to build her Easter feast,[4] and to which the scattered Hebrew people ultimately paid homage in the calculations of their almanac.

Factor 5. This change involved placing the earliest Jewish passover in March, instead of April, the limits of the cycle of the paschal new moons extending even from before the spring equinox, to April 5.[5] But Scaliger, master

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2 Sidersky, "Origin of Jewish Chronology," ch. II, par. 45.
3 Hoffmann, David, "Mar-Samuel," Leipsig, 1873.
4 Clavius, Christophor, "Romani Calendarii A Gregorio XIII P.M. Restituti Explicatio," ch. III.
5 Scaliger, Joseph, "De Emendatione Temporum," Francofurt, 1583, p. 108.

of chronology of the nations, computes that in the times of the Messiah, the earliest passover was April 8, and that the latest was May 6.[6]

Factor 6. Another most important feature of the change, one which apparently has not been noticed in connection with the problem of the crucifixion date, related to the command of the Nicean Council that the Passover--which, it should be particularly noted, both Christians and Jews were celebrating, even for a hundred years after the Apostles[7]--was to be placed on the first "Luna XIV" after the vernal equinox.[8] These words, "on" and "after" make all the difference in the world in the use of the dates of the Jewish passover moons for deciding the time of the death of Christ.

If we accept the testimony of Aristobulos, 200 years before Christ--that the passover of the Jews followed the sunset of the day when the full moon rising in the east faces the setting sun in the west--we can reasonably conclude that the Jewish passover, which is repeatedly described in the Bible as the 14th day of Nisan, was the day following the full moon date, and not on it. Herein seems to lie the crux of the many assertions which have been offered in regard to the time of the passion of Christ. Though the modern Hebrew calendar is faithful in a way, to the laws of astronomy governing the new moon and her phasis,[9] yet no longer does this Talmudic authority recognize the appointed moon of barley harvest for the passover. Since the destruction of the second temple, the Biblical sheaf of ripe barley corn has no longer been waved by the priest.

Factor 7. It has been contended by some astronomers, ans also by certain theologians, that one cannot say just how the Jews computed time when Jesus was here, and that their system of calculation was too irregular and too uncertain to be traced with certainty nineteen centuries after. Moreover, the influence of Nisan 15 in place of Nisan 14, for the Passover, in the Jewish calendar of today, is per-

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6 Scaliger, op. cit., p. 265. Note: Scaliger, Joseph Justus, (1540-1609) was one of three great men who laid out the Gregorian reforms of the calendar in 1582, concerning whom George W. Robinson (Harvard) says: "Of his primacy beyond all rivalry, among the scholars of modern times, there can be no doubt." (Autobiography of Joseph Scaliger," Cambridge, 1927, preface, p. 7.)

7 Scaliger, p. 105.

8 Clavius, "Roman Calendar," ch. I, par. 3.

9 Cf. Calendar in American Jewish Year Book.

haps as equally responsible as is the question of the placement of the full moon date itself, for this uncertainty on the part of many scholars, both Hebrew and Christian, in regard to the crucifixion date.

These early historical facts, and the Jewish calendar features mentioned, are closely connected with any solution of the passion date. Therefore, the attempt is here made to include some of these unsolved questions in the problem to be considered, especially as regards the paschal moon of Nisan. A chronological setting should not detract from the spiritual picture of the cross of Christ, if it shows it immovable in time and prophecy.

Many scholars are out of agreement as to the length of Christ's ministry and the number of passovers; but the events and scenes in the gospel record are so correlated that it seems entirely possible to relate the epochal years of His life to an outline which fits the chronology involved, both from a prophetic and historic viewpoint. As these inspired pictures of Christ are placed side by side, His whole life portrait is redrawn, as it were, and the scenes become harmonious and complete. Suddenly is revealed a depth of meaning between prophecy, history, and the science of time.

Factor 8. It is purposed here to show (1) that the method of reckoning time used by the Jews in the first century was scientific, and in harmony with known laws of the moon's behavior; (2) that, inasmuch as their system was the result of many centuries of observing the moon, in seeking from the Jewish mode of reckoning the facts concerning the luni-solar year, we are appealing to the original source of this kind of time, and consequently to one of primary authority.

B. Timekeeping in the First Century.

1. The Jerusalem Era. The year 170 of the Seleucid era (about 142 or 143 B.C.) marked the recognition of Jewish independence by Demetrius, of the house of Seleucus. Simon, the last of the Maccabean brothers, was then high priest in Jerusalem. In this same year, the people of Israel began to date their documents and public instruments according to the year of the high priest, as mentioned in the Apocrypha. Thus: "In the first year of Simon, the high priest, the governor and leader of the Jews."[1] This custom evidently continued on down to the time of Luke, who similarly dates the ministry of John the Baptist, with joint reference to emperor, governor, and high priest.[2]

The "Jerusalem Era" was thus established, and has been found engraved on the coins dated the fifth year of Simon's reign.[3] "Mathematicians therefore computed for them [the Jews] the cycles, and taught them how to find, by calculation, the conjunctions and the appearance of new moon."[4] Sidersky claims it is probable that "these calculations go back much further" in point of time.[5] He thinks highly of the happy comment of Scaliger, who several times refers to the method of Jewish reckoning as "the most ingenious and most elegant of all systems of chronology."[6]

Thus the Hebrew people came up to the time of Christ with a dated chronological system--a factor of importance in our quest. The Sanhedrin determined each

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1 1 Maccabees 13:42. (Wace edition, London, 1888, Vol. II.)
2 Luke 3: 1,2.
3 Reproduced by Benzinger, in "Hebrew Archaeologie," Leipzig, 1904, p. 196.
4 Albîrûnî, "Chronology of Ancient Nations" (trans. by Sachau), London, 1879, p. 68.
5 Sidersky, David, "Etude sur l'origine astronomique de la chronologie juive," in Memoires presentes par divers savants a l'Academie des Inscriptions et belles-lettres de l'Institute de France, Vol. XII, part 2. Paris, 1913, Introduction, p. 597.
6 Scaliger, Joseph, "De Emendatione Temporum," Francofurt, 1593, p. 108.

Jewish year by means of astronomical calculations. Although the formula used by the Secret Council for Intercalation has not been found, yet it was referred to by Moses Maimonides, who said that he possessed it.[7] Mar-Samuel of Nahardea also had it, and by it computed a Jewish calendar for 60 years to avoid the necessity of double festival days. This he sent to Rabbi Johanan in Jerusalem as proof of his knowledge.[8] It was Hillel II who, in the 4th century, passed the secret on to the outer world, and so it became the basis of the modern Jewish calendar.[9]

The Jews doubtless had known the length of the year from Egyptian times, but their method of intercalation was different on account of their Passover feast. This they regulated by the "maturity of the barley."[10] Moses commanded that they should not even reap their barley until the first fruits of it had been offered to the Lord at the time of the Passover. Sidersky adds, "The aim of the Mosaic command was to regulate the months according to the course of the moon, and the whole year in accordance with the course of the sun--by assigning as a starting point the lunar month coinciding with the beginning of a determined solar season."[11] That "determined solar season" was still the barley harvest in the time of Christ. Later on, as after the dispersion of the Jews, "The Sanhedrin did not content itself to observe the maturity of the barley, but added

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7 Maimonides, Moses, "Constitutiones de Sanctificatione Novilunii," published by Blaise Ugolin, Venise, 1755, quoted by Sidersky, p. 662. Note: Maimonides, or Moses Ben Maimon (1132-1204), is sometimes called the "second Moses." His essay on the Jewish calendar makes him important both to Jewish and Christian scholars.

8 Hoffman, David, "Mar-Samuel," Leipzig, 1873, p. 21. Note: Mar-Samuel said, "The heavenly courses are as well known to me as the streets of Nahardea." (Jewish Encyclopedia, art. "Mar-Samuel.")

9 Graetz, Heinrich, ("History of the Jews," Philadelphia, 1893, Vol. II, p. 573) says: "Hillel II. . . placed at everyone's disposal the means of establishing the rules which had guided the Sanhedrion up till then in the calculation of the calendar and the fixing of the festivals."

10 Lev. 23:14; Sidersky, "Chronology of the Jews," pp. 615,623. Note: Sidersky insists that the Jews also used the 19-year cycle from the time of their independence in 142-3 B.C., but that it was a result, not a cause, of the ritual ceremonies, which were the older. (p. 631.) In like manner, he considers the modern Jewish calendar to be founded on the primitive ceremonies of the luni-solar year. (op. cit., pp. 640,649.)

11 Sidersky, "Chronology of the Jews," p. 625.

to it the observation and calculation of the equinox."[12]

The ceremony of the barley harvest was the divine rule by which the position of the month Nisan was located. If by the first of Nisan, the barley was not sufficiently advanced for the passover festival, then a leap-month was added, and the feast period of the year was delayed until the following month.[13] The Lord had promised Israel, when He ordained the Passover, that He would send rain in due season in order that the corn should be reaped in time for the feast.[14] On account of this ceremony, a special field of barley for the temple was sown in the sheltered Ashes-Valley across the Kidron.[15]

Such a provision as the barley-harvest control of the year thrusts definite certainty into Jewish reckoning in the time of Christ--one which held until the Jews were scattered after the destruction of Jerusalem.[16] By this rule, we know that the Nisan paschal moon could not come until the rains were over and the barley ripe.[17] On these two counts, a passover in Dystrius, the ancient name for March, is out--for all the reports on agriculture and meteorology in Palestine, ancient and modern, show that March is the month for the latter rain, and that barley ripens in April.[18] The Hebrew paschal song included this refrain: "The rain is over and gone."[19] Consequently, as regards the astronomical element

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12 Op. cit., p. 623.

13 The Karaites were accustomed to make the test also in Shebat, 50 days before the passover. (Albîrûnî, "Chronology," p. 69.)

14 Deut. 11:14. (The early rain came in December; the latter rain in March.)

15 Edersheim, Alfred, "Life and Times of Jesus the Messiah," New York, 1896, Vol. II, p. 619.

16 Sidersky says: "It was no more possible under Constance to apply the old calendar." ("Chronology," p. 651.)

17 Compare Part V, Sec. E. Note: The modern Jewish calendar is based upon an equinoctial moon which came in March, in direct opposition to the barley-harvest moon of the first century, which came in April.

18 See Part V, Sec. B. Note: The Nestorians in Persia keep count of the ancient Jewish Passover which is always placed on Nisan 14, or Luna 14, in April. "April is the month of barley-harvest and March is the month of rain." (Lamsa, G.M., Nestorian authority.)

19 Song of Solomon 2:10-13; "Patriarchs and Prophets," pp. 537, 538.

that enters into the date of the crucifixion, one should look in the ephemeris for passover moons in April, and not in March! Scaliger says that in the time of Christ the paschal moon limits were April 8 to May 6. He showed that those who later used the Dionysian moon tables thought that they were celebrating the Jewish Passover in Nisan when it was ten times in Adar during the cycle of nineteen years. He learned this, he said, from the Jews themselves.[20]

Another feature pertaining to Jewish reckoning in the first century concerns the day itself upon which the New Year was started. The Jews, Arabs, Chaldeans, and Damacenes all had the same custom in reference to the beginning of their months--they started the new month with the first appearance of the new moon after conjunction. The presence of the moon in the western sky at sunset was called the phasis,[21] and marked the following day as the first of the new month. This period from conjunction to phasis, Hevelius called the interlunary period,[22] while Scaliger called it the translation of the moon.[23] In this discussion in Part V, the term "translation" is used in the sense that it refers to the time between conjunction and the sunset marking the beginning of a new month--the sunset near to which the phasis always occurs.[24]

The Jewish new moons (that is, the new moons that marked the first day of the month), commonly exceeded the ordinary "size of the phasis," or first appearance of the moon.[25] While the Greeks started their month from the conjunction itself, it was a certain "shape of the moon" that regulated the beginning

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20 Scaliger, "De Emendatione Temporum," p. 107.

21 The plural of phasis is "phases," which is pronounced with a soft "s". On the contrary, the plural of the ordinary word "phase" is likewise spelled "phases," but is pronounced pha-zes. The context must identify the words as used in this discussion.

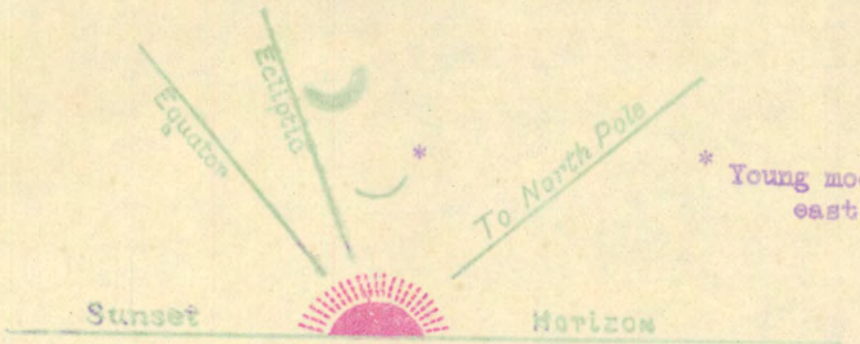
22 Hevelius, Johannes, "Selenographia, sive Lunae Descriptio," Gedani, 1647, p. 274.

23 Scaliger, "De Emendatione Temporum," p. 85.

24 It was not the actual minute at which the phasis of the new moon was observed which marked the new days, but the sunset near which it took place. Scaliger says repeatedly that the Jews started their month "from the phasis of the moon," (ἀpὸ phaseōs selēnēs), but always places the phasis at sunset--ab accaso Sole.("De Emendatione Temporum," p. 85.)

25 Scaliger, op. cit., p. 6.)

Horned crescent, wider, higher,
older, farther east



* Young moon "on her back"
east of the sun

"In the spring, because of the steep ecliptic the crescent moon is level with the horizon. With very young moons it looks like a very fine bright thread from left to right . . . It often happened to me that in the spring, when I was looking for the young new moon, which is as fine as a thread, I would believe for a moment that such a colored horizon stripe was the crescent and have exclaimed: 'I have it,' only to see a minute later, that I had been mistaken, because the thread disappeared or divided itself."--Karl Schoch, in a letter to P.J.Schaumberger, quoted in Biblica, August, 1927.

of the Jewish month. Scaliger sometimes called it the "horned moon."[26] Rabban Gamaliel, chief of the Sanhedrin in the middle of the first century, had pictures of the moon on a tablet on the wall of his upper chamber. By means of this chart, he examined the witnesses who had observed the moon, and would ask, "Didst thou see it [the moon] on this wise or that?"[27]

In Jerusalem was a large courtyard where the witnesses were examined by the Beth-Din. They were questioned: "Say, in what position did you see the moon, in front of the sun (i.e. to the east of it), or behind it? To the north of it, or the south? What was its elevation on the horizon? To which side was its inclination? What was the width of the desk?"[28] The accompanying illustration makes a little plainer the meaning of the questions asked, which after all were truly scientific.

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26 Idem, p. 77. Note: Hevelius fully describes the "horned moon," and designates when the moon appears as such. ("Selenographia," pp. 281, 282.) This will be further demonstrated in Part V, Sec. E.

27 Jerusalem Talmud, Section Moed, Vol. VII, Rosh Hashana 2:3.

28 "Jerusalem Talmud, "Section Moed, Vol. VII, Rosh Hashshana 2:8; Sidersky says: "The calculation of which [the conjunction] was known in the course of the last centuries preceding the Christian era. . . by calculating this visibility in advance by means of inductive methods established by the ancients in consequence of observations over centuries."(Appendix B, p. 661.)

The very nature of these questions shows the extent of the astronomical knowledge which the Sanhedrin possessed concerning the moon's phasis. The historical testimony is obviously true that this tribunal had in hand the calculations pertaining to the moon's position and her translation at the time of the new moon.

These observations were continued even long after the knowledge of astronomy made it possible to calculate the date of the new moon in advance[29]--at least a century before the time of Christ. The deliberations of the Sanhedrin always took place behind closed doors, thus surrounding with mystery their secret council, called the "Sod-haïbour."[30]

The questions asked the Hebrew "observers" in the first century A.D. involve the same principles as used today in computing the common almanac. "How wide was she?" inquired Rabban Gamaliel. So it is that the width of the moon from horn to horn determines her position in relation to the earth. The relatively widest moon is nearest the earth, that is, in perigee; the least wide moon is farthest off, or in apogee.[31] The witnesses reported how near the sun was to the moon, and how low on the horizon. The altitude of the moon above the horizon, and her distance from the sun at sunset indicate in a general way the moon's age; namely, how many hours have elapsed since conjunction. The older she is, the later she sets after the sun.

The proclamation of the new moons by the Sanhedrin constituted one of the strongest elements of cohesion among the Jews, and was jealously guarded as a

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29 Hoffman, "Mar-Samuel," p. 20; Sidersky, "Chronology," p. 661. Note: Full details of this court in Jerusalem and the ceremony of signaling the announcements of the new moons, are given in the Mishna (Rosch Hashshana, I and II.)

30 Zuckermann, B., "Materialien zur Entwick, der altjüd. Zeitrechnung im Talmud" (Material for the Development of the Ancient Jewish Time Calculations in the Talmud), Breslau, 1882, p. 21.

31 Note: By comparing the various dates of the moon in the American Ephemeris (1939, p. 146,) for apogee or perigee, with the dates of her various diameters (pp. 147-162), it will be noticed that on whatever date she is in perigee, her diameter is greatest, and when in apogee, she is the least in width.

special prerogative of Palestine.[32] Rabban Gamaliel said that he knew the value of the synodic month from his grandfather, Hillel the Babylonian,[33] and in the "Meghilath Taanith" we have the first complete enumeration of the Jewish months in their order,[34] which, according to Schwab, "must have been written and introduced about 6 or 7 A.D."[35] The Palestinian Jews of the first century kept their calculations based on the true conjunction and phasis, in contrast to which the Jews of Babylon, and those under Babylonian influence in the time of Hillel II (359 A.D.), computed their calendar on the Moled, or mean conjunction.[36] There may be, however, as much as 14 hours difference between these two conjunctions.[37]

The significance of this fact must not be overlooked as a most important feature of Jewish time in the first century; for in the study of the dates pertaining to the years of Christ's ministry, we are dealing entirely with the true astronomical moon as employed by the Palestinian Jews, and not with the fictitious moon of any cycle as is the basis of the Catholic Church Collect, and of the modern calendar of the Jews.

After 1500 years of experience, the Jewish Sanhedrin were well versed in the the science of reckoning time. The famous treatise of Maimonides, philosopher and Hebrew sage of the thirteenth century, is perhaps our best example of the ancient Jewish astronomy, which became his later heritage. He claimed that his formulas of computation of the moon's phasis had long been known to the Jews, and that they used these calculations as a check on the testimony of the witnesses.[38] "An identical method is still used by the Karaite scholars for making up their

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32 Graetz, "History of the Jews," Vol. III, pp. 117, 118.
33 Talmud, Rosh-Hashshana, 25a, quoted by Sidersky, p. 656.
34 "Rouleau des Juives," quoted in Sidersky, p. 619.
35 Schwab, M., XI Congres des Orientalistes, 1897.
36 Hoffman, "Mar-Samuel." "It was the modern computation with the elements of calculation established by the Babylonians and accepted by the Palestinians, which Hillel II, by virtue of his power as chief of the Sanhedrin of Palestine, officially passed on to universal Judaism thus assuring their universal unity until our day." (p. 20)
37 Sidersky, "Chronology," p. 659.
38 Sidersky, "Chronology," p. 626.

calendar, as described by Kokisoff."[39]

Thus the translation of the moon--or calculation which determined the first day of each new month--is perhaps the most complex feature of the three involved in connection with Jewish timekeeping in the first century, which are: (1) a dated era; (2) a festival ritual governing the position of the paschal month; and (3) the translation of the moon marking the first day of each month.

From the days of Ezra and Nehemiah to the present time, a long series of historical and astronomical source materials now offer a complete picture of the new moon and her phasis. Every detail of her performance is described either on tablets, stone, or parchment, or in books of ancient and modern astronomy. Thus has the way been prepared for effective chronological study with reference to Jewish luni-solar time, and its bearing upon the death-year of Christ.[40]

Any reasoning that Jewish time in the first century was based on a plan so irregular and secret that it is now impossible to lay bare the system is not at all in harmony with the facts. The historical records, and the customs and ceremonies connected with the Jewish form of year are fully recognized and understood by both Hebrew and Christian scholars, and may not be ignored. To the Jews

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[39] Sidersky, op cit., p. 673.

[40] The leading sources and authorities supporting the basic principles of this argument in reference to the moon are: (1) The "Venus Tablets of Ammizaduga"--on which Kugler worked so long, and on which he based his "Babylonische Mondrechnung"--is perhaps our earliest reference; (2) Geminus, who worked out his mathematical astronomy on the moon's motions in the century before Christ; (3) The House of Hillel, which presided over the regulation of the year for the Jews in the time of Christ; (4) after the destruction of Jerusalem, Mar-Samuel (c. 170), who was called "Yarchinaah," because he knew so much about the moon; (5) then Hillel II (359), who applied the Jewish secret of time to a fixed calendric system; (6) the Karaites, who arose in the 8th and 9th centuries as defenders of the Mosaic ceremonies pertaining to lunar-solar time; (7) Albîrûnî (1000), who presented the first complete record of the Jewish calendar; (8) Maimonides (1178), who produced his famous essay on the translation of the moon and her phasis; (9) Abraham Hanassi (1120), who was another Hebrew computer of note; (10) Scaliger (1582), who has been called "victor over time," and who numbered all days by the Julian-day numbers; (11) Hevelius (1648), Polish astronomer, who left a complete record of all the various kinds of lunar translations and their causes; (12) Fotheringham, Schoch, and Neugebauer, who were pioneers in modern research on the moon's phasis; (13) Sidersky, Zuckermann, Kokisoff, able computers in Jewish time; and (14) the Oppolzer, Schram, and Brown tables, together with the Standard Ephemerides, which constitute invaluable aids to astronomical research in the 20th century.

had been committed, through the prophet Daniel, a long series of time prophecies relating to the principal nations of earth, recognized by both oriental and modern chronology as important, and definitely dependent for orientation upon a stable system of common time. This has been provided for us in the blending of Jewish and Roman timekeeping.

Both Julius Caesar and Augustus did their part in regulating the civil calendar of Rome,[41] while the Jerusalem era proved to be a stable epoch in time-keeping. Each day of those years has a definite number in the universally-accepted Julian-day numbering.

2. Julian Calendar. In modern times, civilization largely follows the Gregorian calendar, which originated in 1582 A.D. From the first century on to the days of Gregory XIII, in 1582, dates are commonly recorded in Julian time.[42] Every day in each week of this long period of time has its designated number in Scaliger's Julian-day reckoning.[43] This system offers a simple but absolute method for determining the feria, or day of the week, for any given date in the time of Christ. Scaliger carried his numbers back to a point many centuries before Christ, his zero number ending on a Monday.[44] Every Julian-day number, therefore, represents a certain number of weeks with a remainder. These remainders correspond to the days of the week according to Schram's table:

Remainders	0	1	2	3	4	5	6
Feriae -	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.

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41 "Encyclopedia Britannica," art. "Calendar."

42 In the American Ephemeris (1939 ed., pp. 808-811), appears the standard formula and tables for converting Gregorian dates into Julian time.

43 This table is found in any late American Ephemeris. The Julian-day tables have been called the "Astronomer's Bible," so universally have they been adopted in astronomical circles.

44 See Schram, Robert, "Kalendariographische und Chronologische Tafeln," Leipzig, 1908.

In other words, since the Julian-day numbers ended with Monday, any remainder of a number, after the weeks are taken out, will represent just so many days this side of that first Monday. If there is no remainder, then the number itself represents Monday. For example, to find the day of the week for April 27, 31 A.D.: Its Julian-day number is 1732497.[45] Taking out the weeks--by dividing by 7--we have four days left. Add these four days to Monday, and we get Friday.

If one does not have access to the American Ephemeris, a simple table may be made for first century dates as follows: January 1 (1 A.D.), Julian time, was Saturday.[46] By reckoning forward from this point to the year 31 A.D.--observing the leap-years--January 1 will be found to be Monday for that year. From Monday (inclusive) add the 117 days reaching to April 27, and we similarly get Friday.

Every day has been astronomically numbered as far back as history goes. No feria, or day of the weekly cycle, has ever been added or dropped. The first century was not only true to the days of the week, but the Julian calendar was

Insert, Part V, p. 15, as footnote.

[47] At this time, the Hebrews had been calculating the conjunctions and phases for at least a century (Albîrûnî says "nearly 200 years after Alexander,"--op. cit., p. 68), and perhaps longer. (Sidersky, "Chronology of the Jews," p. 615). They had divided the hour into 1080 scruples, a value which was very old, which had originated with the ancient sexigesimal (or fractional) system of the Chaldeans about 400 B.C., and which agreed with the "Almageste" of Ptolemy (Sidersky, op. cit., p. 639). With the important feature of the moon's fast and slow motion, the Beth-Din must have been indeed familiar, for all the questions asked the Hebrew witnesses, though directly referring to the moon's position in the sky, thereby had specific relation to her rate of motion. In the century before Christ, Geminus wrote in the "Isagogue," "the sixtieth part of a degree is called a minute; the sixtieth part of a minute is called a second. Likewise the second is divided into sixty parts, and each sixtieth part is called a tertie." [Italics mine.] ("Elementa Astronomiae," p. 205) He further showed that with this table in hand, the Chaldeans had recorded the angular distance the moon travels in compassing the zodiac belt; that they had actually observed that in 19756 days she had gone around the zodiac 723 times and 32 degrees over. (Op. cit., pp. 203,205) And so the least and maximum daily movement of the moon had become known facts before Jesus was born. They had been computed by the scientists of Babylon, the "home of astronomy." (Hoffman, "Mar-Samuel," p. 17.) It is said that the Jews learned from the Babylonians much of the science of astronomy in which they had "multiple knowledge." Also, "among them the study of this science was declared a religious duty." (Op. cit.)

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Every day has been astronomically numbered as far back as history goes. No feria, or day of the weekly cycle, has ever been added or dropped. The first century was not only true to the days of the week, but the Julian calendar was of such a nature that the seasons came at the proper time of year in contrast to the Egyptian calendar, whose feast days wandered through all the seasons, because its year was too short.

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[45] American Ephemeris, p. 808.
[46] Encyclopedia Britannica, art., "Calendar."

Insert, Part V, p. 15, as footnote.

[47] At this time, the Hebrews had been calculating the conjunctions and phases for at least a century (Albîrûnî says "nearly 200 years after Alexander,"--op. cit., p. 68), and perhaps longer. (Sidersky, "Chronology of the Jews," p. 615). They had divided the hour into 1080 scruples, a value which was very old, which had originated with the ancient sexigesimal (or fractional) system of the Chaldeans about 400 B.C., and which agreed with the "Almageste" of Ptolemy (Sidersky, op. cit., p. 639). With the important feature of the moon's fast and slow motion, the Beth-Din must have been indeed familiar, for all the questions asked the Hebrew witnesses, though directly referring to the moon's position in the sky, thereby had specific relation to her rate of motion. In the century before Christ, Geminus wrote in the "Isagogue," "the sixtieth part of a degree is called a minute; the sixtieth part of a minute is called a second. Likewise the second is divided into sixty parts, and each sixtieth part is called a tertie." [Italics mine.] ("Elementa Astronomiae," p. 205) He further showed that with this table in hand, the Chaldeans had recorded the angular distance the moon travels in compassing the zodiac belt; that they had actually observed that in 19756 days she had gone around the zodiac 723 times and 32 degrees over. (Op. cit., pp. 203,205) And so the least and maximum daily movement of the moon had become known facts before Jesus was born. They had been computed by the scientists of Babylon, the "home of astronomy." (Hoffman, "Mar-Samuel," p. 17.) It is said that the Jews learned from the Babylonians much of the science of astronomy in which they had "multiple knowledge." Also, "among them the study of this science was declared a religious duty." (Op. cit.)

Insert, Part V, p. 21, as footnote.

[48] The real meaning of Josephus' well-known statement about the passover, "when the Sun is in Aries" ("Works," p. 75), seemingly rests on a Pharisee interpretation of the paschal moon as the equinoctial moon of Aries--a definition in no sense in accordance with the Mosaic rule, nor in accordance with the Sadducean position which was dominant in the time of Christ's ministry. If Moses had appointed the passover to be in the ancient constellation of Aries, then another constellation, due to precession, would have marked the time of the feast in the first century A.D. (Ferguson, "Astronomy," p. 189.) On the other hand, if Josephus referred to the zodiacal sign Aries, as is probable, and not to the actual constellation itself, then on another count Moses can in no way be held responsible for the inference of Josephus, for it was not until seven or eight centuries after Moses' time that the "ecliptic was divided into twelve equal divisions, not associated with the actual stars," and the constellations were replaced by the signs. (Maunder, op. cit., p. 319.) These signs have never changed. The ecliptic is a circle of reference; and on it, from its first point of Aries, every celestial longitude is reckoned. (Young, Charles A., "General Astronomy," New York, 1898, pp. 11, 142.) Cf. Scaliger, op. cit., p. 169.

Insert, Part II, Sec. IX, p. 15, close of ¶ on '43 chart.

It is to be noted that the '43 chart makes no mention of the date of the end-year of the 70-week section of the 2300 years, or of the placement of the cross in the 70th week--whether at its close, or in the midst. It was prepared in that transition period when, virtually persuaded of the inaccuracy of a 33 A.D. crucifixion-ending of the 70th week, the Millerites had not yet come to agreement on the 31 crucifixion in the "midst" of the last "week," and the 34 terminus of the 490 years, with the corresponding 1844 ending for the full period.

3. Accuracy of Barley-Harvest Intercalation. From the time of the Nicaean decree until the present day, it has been passed on from generation to generation that the Jewish Passover "was at the first full moon after the equinox of spring."[20] The tables of the modern Jewish calendar follow this plan. Many historians, both ancient and modern, have taken it for granted that the Jews had always kept their Passover at this time, and that such was therefore the case in the days of Christ. The Karaites, who according to Chwolson closely adhered to the Sadducean literature, and represent a pre-rabbinical view of the Mosaic law,[21] apparently have been the chief opponents to this ruling. Their prolonged polemic with the Rabbanites in the eighth and ninth centuries,[22] is an evidence that such regulation of the Jewish Passover was not the original precept of Moses. This far-reaching influence of the Karaite teaching made itself felt upon the Adventists in 1844.[23]

Since the original Mosaic law--not the Mishnaic or Talmudic reflection of it[24]--involved a barley-harvest paschal moon instead of an equinoctial moon, the question naturally arises as to when this change was made, and how it came about. In the Jewish period following the destruction of Jerusalem, the Sanhedrin at Jamnia "became the heart of the Jewish nation."[25] The Jewish calendar had not yet been "permanently fixed," and had to be regulated from time to time. The festivals were dependent "upon the course of the moon, and upon the influence of the sun on the harvests." Every two or three years the solar year exceeded the lunar by about a month, and a month was inserted, making a leap year of thirteen months. This "intercalary month was announced by the Patriarch in a circular letter to the community." About fifty days before the Passover, witnesses examined the state of

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20 Lindsay, Jas. B., "Chrono-Astrolabe," Dundee, 1858, p. 119; Sidersky, "Chronology of the Jews," p. 626. Note: Scaliger (p. 106) makes this enlightening statement: "Some were using the pure Jewish year, and others were fixing their cycle at the vernal equinox."

21 Chwolson, Daniel, "Das letzte Passamahl Christi," Leipzig, 1908, pp. 31,176, Note 2.

22 Poznanski, Samuel, "Ben Meir and Origin of Jewish Calendar," Jewish Quarterly Review, Vol. X, pp. 152-160. Note: Sidersky mentions the Sadducees, Essenes, and Bethusae in the 2nd century B.C., as fighting the calendar. (p. 623

23 See Part II, Secs. VI and IX.

24 Chwolson, op. cit., p. 17.

25 Graetz, "History of the Jews," Philadelphia, 1893, Vol. II, ch. XIV.

the barley to determine if it would be ripe in time for the feast.[26] Since the days of Moses, the maturity of the barley had been a determining factor in regulating the Jewish year.[27]

Up until the Council of Nicaea, the Christian Easter, especially in the East, had been celebrated for the most part at the time of the Jewish Passover, and "indeed upon the days calculated and fixed by the Sanhedrin in Judaea for its celebration."[28] On the contrary, in Europe, "some earlier, some later, were intercalating the months . . . the Europeans were placing their cycle at the equinox, and were celebrating the Passover on the next full moon after the equinox."[29] These contentions had agitated the church since the time of the Roman bishop Victor, who had persecuted the churches of Asia for following the "14th-day heresy," as they called it, in reference to the Passover.[30] But at the Council of Nicaea, "the last thread was snapped which connected Christianity with its parent stock."[31] The future Easter observance was to be rendered independent of Jewish calculation according to these words, which have been attributed to Constantine:

> "Henceforward let us have nothing in common with this odious people; our Saviour has shown us another path. It would indeed be absurd if the Jews were able to boast that we are not in a position to celebrate the Passover without the aid of their rules."[32]

In the subsequent years, the Jews went through "iron and fire."[33] The Christian emperors forbade the Jewish computation of the calendar, and did not allow the announcement of the feast days. Graetz says, "The Jewish communities were left in utter doubt concerning the most important religious decisions" as pertaining to their festivals.[34] The immediate consequence was the fixation and calculation

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26 Albîrûnî, "Chronology of the Ancient Nations," p. 69.
27 Lev. 23:10.
28 Graetz, Vol. II, p. 563.
29 Scaliger, op. cit., p. 106.
30 Op. cit.; see also Eusebius, "Ecclesiastical History," bk. V., ch. 24.
31 Op. cit.; Graetz, Vol. II, p. 563.
32 Graetz, Vol. II, p. 564. See also Eusebius' "Life of Constantine," bk. III, ch. XVIII.
33 Sidersky, "Chronology of the Jews," p. 640.
34 Graetz, Vol. II, p. 571.

of the Hebrew calendar by Hillel II, who (359 A.D.) placed above the dignity of the Patriarchate, the unity and cohesion of the scattered Jewish communities, to whom he made known the secret of Jewish reckoning. According to Graetz, the Jewish system conformed to a cycle of nineteen years, in which seven leap years occur, although he adds that it "has not been ascertained how much of this system was invented by Hillel."[35]

The decrees of Nicaea, "destroyed the Temple of the Law in Judea," as it were, and the ancient regulation of Moses for harmonizing the course of the moon with that of the sun was ultimately replaced by calculations involving the vernal equinox,[36] after which the nearest full moon was chosen to be the paschal moon. From this equinoctial point, the church built up her ecclesiastical calendar and its Easter feast. It is easy to gloss over the real significance of the Council of Nicaea and its bearing upon the Jewish system of time, for though the church desired to depart from Jewish calculation, and to adopt a movable feast,[37] yet in the end, it turned out that both the Jewish and Roman Catholic festivals came to be computed from the same point of time--the time when the sun crosses the equator, the first point of Aries, or the vernal equinox. Although it is clear that the responsibility for this change rests with the bishops of Nicaea, yet, according to Clavius, the church merely enjoined that which had been sanctified by the ancient Roman Pontiffs:

"The Catholic Church has never used that [Jewish] rite of celebrating the Passover, but always in its celebration has observed the motion of the moon and sun, and it was thus sanctified by the most ancient and most holy Pontiffs of Rome, but also confirmed by the first Council of Nicaea."[38]

Clavius, quoting from Socrates and Theodoret, cites the letter that was sent from the Nicaean Council to the church of Alexandria, and to the brethren in Egypt, Libya, and Pentapolis:

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35 Op. cit., p. 574.
36 Sidersky, "Chronology of the Jews," p. 624.
37 Clavius, op. cit., p. 54.
38 Op. cit., p. 54.

"But because it concerns the opinion of all over the celebration of this most sacred feast of the passover, because, wisely, the controversy over this thing has been intelligently undertaken at your requests, and has been conveniently settled, in order that all the brethren who dwell in the east, and who were previously accustomed to immitate the custom of the Jews in the observation of the feast, and all of you who hold from early times to that same custom as we in that celebration, may thus now at length carefully follow us Romans with united minds in the same celebration."[39]

Consequently, it should be recognized and made perfectly plain that the plan of the church and of the modern Jewish calendar as well, to regulate the passover with reference to the position of the sun at the spring equinox, and of the full moon next after, has to be referred back, according to Clavius, to the "most ancient and most holy Roman Pontiffs," and has no connection at all with the original Mosaic command. The Council of Nicaea confirmed what was evidently the prevailing custom among the churches, when it added that "the fourteenth of Luna of the first month must be sought through the cycle of the golden number nineteen."[40] This command shows that the church calendar henceforth was to be based on the nineteen-year cycle. Eventually the Jews followed the same regulation.

But though the Nicaean Council had set the passover back toward the first point of the spring equinox, yet the church soon recognized that Aries, the zodiac sign of the vernal equinox, did not extend as far as the primitive "first month" mentioned in Moses' command. She therefore added five days to the end of Aries, making her furthest paschal limit April 25. In reference to this Clavius, after quoting Theophilus, says:

"From this regulation it is plain that in that time [third century] the passover was wont to be celebrated from March 22 even to April 20, yet to which time there were afterward added five other days, because the first month of necessity required this, so that the passover could be celebrated even to April 25 inclusive. For the first month is not that one in which the sun runs through the whole of Aries, as the Fathers in the Caesarean Synod seem to have wished, but whose Luna 14 falls upon some one day from March 21 inclusive, upon which the equinox is, even to April 18 inclusive [the limits of Aries]. From which it follows that the paschal rite can be celebrated upon April 25, as we shall explain a little later."[41] [Italics mine.]

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39 Op. cit., p. 55; Socrates, "Historie Ecclesiasticae," lib. 1, cap. 6; atque Theodoretus, "Hist. Eccles.," lib. 1, cap. 9.

40 Clavius, op. cit., p. 56; Sidersky, "Chronology," p. 560. Note: The 19-year cyclo was adopted by the church council of 284 A.D. Cf. Siderksy, op. cit., p. 650.

41 Op. cit., p. 55.

The foregoing reference definitely shows that the period of the equinoctial moon, corresponding to the sign Aries, did not coincide with the so-called "first month" of Moses' command.[42] But even though the church added five days to the equinoctial period in which her paschal moon must occur, even so, the limits of this period did not then coincide with the limits of the period in which the barley harvest moon had to full--the latter being shorter, and open to only one full moon--while in the place chosen by the church for her Easter feast sometimes two full moons could happen.

The period appointed for Easter has had also other pronounced irregularities. The equinoxes, due to precession, have wandered far from their positions known in the infancy of astronomical knowledge. The whole ecliptic, since creation, is said to have shifted backwards as much as the sun moves in 81 days.[43] After the first century of the Christian era, every leap day which the Julian Calendar unnecessarily introduced, as in the centurial years not divisible by four, resulted in moving backward the position of the vernal equinox by one day. The wandering vernal equinox, which in 325 A.D., the Nicaean Fathers thought to be forever fixed, made necessary the correction of the calendar in 1582. It happened "that the pasch was celebrated very often 7 or 28 or 35 days other than in the generation which the decrees of the Fathers enjoined.[44]

The differences between the "full-moon-of-barley-harvest" Mosaic rule, and the "first-full-moon-after-the-vernal-equinox" Nicaean regulation of the church are vital. Though both were featured by a period of time, which was to be marked by the first light of the full moon, yet the barley-harvest period did not always coincide with the equinoctial,[45] and both rulings were wide apart in character, purpose, and meaning. This will be seen by the following outline:

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[42] Ex. 12:2.

[43] Ferguson, "Astronomy," (London, 1811), says: "From the shifting of the equinoctial points, and with them all the signs of the ecliptic, it follows that those stars, which in the infancy of astronomy were in Aries, are now in Taurus, those in Taurus in Gemini, etc." (p. 189.)

[44] Calvius, op. cit., Caput II.

[45] The moons were different in embolismic, or leap years.

BARLEY HARVEST MOON	EQUINOCTIAL MOON
1. A command of Moses for Jewish Time.	1. A decree of Nicaea for the church calendar.
2. Only one moon.	2. Could be two moons.
3. A permanent and regular control of Jewish feasts.	3. A very irregular index to the time of Easter.
4. Coincided with "first month," or Nisan.	4. Coincided with the sign, Aries, and often with Adar.
5. A sure index to the crucifixion Passover.	5. Not the paschal moon which marked the death of Christ.

Of these two methods of determining a festival feast, the barley harvest has been commonly regarded as a period too elastic to represent an actual point of time. But be it noted, that the controlling conditions relating to the barley-harvest moon in the time of Christ were as exact, if not more so, than those which have thus far governed the vernal equinox in its control over Easter. The time of barley harvest in the Ashes-Valley field across the Kidron was remarkably accurate and permanent in its regulation of the passover festival. The latter rain extended into the first week in April,[46] and very quickly thereafter the barley would ripen. Into this defined and limited period one full moon only could occur.

Three conditions--(1) the ending of the latter rain, (2) the regular period of the ripened barley, and (3) the fulling of the one moon possible in that limited time after the first week in April--exactly determined the paschal feast and all the other festivals of the Jewish year. The results were dependable and specific. This was the rule which Moses had commanded. It persisted to the generation in

Insert, Part V,p. 21, as footnote.

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[46] See Table II, p. 23, on rain record.

[47] Sidersky, "Chronology of the Jews," pp. 615, 624.

C. Length of Christ's Public Ministry.

1. Daniel's 70th Week. When Jesus came into Galilee preaching, "The time is fulfilled,"[1] He referred to the "70th week" of Daniel 9.[2] According to Fraidl,[3] the Christian exegetes up to the Reformation, with but few exceptions, recognize a Messianic prediction in the prophecy.[4] Sir Isaac Newton was a later witness.[5] Ferguson's "Astronomy" was also one of many sources which early suggested to the Millerites the remarkable chronological relation of the "week prophecy" to the death of Christ.[6] Eusebius was perhaps the first to connect the half of this prophetic week with the public ministry of Christ.[7]

When the prophetic events in Daniel 9:23-27 are listed, they are found to include (1) the command that was to go forth to restore and to build Jerusalem (verse 25); (2) the anointing of the Messiah (verse 25); and (3) the cutting off of the Messiah (verse 26). This anointing and cutting off of the "Anointed One," outlined in prophecy give centuries before Jesus was born, finds its exact fulfillment in the beginning and ending of Christ's ministry. The Father and Holy Spirit bore witness to the anointing of Christ at His baptism,[8] and later, He himself preached openly that the event had been fulfilled.

Throughout the Christian era, there has been concerted agreement that in the prophecy of Daniel 9, the public ministry of Christ, ending in His death, is foretold. Fraidl insists that concerning no other prophetic text does so united an opinion exist.[9] The influence of this concept was in part transmitted to the

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1 Mark 1:15.
2 White, Ellen, "Desire of Ages," p. 233.
3 Fraidl, Franz, "Die Exegese der 70 Wochen Daniels," Graz, 1883, pp. 2, 28, and 154, et al.
4 In the foregoing citation, Fraidl tabulated practically all the commentaries on Daniel 9, both of Hebrew and Christian scholars, from the time just preceding the first advent to the Reformation. See pp. 156-159.
5 Newton, Isaac, "Observations upon the Prophecies of Daniel" (London, 1733), ch.10
6 Ferguson, James, "Astronomy," Vol. 1, p. 192. (Old Edition quoted in Midnight Cry, April 20, 1843, pp. 19, 20.
7 Mommert, Carl, "Zur Chronologie des Lebens Jesu," Leipzig, 1909, pp. 92, 93.
8 Matt. 3:16, 17.
9 Fraidl, op. cit.

Millerites by Ferguson's "Astronomy," from which we quote:

"Now, as it is generally allowed, that by each of Daniel's prophetic weeks is meant seven years, the middle of the week must be in the fourth year."[10]

This is specific reasoning, for it indicates that in the history involved, as pertaining to Christ's ministry, between three and four years are to be accounted for. One of the important features therefore offered by the "70 weeks" prophecy is its index to the length of Christ's ministry. Fraidl's designation of Gabriel's words in Daniel 9 as the "week prophecy" is significant.[11] It is indeed the only prophecy in either Daniel or the Revelation, which presents its time period in terms of the week. But inasmuch as all other prophetic periods are interpreted on the year-day basis, the "seventy weeks" is of course cataloged according to this same vital principle. Each week of the seventy, as Newton and Ferguson allow, must be a week of years. It is the location of the last week which concerns the death-year of Christ.

From the time of Daniel's first appearance before Nebuchadnezzar down to the time of the ninth chapter, he had seen in prophetic vision the leading nations of the world, even to the end of time. But not until Daniel 9 does the Jewish nation, as such, enter the vision. Daniel had been waiting and praying for some sign or symbol of his own people. The answer finally comes, in which Gabriel tells him plainly and simply that the seventy weeks refer to his own people, the Jews. Consequently the seventieth, or last week of the prophecy, must also refer to the Jews.

The Jewish nation had been organized by a covenant with God,[12] and had been ordained by a system of sacrifices and oblations,[13] but Gabriel solemnly declares that in the midst of the seventieth week, the sacrifices and oblations would cease. He also implied that the Messiah would be cut off during that same "week."[14]

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[10] Midnight Cry, April 20, 1843, p. 19.
[11] Fraidl, op. cit., Introduction.
[12] Ex. 24:8; Heb. 9:19,20.
[13] Heb. 9:1.
[14] Dan. 9:25,26. Note: Since the seven weeks and three score and two weeks were to reach to Messiah the Prince, who was to be cut off after the three score and two weeks, therefore the "cutting-off" must be in the last, or seventieth week.

These two startling events of the prophecy not only bring it to an end in the time of Christ, but the two events coincide, showing that Jesus was to die in the midst of the week, for it was to be His death that would cause the Jewish sacrifices to cease.[15]

There are no features of the passion week of Christ that enter with more difficulty into the redrawing of the picture than those last scenes connected with the paschal rite itself, especially as relating to the Jews and their leaders. The harmonizing of some of the parts that are hard to understand has been ably presented with new and fresh meaning by Chwolson, who sees in the time of Christ a division in Jewish circles, as between the Pharisees and Sadducees, concerning the slaying of the paschal lambs on Friday.[16] We know from the "week" prophecy that God's appointed end had come for the Jewish service, that its meaning was lost, perhaps its form somewhat changed.[17] Jesus had not kept the third Passover at Jerusalem,[18] and now at the fourth, He "was standing at the point of transition between two economies and their two great festivals,[19] and ordains a new feast for His church before He suffers. "He, the spotless lamb of God, was about to present Himself as a sin-offering, and He would thus bring to an end the system of types and ceremonies, which for four thousand years had pointed to His death."[20]

In the uncertainty that surrounds the slaying of the lambs of the last Passover--their number, and the time of the offering--many, with Paul, see on the cross in the "midst of the week" the true Lamb of God, and say, "Even Christ our Passover is slain for us."[21] This Scripture has been quoted again and again by

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15 Heb. 10:5-9.

16 Chwolson, pp. 87, 129, 147. "Not the Pharisees, but the Sadducees were in power in Christ's time." (p.87.) Note: For thirty years, Daniel Chwolson was professor of Hebrew and Biblical Archeology in St. Petersburg University. At eighty years of age, he was a profound student of the text (1892).

17 "Desire of Ages," p. 33.

18 He remained in Galilee. John 6.

19 "Desire of Ages," p. 652.

20 Op. cit.

21 1 Cor. 5:7, margin. Cf. Frey, Joseph, "Scripture Types," New York, 1841, p. 107.

recent writers on the date of the death of Christ to show that on that passion Friday, Nisan 14, Jesus the true Lamb, took the place of the typical lamb, which would appear to have been offered in the temple on the day before.[22]

2. Number of Passovers. The following outline makes plain how the passovers, during the public ministry of Christ, may be identified and numbered--four in all:[23]

First Passover. (John 2:13)

"And the Jews' passover was at hand."

Second Passover. (Luke 6:1)

"And it came to pass. . . that He went through the corn fields." Luke's "ears-of-corn Sabbath," or a spring barley harvest, witnesses to another harvest year, and therefore to another passover between Christ's return to Galilee to announce His mission,[24] as in Luke 4:14, and the death of John the Baptist in Luke 9 at the time of the third passover. The "feast of the Jews," spoken of in John 5:1, may be the passover of this second year of Christ's ministry.

Third Passover. (John 6:4)

"And the passover, a feast of the Jews, was nigh." This third passover was at the time of the feeding of the five thousand, which event is described by the three Synoptics, as well as by John. Hence, it should be noted, each reference to this scene in Galilee in the other gospels is a testimony that the third passover also is nigh, and this correlation harmonizes the chronology of certain events in all four narratives.

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[22] Chwolson, op. cit., pp. 37-40.

[23] A careful reading of the sequence of events in the "Desire of Ages," will lead the student to the same conclusion as in this outline. See also Armstrong, W. P., "International Standard Bible Encyclopedia," 1915, art., "Chronology of the New Testament." Vol. I, p. 646.

[24] This was after the first passover, and after John had been cast into prison. The ears-of-corn Sabbath is mentioned by all three Synoptics. They uniformly place this event midway between the Baptist's imprisonment--which was after the first passover--and his death, which is always immediately connected with the feeding of the five thousand, a circumstance preceding the passover in John 6. This was without doubt the third. Since each passover represents a barley harvest, the one in Luke 6:1, given midway between two passovers, must therefore correspond to another passover, doubtless the second.

Fourth Passover. (John 13:1)

"Now before the feast of the passover." This fourth passover is recorded by all four evangelists.

The gospel narrative outlining four passovers therefore accords with the "seventy-weeks" prophecy of Daniel, that between three and four years were involved in the public ministry of Christ--or to be exact, three and one-half years. The accompanying Table illustrates this outline of the passovers.

D. Ancient Position of Jewish Passover.

1. The Mosaic Rules. In all the ancient references to the Passover, the "fourteenth day of the first month" is emphasized as the day on which the Passover was kept.[1] There were no double passover days in Old Testament times. If ceremonial defilement prevented an individual from observing the regular festival, then he was commanded to keep the service on the fourteenth day of the following month.[2] Thus is pointed out the importance of the day, which was numbered "according to the moon;" that is, the days of the month were the same as the days of the moon.[3] Indeed the Hebrew word "ḥodesh " for month, means "new" moon.

It was the actual new moon, not any fictitious new moon that regulated the great festivals, for it was an "observed moon."[4] On the other hand, the barley harvest, ripened by the sun, marked out the paschal month, for the first fruits of ripe barley must be waved in the temple on the 16th day of Nisan when Israel came into the land. In other words, the Jewish feast period began with the month of barley harvest; and its paschal moon, or moon of Nisan, was the appointed moon of barley harvest.

The agricultural calendars of Palestine show that April is the month for the ripening barley. "From the time of harvest or the middle of April to the middle of September, there is neither rain nor thunder."[5] The same story in agriculture is engraved on the Gezer calendar stone, whose fourth-named month has been translated "barley harvest."[6] In Palestine, March is the month of the latter rain, which lasts until the first week in April.[7] After this the barley corn ripens rapidly.

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1 2 Chron. 35:1.
2 Num. 9:11.
3 Josephus, Flavius, "Antiquities of the Jews" (Trans. by Whiston), Cincinnati, 1844, p. 75.
4 Maunder, E. Walter, "Bible Astronomy" (2nd Ed.), p. 297; Deut. 16:1.
5 Jahn, Johann, "Biblical Archeology" (Trans. by Upham), Andover, 1823, p. 22. See also Buhle, Johan, "Economical Calendar of Palestine," in "Calmet's Dictionary of the Bible," London, 1830, Vol. III, pp. 704, 705.
6 Lidzbarski, Mark, "Old Hebrew Calendar-Inscription from Gezer," in Quarterly Statement of Palestinian Exploration Fund, 1909, p. 29.
7 Quarterly Reports on Palestinian Exploration Fund, art., "Meteorology."

However, the Mosaic ceremony connected with the barley harvest, so vital in its control of the Jewish year, did not long survive the first century of the Christian era, because of the dispersion of the Jews. The period of persecution which followed the fall of the second temple ultimately brought about a fixed calendar for the Jews--one that was based upon an entirely different rule of intercalation than the ancient barley harvest regulation. About the 8th century A.D., the Karaites arose to oppose the influence of the Rabbanite fixed calendar,[8] and to restore the barley-harvest schedule as the important index to regulate the leap-year. This controversy over the Hebrew calendar raged for several centuries.[9] It really represented a rivalry between Palestine and Babylon for the prerogative of keeping time for the Jewish nation. Though the Karaites were Biblically correct, in the end the Babylonian Jews gained control of the calendar, and Karaism dwindled. Since 1780, the Karaites have been slowly compromising with the Rabbanites on this question, and today follow a fixed calendar.[10]

2. Fourth Century Changes. After the destruction of Jerusalem, the unity of the scattered Jews more than ever depended upon the festivals being observed on the same days.[11] But two vital changes overtook the ancient Hebrew Passover. First, as pertains to the day, the persecution of the Jews had made impossible the use of fire signals in Judea for announcing the new month. Therefore, in order to keep with certainty a feast day in common with the home land, two festival days--particularly for the Passover--became the custom among the scattered people. The Jews of Palestine, and those among the Greek churches, kept Passover on the 14th day of the moon, while the outlying groups of Jews kept on the safe side by both observing the Passover on the day appointed by the Scriptures, and on the day following, called "Second feast-day of the Diaspora."[12] In this manner the Passover came to be observed on both Nisan 14 and 15. In the end, the computed calendar of the Jews preferred

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8 Albîrûnî, "Chronology of Ancient Nations" (Trans. by Sachau), London, 1879, p.69.
9 Malter, "Saadia Gaon," Philadelphia, 1921, pp. 70-77.
10 Kokisoff, Jufuda, "Brief Information on the Karaite Calendar," in Polish Encyclopedia (Trans. from Russian by Erna Borm). Note: Kokisoff says, "Thus in the near future is to be expected a simplified calendar in the sense that out of three rules only one will be made, i. e., the first of the month will always be the first evening following the true new moon."
11 Sidersky, "Chronology of the Jews," p. 623.
12 Poznanski, in Hastings' Encyclopedia, art. "Jewish Calendar."

Nisan 15 for the feast, and it is a feature of the modern Jewish calendar of today.

This early controversy in Jewry formed the background of the bitter conflict over Easter, which began in the second century among the Christians.[13] The argument was still over the same question--the 14th or 15th of Nisan. At length, in the 4th century, the Council of Nicaea met this issue.[14] The Christian feast was placed on the first Sunday after the Jewish Passover, which was confirmed as "Luna 14" of the first month. This was appointed as the first full moon following the spring equinox, in place of the full moon of barley harvest, which on account of persecution had fallen into neglect.

Second, as pertains to the month, this decree of Nicaea was really the cause of the large series of March passovers which characterized the calendar of Dionysius in 532.[15] The Dionysian tables were the basis upon which the church built up her own ecclesiastical calendar. In the discussion that arose in 1582 over the Julian calendar, Scaliger said plainly that the so-called paschal moons of the Dionysian tables came largely in Adar instead of Nisan; that they were, in fact, principally March passovers.[16]

This change in the paschal month is vital in the relation of Jewish time to the Julian calendar in the first century, for it is the passover day which ties Jewish time to our common calendar.[17] It is to be particularly noted that if this passover day is in March, it will occur upon a different day of the week from a passover in April of the same year. Consequently, all the March passover dates in the first-century tables of moons given in the general discussion of the crucifixion date are thereby called in question. And it is therefore evident that if the passover month is wrong, the determinate date is bound to be wrong.

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[13] Hales, "Chronology," p. 67.

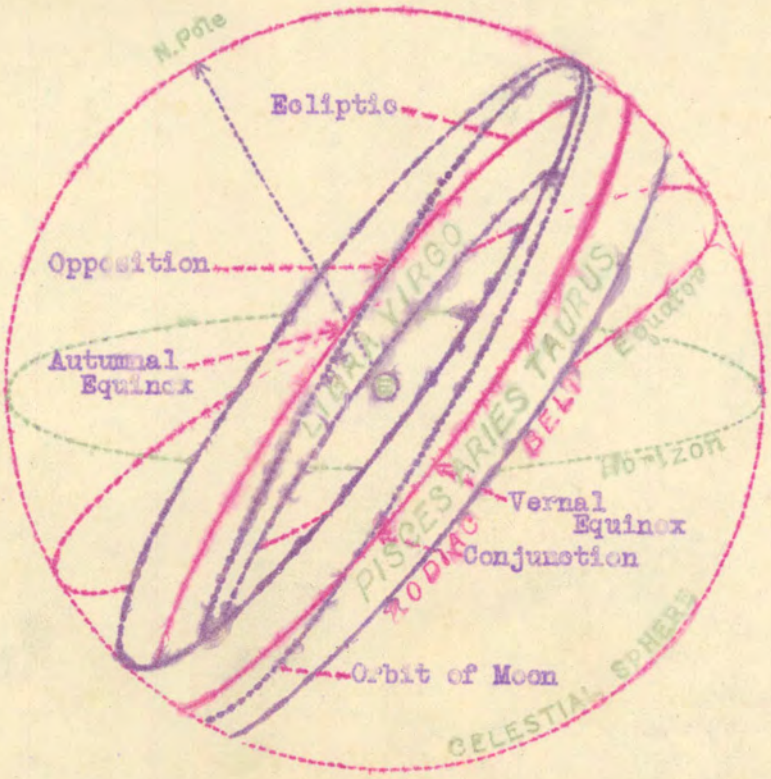
[14] Clavius, "Romani Calendarii Restituti Explicatio," cap. ii, p. 63. Note: The exact words of Clavius are: ". . . Concilii Nicaeni, quae semel, atque iterum inculcant, Pascha celebrandum esse a Luna Xiiii. primi mensis exclusive" (. . of the Council of Nicaea, which once and again enforced that the Pasch must be celebrated by Luna 14 of the first month exclusively);

[15] Eusebius, Pamphilus, "Life of Constantine," Bk. III, Ch. 17.

[16] Scaliger, "De Emendatione Temporum," p. 107.

[17] Op. cit., pp. 106, 107, and Prologue.

Part V, Sec. E, Postulate I, (Table V)



MOON'S APPARENT MONTHLY COURSE IN ZODIAC BELT

Through the enter of the ZODIAC BELT runs the ECLIPTIC, or sun's apparent path in the sky, as seen from the earth. The moon's apparent path is also projected by the eye upon the zodiac, around which she appears to travel every month. Though millions of miles apart, the paths of both sun and moon seem to be traced upon the same celestial belt. In one month's time the sun has advanced one sign only, while the moon has accomplished nearly the whole zodiac. Her orbit is inclined to the ecliptic with an angle of about 5 degrees, and upon this small inclination all her phases depend.[1] She passes through the zodiac in an irregular velocity, causing her to move north and south of the sun each month. Her smallest daily movement amounts to $11^{\circ}\ 6^{m}\ 35^{s}$, and her largest, $15^{\circ}\ 14^{m}\ 35^{s}$.[2] The sun requires 6 months to go from Aries to Libra, that is, from the Vernal Equinox to the Autumnal. The moon apparently travels this distance in about 2 weeks, as from new moon to full moon. In her daily revolution the earth turns from Aries to Libra in 12 hours.

1 Young, "Astronomy," p. 155.
2 Geminus, "Elementa Astronomiae," p. 211.

E. Translation of New Moon for Nisan.

1. The Moon's Motion. In order to understand any astronomical argument which may pertain to the crucifixion date, it is necessary to review the relation of the moon to the sun and earth.[1] The path of the sun in the heavens is a great circle called the ecliptic. A belt 8° wide on each side of the ecliptic is known as the zodiac. This particular width was chosen by the ancients because the paths of the moon and all the principal planets keep within this belt, and it is therefore a very convenient circle of reference. And in reference to this, the longitude and latitude of a star is reckoned in degrees, minutes, and seconds.

About 800 years before Christ, the zodiac was divided into 12 parts called signs, at which time the signs were separated from the primitive constellations of the same name. Each sign is 30° in length. The signs kept the same names as the original constellations, all being named after some animal, with the exception of Libra. The ones frequently referred to in this discussion are Pisces, Aries, and Taurus in the spring, and Virgo, Libra, and Scorpio in the autumn.

Another great circle in the heavens is the celestial equator, which is an imaginary projection on the sky of the equator of the earth. At two points 180° apart--known as the equinoxes--the path of the sun crosses the celestial equator. At those times day and night are equal. When the earth is nearest the sun, as at perihelion (about December 31), her orbital motion is most rapid; and at aphelion, the opposite point of the ecliptic (about June 30), her motion is slowest. Any motion of the earth of course influences the moon's motion.

The moon travels around the earth every 29 1/2 days, and in that same time passes up and down in its path through the zodiac belt. Sometimes she is north of the sun, sometimes south. Her rate of travel through the zodiac is irregular, sometimes fast, sometimes slow, because of her distance from the sun and earth. When the moon is between the sun and earth, this position is called "conjunction," and the moon is new. At this time the moon cannot usually be seen for a period of

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[1] The astronomical facts appearing here are found in any standard text on astronomy.

from 1 to about 4 days.[2] When the earth is between the sun and moon, this relation is called "opposition," and the moon is full.

All of these facts and figures have a direct bearing upon the time it takes the moon to come into sight after conjunction, and they therefore take on a definite relation to the moon's changing rate of motion. From new moon to full moon, i.e. from conjunction to opposition, the moon travels through the first half of her monthly circuit around the earth. This first half of the moon's circuit was of great importance to the Jews, because of (1) their "new moon" feasts which were gauged by the conjunction and its attendant phasis; (2) the passover sacrifice right after the opposition or full moon of Nisan; and (3) the three special days in the fall--the New Moon Day of Tisri or Rosh Hashanah, the Day of Atonement, and the Feast of Tabernacles--which were connected with the new and full moon of Tisri. The true time of the moon in this period from conjunction to opposition runs in a cycle of 14 moons as follows:[3]

TABLE IV

MOON'S CHANGING RATE OF MOTION
(In a 14 Moon Cycle)

Years in Cycle	Calendar Year	(1) New Moon	(2) Full Moon	(3) Period from New to Full Moon	(4) Period from Conjunction to Phasis[4]
				d h m	d h m
1.	1930	Apr. 28 19h 8m	to May 12 17h 29m	--13 22 21 --	1 0 8
2.		May 28 5 36	Juno 11 6 11	--14 0 35 --	1 14 24
3.		June 26 13 46	July 10 20 1	--14 6 15 --	2 6 32
4.		July 25 20 41	Aug. 9 10 57	--14 14 16 --	1 23 14
5.		Aug. 24 3 36	Sept. 8 2 47	--14 23 11 --	2 15 29
6.		Sept. 22 11 41	Oct. 7 18 55	--15 7 14 --	3 6 13
7.		Oct. 21 21 47	Nov. 6 10 28	--15 12 41 --	2 19 4
8.		Nov. 20 10 21	Dec. 6 0 39	--15 14 18 --	3 5 43
9.		Dec. 20 1 23	Jan. 4 13 14	--15 11 51 --	2 14 32
10.	1931	Jan. 18 18 35	Feb. 3 0 25	--15 5 50 --	2 21 55
11.		Feb. 17 13 10	Mar. 4 10 36	--14 21 26 --	2 4 12
12.		Mar. 19 7 50	Apr. 2 20 5	--14 12 15 --	2 10 23
13.		Apr. 18 0 59	May 2 5 14	--14 4 15 --	1 18 1
14.		May 17 15 27	May 31 14 33	--13 23 6 --	1 4 17

[2] Hevelius, "Selenographia," p. 273; Note: Very seldom, according to Hevelius, does the phasis occur on the same day as conjunction. This research found two times in which phasis and conjunction coincided on the same day: Oct. 13, 1844 (Boston); Sept. 19, 1933 (Greenwich).

[3] The moon phases were taken from "American Ephemeris," 1930-31.

[4] The full moon cycle was computed by subtracting each new moon date from the next full moon date.

In a cycle of 14 lunar months, in Table IV, the period of time in days, hours, and minutes in column 3--"Period from New to Full Moon"--represents the actual time it takes the moon to go from new moon to full moon. In this cycle, she travels her half circuit around the earth from high accelerated velocity ($13^d\ 22^h\ 21^m$), to slow ($15^d\ 14^h\ 18^m$), and back again to high. In 14 rounds she completes her cycle, which represents the moon's varying motion.[5] From age to age, in saecula saeclorum, she has kept up this 14-moon cycle, the periods varying slightly each moon, or month.

The Translation Cycle, under column 4, represents the actual time in days, hour, and minutes it takes the moon to go from conjunction, when she cannot be seen, to her phasis, or first appearance. The phasis always marked the sunset beginning of each new month for the nations using the luni-solar year. These translation periods also run in a 14-moon cycle, which follows fairly closely the longer waves of the moon from conjunction to opposition. When the moon is slow, then the translation period is long--over 3 days; when the moon is fast, her translation is short, usually a little over 1 day. The following Diagram C shows how closely these two cycles correspond:

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[5] Diagram C represents but a small portion of a large lunar sine curve covering over 20 years, in which the Translation Cycle was figured according to Postulate I, Table V, and the full moon cycle as in Table IV. Both curves keep the same defined relation throughout, showing the influence of the same lunar motion upon each curve.

DIAGRAM C

THE MOON'S VARYING MOTION
(Controlling the Jewish Feasts)

In the phasis curve, we see the combined result of all the causes which conspire to hasten or retard the visibility of the nascent moon. Fotheringham names three causes as affecting the first appearance of the new moon:[6] (1) Longitude; (2) Latitude; (3) Anomaly, or the moon's angular distance from perigee. The longitude refers to the moon's distance from the vernal equinox, as measured on the ecliptic, and the latitude to her position in the zodiac, north or south of the ecliptic. Maimonides also gives these same three factors, summing them up into one conclusion--that "knowing the positions of the sun, the moon, and the moon's node, respectively, you have all necessary elements to establish by calculation whether the new moon will be visible or not."[7]

Hevelius has also left on record a complete description of the new moon and her phasis. He likewise presents the same three causes, though differently described, which result in the moon's visibility, early or late: (1) The obliquity of the

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[6] Fotheringham, "Date of the Crucifixion," Journal of Philology (XXIX), 57. London, 1903, p. 105.

[7] Maimonides, quoted by Sidersky, "Chronology of the Jews," p. 668.

sphere leading to long or short settings; (2) the position of the conjunction, whether it is near the northern part of the zodiac or not; and (3) the relation of the moon to perigee; that is, her anomaly.[8] He names Pisces, Aries, and Taurus as being signs of long settings, and Virgo, Libra, and Scorpio as signs of short settings. Ferguson also testified the same when he said that the "ecliptic sets slowest in Aries, and fastest in Libra,"[9] a similar statement from Ferguson being printed in the Midnight Cry.[10] (We shall see this contrasting relation of the moon to these opposing signs--Aries and Libra--work out exactly as specified by astronomy in the event of the crucifixion and the October 22 date in 1844.) Hevelius further shows how these various causes or factors conform to the moon's motion:

"But if the causes mentioned as advancing the quick coming forth of the moon, do not always conspire, but even one is lacking, then on the next day after the interlunary period, this first phasis at length appears: but with two requisite causes absent, it can happen that finally the first phasis of the moon may fall in sight on the third day. But with all three conditions deficient, accelerating the rising of the moon. . . then this first appearance of the moon finally happens on the fourth day after conjunction with the sun."[11] [Italics mine.]

Then Hevelius adds the important observation that the "three requisite causes [for a quick phasis], as now told, commonly very rarely appear, so that the moon is in the signs of long settings [as in Aries], in perigee, and in the northern border, plainly in the time of conjunction or phasis."[12] Equally important is still another citation from the same paragraph that "the same rising of the moon does not commonly happen on the first day after the interlunary period [or. translation], but at length, on the second, often also on the third and fourth; this is plain to all observing her."

In harmony with this last statement, Scaliger shows that the Jews took a later moment for the moon's phasis:

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8 Hevelius, op. cit., pp. 274, 275.
9 Ferguson, op. cit., p. 244.
10 Midnight Cry, Apr. 20, 1844, p. 19.
11 Hevelius, op. cit., pp. 274, 275.
12 Hevelius, op. cit., p. 276.

"But the Jewish, Arabic, and Samaritan new moons usually exceed the size of the phasis [that is, the first slender streak of the moon] so that the civil new moons of the lunar months are of a triple kind: the Attic, as from conjunction; the Calippic from the waning of the moon; and the Jews, Samaritans, and Arabs from the 'shape' of the moon, from the third day, I say."[13]

With these two authorities on the moon's phasis, both Geminus in the first century B.C., and Hales in the 19th century, agree.[14]

The three causes of an early or late phasis, as given in the foregoing citations, have all entered into the visibility test for the first appearance of the moon after conjunction as outlined by those recently studying the computation of time in the first century.[15] But it is noticeable that in the results given, though many moons have been observed, a translation period extending to the 3rd or 4th day after conjunction is seldom seen. Usually the results are from 1 to 2 days--and thus are contrary to the testimony of Hevelius, Geminus, Scaliger, and Hales. The phasis often appears in the modern Jewish calendar even on the day of conjunction.[16] Questions have already arisen as to the validity of these visibility tests.[17]

One question yet remains to be answered: "On what day of Nisan shall we place the full moon dates belonging to the years of Christ's ministry?" The following table represents the new and full moons of the years 28 to 33 A.D., which embrace all the years within which the ministry of Christ is usually located.[18]

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[13] Scaliger, "De Emendatione Temporum," pp. 6, 105. Scaliger also emphasizes the "horned moon" as characteristic of the Hebrew phasis (p.). Hevelius devotes a whole chapter to the "horned moon"--an older crescent shape--and shows how such a phasis is identified (pp. 281-284).

[14] Hales quotes as follows from Geminus: "Geminus, a Grecian astronomer says, 'that when the moon is in perigee, and her motion quickest, she does not usually appear until the second day, nor in apogee when slowest, until the fourth.'" ("New Analysis of Chronology," Vol. 1, London, 1830, p. 67.)

[15] Fotheringham, Schoch, Neugebauer, Gerhardt, and Schaumberger, among others.

[16] See American Jewish Yearbook. Note: According to Sidersky, the Jewish calendar has an interval of 48 hours, or more, between conjunction and phasis, and provides for one or two days additional by its system of postponements, "the purpose of which is to retard by one or two days the official new moons." (Sidersky, op. cit., p. 644.) Thus the Jewish reckoning recognizes the full translation period as demanded by astronomy and history.

[17] Dittrich, E., "The Death of Jesus of Nazareth," Astronomical News, Vol. 241, May, 1931. Note: Dittrich observes that the calendar and the position of of the moon do not agree in these tests.

[18] The spring of 27 A.D. does not come into this list, because the baptism took place in the fall of the year. The dates in Diagram D were computed from Schram's tables by Associate Astronomer Glen Draper of the U.S. Naval Observatory, Washington, D.C., leading computer of the "American Ephemeris and Nautical Almanac."

LUNAR TRANSLATION FOR NISAN

POSTULATE 1

CONJUNCTION — PASCHAL MOON ON NISAN 13 — OPPOSITION

JERUSALEM CIVIL TIME

Place full moon date on Nisan 13, and count back to Nisan 1 and new moon date, the difference between which equals the Translation Period.

NEW MOON — FULL MOON

Apr. 13 16h 51m Tu — Apr. 27 12h 23m Tu — 28 A.D.

Translation Period — (Period between new and full moon)

Apr. 2 21h 15m Sa — Apr. 17 12h 1m Su — 29 A.D.

Mar. 22 20h 12m W — Apr. 6 20h 9m Th — 30 A.D.

CRUCIFIXION

FRIDAY, APRIL 27

31 A.D.

Apr. 10 14h 51m Tu — Apr. 25 22h 45m W — 31 A.D.

Mar. 29 21h 58m Sa — Apr. 14 11h 39m M — 32 A.D.

Mar. 19 13h 14m Th — Apr. 3 17h 27m F — 33 A.D.

The new and full moon dates were computed from Schram's Tables by Glenn Draper, Associate Astronomer at the U.S. Naval Observatory, Washington, D.C.

DIAGRAM D

A.D.	New Moons	Feria	Full Moons	Feria	Jewish Time
28	Apr. 13 16^h 51^m	Tuesday	Apr. 27 12^h 23^m	Tuesday	Tuesday
29	Apr. 2 21 15	Sabbath	Apr. 17 12 1	Sunday	Sunday
30	Mar. 22 20 12	Wednesday	Apr. 6 20 9	Thursday	Friday
31	Apr. 10 14 51	Tuesday	Apr. 25 22 45	Wednesday	Thursday
32	Mar. 29 21 58	Sabbath	Apr. 14 11 39	Monday	Monday
33	Mar. 19 13 14	Thursday	Apr. 3 17 27	Friday	Friday

As shown in Part V. Sec. A, it makes a fundamental difference on what day of Nisan the full moon is placed. Throughout early patristic writings, the passover day is repeatedly called Luna 14, that is, the 14th day of the moon,[19] and it is clear from Moses[20] that this was also Abib (or Nisan) 14. Therefore, inasmuch as the extreme limits of the full moon cycle, in Table IV, extend from 13^d 22^h 21^m to 15^d 14^h 18^m,[21] and because the translation period itself, according to history, uses up from 1 to 3 full days, and some over, it would be impossible for the full moon to fall on any other than Nisan 13, and harmonize with these periods. If 1 day is taken from 13^d 22^h 21^m (the shortest period), the remainder coincides with Nisan 13; in like manner if 3 days are taken from the longest period, Nisan 13 is again proven.

In harmony with this, we have the testimony of Geminus, who definitely states that the earliest full moon comes on the 13th of the lunar month.[22] Aristobulos also maintained that the "day of the paschal festival began on the 14th of Nisan, after the evening when the moon stands diametrically opposed to the sun, as everyone can see at the time of full moon."[23]

The Arabs had special names for each series of three nights of every month, which were derived from the state of the moon and her light. The fifth three nights

19 Clavius, "Romani Calendarii Restituti Explicatio," p. 63.
20 Ex. 12:2.
21 Table IV.
22 Geminus, op. cit., p. 129.
23 Caspari, C.E., "Introduction to the Life of Christ" (trans. by Evans), Edinburgh, 1876, p. 9; Eusebius, "Ecclesiastical History," bk. VII, ch.XXXII.

(13-15) were called bid, because they were white by the light of the moon. The night between 13 and 14 is called badr, because in it the moon is full, and her light complete.[24]

2. Calculation of Moon's Phasis. According to ancient practice, and in harmony also with later testimony, the full moon is marked on the day of Nisan 13, as in Table IV, and the days are numbered back to Nisan 1. If the moon fulls between sunset and midnight, the full moon dates are placed early on the 13th of Nisan, between sunset and midnight. Now notice the year 33 A.D., in connection with the Table V, Postulate I. The full moon time was April 3, $17^h\ 27^m$ J.C.T. (Jerusalem Civil Time), on Friday. This means 5:27 P.M., Friday, April 3. The place of the moon is therefore marked near the sunset on that day, calling it Nisan 13. Then count back by common calendar days to Thursday, March 19, on the 13th hour of which is conjunction. Number the days forward to Nisan 1, which is Sunday. From the 13th hour on March 19 to the sunset beginning of Nisan 1 is the period from conjunction to phasis, known as the "translation period."[25] A glance shows this to be two whole days and a few hours over.

From the Nautical Almanac, the sunset time for March 21 is found, which coincides with the beginning of Nisan 1. This is 6:10 P.M.[26] From the 13th hour on March 19 to sunset at 6:10, beginning Nisan 1, are $2^d\ 4^h\ 56^m$ for the translation period of Nisan 1, in the year 33 A.D. This means that the full moon date in the year 33 A.D. was on Friday, Nisan 13, and that the passover day fell on Nisan 14, Saturday, April 4. Fotheringham also agrees with April 4, Saturday, as being the passover in 33 A.D.[27] The real error in Fotheringham's Table consists in the fact that his passovers in the years 28, 29, 31, and 33 are a month too early. On the other hand, a full moon as

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24 Albîrûnî, op. cit., pp. 6, 75.
25 Op. cit., p. 114.
26 The same sunset table for every year can be used because the longitude of the sun is marked from a fixed point on the ecliptic--the vernal equinox--which does not change.
27 Op. cit., p. 107.

early as April 3 could not be a barley-harvest moon in Judaea, and is therefore too early for the passover feast. A moon later places the passover in 33 A.D. on Sunday.

The same manner of figuring is operative for 30 A.D. The full moon date is after sunset of April 6, which in Jewish time is Friday, and which we must call Nisan 13 according to Poltulate 1. Saturday then becomes the Passover, on Nisan 14. So then the year 30 A.D. falls out, because Friday is Nisan 13 and not 14.[28] in that year. The years 32, 29 and 28 likewise fall out, because their passovers are on Tuesday, Monday, and Wednesday, respectively. And the year 33 A.D. is out, because Friday is Nisan 13.[29] This then leaves 31 A.D. as the only year within the period of Christ's public ministry with a passover on Friday. It came on April 27, Nisan 14--meeting all the requisite factors.

The translation period of the moon has been described again and again all through the Christian era, especially by the Jewish chronologists. Hevelius puts it this way:

"Quomodo vero haec observatio fuerit instituta, Rabbini eorum, & ex iis recentiores chronologi, abunde tradunt." (How this phasis [or observation] should be established, their Rabbins and their more recent chronologers abundantly report.)[30] [Italics mine.]

Possibly Hevelius was referring particularly to Maimonides, who lived in the early 13th century,[31] and worked out by spherical trigonometry the translation period of the moon.[32] This is not only based on higher mathematics, but also on the complex astronomy of the moon to which modern research testifies as the "deep things of astronomy." Nearly all the recent articles on the date of the crucifixion include a discussion of a simple form of Maimonides' complex figures, known as the "visibility test."

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[28] According to Neugebauer, the moon at this time in 30 A.D. was over 2 days old, in harmony with Table V. (Neugebauer, P.V., "Tafeln der Mondphasen," Leipzig, First Century.)

[29] Both Schoch and Fotheringham (op. cit., p. 107) place Friday, April 3, 33 A.D. on Nisan 13 by their tests for "visibility."

[30] Hevelius, Johannes, "Selenographia," Gedanum, 1647, p. 273.

[31] Maimuni's (Maimonides') "Neumondsberechnung," Teil III (trans. by Baneth), Berlin, 1902.

[32] His complicated problem has been translated into German by Baneth. Fotheringham J.K., Journal of Philology, (XXIX) 57, London, 1903, p. 107.

It would consequently seem as if the modern application of this Jewish secret makes the translation period in general too short. On this basis--that is, if we should shorten the translation periods say by one day--all the full moon dates on Table V would be thrust forward by one day, to Nisan 14; and, as Fotheringham complained in his application of the problem, there would be no Fridays in the series.[33] But this same plan of the full moon on Nisan 14 throws out the years 28 and 29, because in the case of 28 A.D., the translation period would be only about 1 1/2 hours; and for 29 A.D., 21 hours--both too short. Therefore such a hypothesis falls out--that is, that the full moon occurs on the passover day itself.

The postulate itself--that the full moon date must be placed on Nisan 13, in harmony with history--is thus its own proof; for it is the only position of the full moon providing sufficient time for a translation period of from 1 to 4 days. On the basis of this Postulate alone, astronomy can tie Jewish time to the Julian Calendar.

The translation period of the moon leading to Nisan 1, in the year 31 A.D., was $3^d\ 3^h\ 33^m$. This was one of the moon's long interlunary intervals. Not being the longest, it came well within the realm of historical testimony, which allows the moon from 1 to 4 days in which to appear after conjunction, and that "often also on the third and fourth day." This period of a little more than 3 days was but one of a cycle in which the moon's motion swings interminably fast and slow between her limits of acceleration. To the astronomer, the phasis of the moon on April 14, 31 A.D., was just an ordinary first appearance, more ordinary than as if her showing had been quick and rapid. But on April 25, Julian day number 1732495, toward midnight, the moon was in eclipse;[34] and on Friday, April 27, at noonday, the unaccountable darkness of the sun occurred, marking the approaching death of the Son of God.

The following vital facts in reference to the passover of the crucifixion are made known by this simple astronomical method of translating the moon of Nisan, as illustrated on Table V:

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[33] Fotheringham, op. cit., p. 107.
[34] Oppolzer, Th., Tables in "Denkschriften der kaiserlichen Akademie der Wissenschaften." Wien, 1887, p. 344, No. 1910.

1. Nisan 14 was Luna 14, the Passover Day.
2. Nisan 14 was the day after the fulling of the moon.
3. Nisan 14 was the crucifixion-Friday.
4. Therefore, according to Table V, the only day of the entire series that answered to all these stipulations was April 27, 31 A.D.

F. Translation of the New Moon for Tisri.

Early in the spring of 1843, as shown in Part II, the Millerites began to study the problem of the translation of the moon in relation to the calculation of the Jewish month and year. Finding in Ferguson's "Astronomy" a table of lunar conjunctions and phases for the time of Christ,[1] they printed it in the Midnight Cry of April 20, 1843, together with his description of the moon's position. In another edition of his "Astronomy," Ferguson makes the statement that the 14th day of the Jewish month answers to the 15th day of the moon,[2] and that consequently, the passover was always kept on the day of full moon. But in the table given in the Midnight Cry, the full moons were placed in various positions--on the 12th, 13th, and 14th of the Jewish month Nisan. On such a basis, all his translation periods could not but be irregular, and they would by no means correspond to the motion of the moon, which, if slow, requires more time for her phasis than when fast.

In the quotation given, Ferguson mentions the large angle which the ecliptic makes with the horizon in the spring (See Diagram D), and figures that at such a time, and in such a position, the moon would in 24 hours set about one hour later than the sun. Consequently--perhaps following the suggestion of Albîrûnî for a 24-hour translation constant (or mean period), as consistent with the Jewish computation--Ferguson's table was not very helpful to the Millerites in regard to the true translation period of the new moon, whose phasis was to mark the first day of a new month. Yet accuracy here was imperative if they were rightly to calculate Tisri 1, the 7th month for 1844.

Ferguson's table of the first-century spring moons was striking in that all the translation periods were short. It made all the new moons, but one, visible on the next day after conjunction.[3] In the paragraphs quoted from his "Astronomy,"

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1 Ferguson, "Astronomy," Vol. 1, par. 352. (Old Edition.)

2 Op. cit., (Edinburgh ed., 1811), p. 464. Note: This is contrary to Postulate 1, Table V, and to patristic testimony, which always called the paschal day, or Nisan 14, the 14th of the moon, i.e., "Luna 14."

3 Certain other computers, as Würm, Ideler, and Turner, use a constant period for translation, as suggested by Albîrûnî, on p. 68 of his "Chronology."

no mention was made of other important factors which control the translation of the moon, aside from her inclination and position in reference to the Zodiac. He gave the slowest moon of the series, as in the year 32 A.D., almost the same time for translation ($1^d\ 18^h\ 41^m$) as for the fastest moon, as in 28 A.D., for which his table allows $1^d\ 16^h\ 56^m.4$ His exact table follows:[5]

"True time of conjunction at Jerusalem	d.	h.	m.		Moon visible at Jerusalem	Jewish full moon
"A.D. 28 Mar.	15	1	4	Morn.	Mar. 16.	Mar. 31. Wed.
29 Apr.	2	7	30	After.	Apr. 3.	Apr. 17. Sun.
30 Mar.	22	8	45	After.	Mar. 23.	Apr. 6. Thur.
31 Mar.	12	1	51	Morn.	Mar. 13	Mar. 27. Tues.
32 Mar.	29	11	19	After.	Mar. 31	Apr. 14. Mon.
33 Mar.	19	1	12	After.	Mar. 20	Apr. 3. Fri.
34 Mar.	9	5	12	Morn.	Mar. 10	Mar. 24. Wed."

As a matter of fact, Ferguson's first-century table--embracing the years of the 70th week--represents the very extremes of the moon's motion from new moon to full moon; that is, her fastest and slowest gait. Consequently, her translation periods should also correspond. Table V, on p.38a, shows the limits of translation in the years of Christ's ministry actually to be from $1^d\ 1^h\ 35^m$ for a fast moon, to $3^d\ 3^h\ 33^m$ for a slow one.

It was William Hales[6] who directed the Adventists to a source of authority on the phasis of the moon--to the "Isagogue" of the astronomer Geminus in the first century before Christ. Geminus taught that the earliest phasis of the moon is on the first day after conjunction, and the latest on the third or fourth. Scaliger also emphasized the third, as mentioned in Section E,[7] and Hevelius two to four days.[8] The error concerning the time of translation on the part of Ferguson, and the fact that he placed some of his passovers in March, too early for the barley-harvest, resulted in the ultimate rejection of his table by the Millerites, together

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4 Cf. table V on page 38a for the length of the moon's course.
5 Midnight Cry, April 20, 1843, p. 20.
6 Hales, "New Analysis of Chronology," London, 1830, Vol. 1, p. 67.
7 p. 37
8 p. 36

with his argument on the date of the crucifixion.[9]

In the early part of the 1844 movement, the leaders had started the year which they counted to be the last one of the 2300-year period, with the vernal equinox. This was the "Jewish sacred year 1843." But even before the vernal equinox of 1844 had passed, which they believed would close the Jewish year 1843, the Karaite teaching regarding the ancient Jewish mode of computing the moon's phasis, directed them to a closer study of the Jewish year, and its relation to the 2300-year prophecy, as noted in Part II, Sec. VI. Almost at the same time their attention was called to an autumnal ending for the prophetic year, as suggested by the 10th day of the 7th month--the Jewish day of Atonement and the Jubilee.[10] For this reason there does not seem to have been any attempt on their part to compute the translation period for the new moon of Nisan in 1844, although the Nisan conjunction was given in the Almanac as April $17^{d}\ 11^{h}\ 31^{m}$.

The Jewish date for starting another new month was also mentioned--this to correspond with the Karaite reckoning, the Rabbanite Nisan having been a month earlier, or in March. The whole attention was ultimately centered on the translation of the new moon of Tisri, 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."[11]

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

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[9] See Part II, Secs. VI, IX, and XII.
[10] Lev. 23:27; 25:9.
[11] Oct. 31, 1844, p. 141.

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.[12]

As has been stated, when the moon in her elliptical circuit is nearest the earth, she is said to be in perigee. Then her motion is rapid. When she is farthest away, as in apogee, then her motion is slow in relation to the earth. Her manner of travel, fast or slow, is most important as concerns calculation. In ancient times, this phenomenon was a guide in the starting of the Hebrew month,[13] and also came to the attention of the Millerites as an important factor to the translation of the moon as they were coming to their fundamental conclusions on the prophetic dates of the 2300-year period. As regards the real significance of conjunction, we should likewise understand that, being reckoned as from the center of the earth, this phase of the moon therefore represents that instant of time which would have a different local time designation for each longitude on the surface of the earth.

The quoted expression, "11 A.M. in Boston," in the foregoing reference, was obviously based on the difference in time between Boston and Jerusalem, which is 7 hours and 5 minutes.[14] No mention is made in the Midnight Cry or Advent Herald of an almanac for Jerusalem. In fact, it was said, "we have no certain means of knowing," when the Karaite passover month really commences there,[15] but the sunset time at Jerusalem on October 13 could well be considered near 6:00 P.M. If from this point of time, 7 hours are subtracted for the coincident time of Boston, the hour would be 11 A.M. To be exact, it would be 10:27 A.M.--if the true difference

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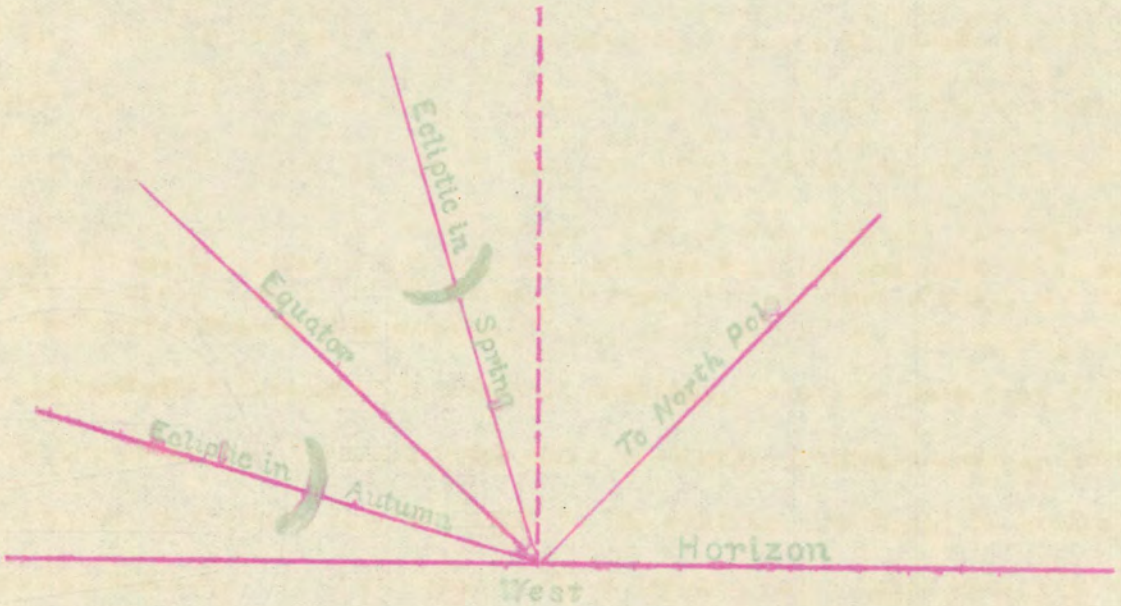
12 See "Conjunction," in Webster's International Dictionary.

13 Hales, ("Analysis of Sacred Chronology," Vol. 1, London, 1830, p. 67), includes a quotation from Geminus on the phasis of fast and slow moons.

14 The difference in hours between Boston and Jerusalem is the sum of $4^h\ 44^m\ 19^s$ (time of Boston, west from Greenwich) and $2^h\ 20^m\ 53^s$ (time of Jerusalem, east of Greenwich), or $7^h\ 5^m\ 12^s$.

15 Advent Herald, Sept. 11, 1844, p. 45.

DIAGRAM D



POSITION OF THE NEW MOON AT THE EQUINOXES

"The significance of the crescent being shown as lying on its back is seen at once when it is remembered that the new moon is differently inclined to the horizon according to the time of year when it is seen. It is most nearly upright at the time of the autumn equinox; it is most nearly horizontal, 'lying on its back,' at the spring equinox."--Maunder, Walter E., "Astronomy of the Bible," p. 316.

"If the moon is some distance north of the sun at the time of new moon there will be a tendency towards an early phasis; if it be some distance south of the sun there will be a tendency towards a late phasis. If, again, the moon is near perigee it will move quickly; its right ascension and time of setting will advance rapidly, and there will be a tendency towards an early phasis; if it is near apogee, it will move slowly, and there will be a tendency towards a late phasis."--Fotheringham, J.K., Journal of Philology, Vol. XXIX, 1903, pp. 105, 106.

in time, or $7^h\ 5^m$, be subtracted from the exact sunset hour in Jerusalem, on Oct. 13, which, for 31 degrees north latitude, is authoritatively given as 5:32 P.M.[16] In either case, the argument and conclusion would be the same--the beginning of Tisri 1, in Jerusalem was on October 13, and the corresponding time in Boston was still the 13th.

In Boston, the new moon of October, 1844, in conjunction, occurred October 11, $18^h\ 40^m$, reckoned from midnight, or 6:40 P.M.[17] Being a fast moon--her time from conjunction to opposition (or full moon) took $14^d\ 5^h\ 30^m$, or less than the mean--and her motion increasing, for she was nearing perigee, she could be visible on October 12, right after sunset. To quote from Fotheringham, who has summed up the factors which come into play as regards an early or late phasis of the moon:

"If again, the moon is near perigee it will move quickly; its right ascension [or longitude] and time of setting will advance rapidly, and there will be a tendency towards an early phasis; if it is near apogee, it will move slowly, and there will be a tendency toward a late phasis."[18]

Fotheringham followed the rules of Hevelius, as may be seen from a scanning of the "Selenographia." He found that under favorable circumstances--as when the moon is fast and in perigee, and new early in the evening--she could be visible the following evening.[19] The conditions all conspired for a quick phasis of the new moon in October, 1844, so that in Boston she could be seen within 24 hours after conjunction. But because of the difference in time between Boston and Jerusalem, her crescent was not seen in Jerusalem until the following evening. (Diagrams E & F.) The quick phasis in Boston was an unusual translation. Hevelius declares that the causes for such a rapid lunar translation seldom occur together.[20]

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16 "American Nautical Almanac for 1939," p. 239.

17 Standard Almanacs for Britain, Germany, and France in 1844, as U.S. Nautical Almanac goes back only to 1858.

18 Fotheringham, J.K., Journal of Philology (XXIX) 57, 1903, p. 106.

19 Hevelius, "Selenographia," Gedanum, 1647, pp. 274, 275. (novennium haec tria)

20 Op. cit., p. 275. Note: Hevelius' exact words are (p. 276): "Etenim intra requisita vix una ingruent." (For within a period of nine years these three requisite [causes] with difficulty coincide.)

The Adventists understood at least some of the factors controlling a rapid phasis of the moon, hence the sunset of October 12--marking the beginning of October 13, Jewish time--was rightly fixed upon, in New England, as the proper instant for the first appearance of the new moon. The sunset on that day was at 5:26, in Boston,[21] and there were yet 10 minutes in which the young moon, nearly 24 hours old, could be seen, for she did not sink beneath the horizon until 5:36 P.M.[22]

A check was also made by the Millerites on this same conjunction in Jerusalem which was dated Oct. 12, $1^h\ 45^m$, 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.[23] 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.[24]

The moon herself was scheduled to set soon after the hour of 6. Subtracting from this point of time the approximate difference in time between Boston and Jerusalem--that is, 7 hours--they arrived at 11 A.M. on the same October 13, as the coincident time of Boston. Diagrams E and F, which follow on p. 49, show this October conjunction in 1844, in its relation to these two cities:

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21 "American Nautical Almanac of 1939," p. 239. (Boston is 42° N. Latitude.)

22 "American Almanac," Boston, 1844.

23 Time from 1:45 A.M. on Oct. 12 to 5:33 P.M. at following sunset, Jerusalem.

24 Time from conjunction at 1:45 A.M. on Oct. 12 to moonset at 6:25 P.M. on Oct. 13, Jerusalem civil time. Moonset was computed from "British Nautical Almanac," 1844.

Had it been possible, in 1844, for one to telephone from Boston to the Patriarch in Jerusalem at sunset, on October 11, asking the time of day, he would have answered, "Yes, this is October 12, 1:45 A.M., and the moon is just now new; she is in conjunction"--except of course that the date would have been given in Jewish time. Let us therefore place, as in Diagrams E & F, the Boston P.M. clock alongside the one in Jerusalem which is an A.M. clock, so that October 11, $18^h\ 40^m$ coincides with October 12, $1^h\ 45^m$, as the same instant of time.

From this point, mark off the days and sunsets for Boston and Jerusalem. Then note that every point of time in Jerusalem--as for instance midnight, ending Oct. 12--occurs 7 hours and 5 minutes earlier than the midnight ending Oct. 12, in Boston. Consequently, at sunset of October 12, in Jerusalem, because the new moon is too young to be seen, being only about 16 hours old, Tisri 1 begins the second sunset after conjunction. In contrast, Tisri 1 in Boston began the first sunset after the change. Therefore we see these first days of Tisri--the one in New England, and the other in Palestine--overlap each other for a period of nearly 7 hours. Diagrams E & F show the common instant of the two conjunction dates, the relation of the clock events of our civil time, and the position of the Jewish month Tisri in these two wide-apart places of the earth. This was understood and declared by the Millerites.

The translation of the moon was, in this instance of October 11 to 13, 1844, dependent upon the simplest of the principles which govern the moon's performance relative to the starting of the Jewish month. But the position of the moon was unusual in that her phasis in Boston occurred within 24 hours after conjunction. The scene at Jerusalem was carefully reconstructed by the Millerites, evidently to acquaint themselves with the inequalities of the moon in the land where God had said, "Observe the new moon,"[25] for the marking of their year and its holy feasts. It was right that they should do this, for Jerusalem is the prime meridian of ancient Jewish time, and of prophetic time. On October 13, in Jerusalem, the sun

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[25] Deut. 16:1.

set at 5:32, and at about 6:25 P.M. the moon also dipped below the horizon. So she was at least "one day and 17 hours old," as intimated in the reference from the Midnight Cry.

One more bit of evidence from this date offers itself to prove that in 1844 the right time was chosen for the phasis of the new moon of Tisri. In October, Jerusalem civil time, the full moon occurred on Oct. $26^d\ 7^h\ 26^m$. By placing this full moon date on Tisri 13, on the basis of the same postulate as for the Nisan moon, (See Part V, Sec. E), and marking off the calendar days, both Jewish and Gregorian, back to the beginning of Tisri--it can be noted that Tisri 1 began on sunset of October 13 in Jerusalem, which phasis, we have shown, corresponded to the phasis of October 12 in Boston. This check works both ways, so that the translation of the moon in 1844, for the meridian of Jerusalem confirms Postulate 1, which places the full moon on the 13th of the Jewish month.

Such was the problem that the earnest truth-seekers in 1844 faced and mastered. It was the harmonious conclusions of such precision in applied calendar science that "strengthened" them in their opinion that October 22 would be indeed the very 10th day of the 7th Jewish month Tisri. No other day could have answered the joint demands of the Scriptural law of the appointed feasts, the irregularities of the moon, the factors governing her translation, the undeviating course of the earth and sun, and the illusive geographical problem introduced by the difference in longitude between Boston and Jerusalem.

G. Summary of Conclusions.

1. Only by the true dating of the beginning and ending of Christ's public ministry is it possible to determine the correct chronology of the full 2300-year prophecy, and the related events of history.

2. The Jewish calendar of today--man's most complex system of computing time, and described by Joseph Scaliger as the "most ingenious and beautiful of all

systems"--is evidence of early Jewish development of a dependable method of reckoning time, in harmony with known and fundamental principles of astronomy and chronology.

3. Through the principles of astronomy and calendrical science, we are able to tie Hebrew time reckoning in the first century to the current Julian calendar of the Romans.

4. By a correlation of astronomical science, Biblical specification, and historical record, the disputed date of the crucifixion has been determined.

5. By means of this correlation, (a) the true placement of the paschal month Nisan, and (b) the date of the true paschal day (Nisan 14) have been shown.

6. Friday, April 27,, 31 A.D., Julian time, has been demonstrated to be the only date during the public ministry of Christ which satisfies (a) the Bible requirement for a Friday-passover crucifixion and (b) the definite demands of astronomy for the corresponding coincident positions of sun, moon, and earth.

7. The complementary relation between the crucifixion on April 27, 31 A.D. and the great antitypical Day of Atonement ushered in on October 22, 1844, at which time the 2300-year period ended, has likewise been demonstrated.

Grace Edith Amadon

JEWISH FEAST CYCLE (1843 and 1844)*
(Boston Civil Time)

	1 Jewish Month		2 New Moon		3 Full Moon		4 Festivals	5 Moon's Time	
	10	Tebet	Dec. 31	to	Jan. 16			=15d-13h- m	
1843	11	Sebat	Jan. 30	"	Feb. 14			=15 - 8 8	
	12	Adar	Mar. 1	"	Mar. 16			=14 -23 -56	
	1	Nisan	Mar. 30	"	Apr. 14	↑	Passover	-14 -40 -40	
MOSAIC	2	Iyar	Apr. 29	"	May 13		(Apr. 15=	=14 - 6 -15	172 days
	3	Sivan	May 29	"	June 12		Nisan 14)	=14 - 0 -16	between
also	4	Tammuz	June 27	"	July 11	172 d.		=13 -21 -45	Passover
	5	Ab	July 27	"	Aug. 9			=13 -23 -11	1843 and
Rabbinical	6	Elul	Aug. 25	"	Sept. 8		Tisri 10	=14 - 4 -22	Atonement
	7	Tisri	Sept.23	"	Oct. 8	↓	=Oct. 4	=14 -12 -23	
	8	Ḥesvan	Oct. 23	"	Nov. 7			=14 -21 -46	
	9	Kisleu	Nov. 21	"	Dec. 6			=15 - 6 -27	
	10	Tebet	Dec. 21	"	Jan. 5			=15 -12 -25	
1844	11	Sebat	Jan. 19	"	Feb. 4		Rabbinical	=15 -14 -24	
	12	Adar I	Feb. 18	"	Mar. 4		Passover	=15 -12 -16	
	13	Adar II	Mar. 18	"	Apr. 3		April 4	=15 - 6 -40	
	1	Nisan	Apr. 17	"	May 2	↑	Passover	=14 -22 -43	172 days
	2	Iyar	May 17	"	May 31		(May 3 =	=14 -13 -53	between
MOSAIC	3	Sivan	June 15	"	June 30		Nisan 14)	=14 - 5 -50	Passover
only	4	Tammuz	July 15	"	July 29	172 d.		=14 - 0 -10	1844 and
	5	Ab	Aug. 13	"	Aug. 27			=13 -22 - 2	Atonement
	6	Elul	Sept.12	"	Sept.26		Tisri 10	=13 -23 -57	
	7	Tisri	Oct. 11	"	Oct. 25	↓	=Oct. 22	=14 - 5 -41	
	8	Ḥesvan	Nov. 10	"	Nov. 24			=14 -14 - 5	
	9	Kisleu	Dec. 9	"	Dec. 24			=14 -23 -16	

EMBOLISMIC

* Moon's phases computed from the British Nautical Almanac

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The spring of 1843 offers only one date that can possibly correspond to the new moon of Nisan -- March 30. From this spring moon, the Jewish year in 1843 began, the Passover coming on April 15, and after 172 days, Tisri 10 coming on October 4. Column 2 shows that the time from March 30 (the first new moon after the vernal equinox in 1843), to March 18, inclusive, the last new moon before the vernal equinox in 1844), is exactly 13 moons. In order to coalesce with the extra moon, the Jewish year should intercalate a second Adar, whose full moon would then come on April 3, 1844. This Adar moon could not be the Mosaic paschal moon, for it is too early--the latter rain not yet being ended, and the barley corn not yet being ripe in Palestine. Hence the next new moon, whose conjunction is on April 17, must mark the month Nisan in 1844. The Passover would therefore come on May 3, the day following full moon; and the Tisri new moon would of necessity fall in October, the day of atonement coming on October 22 at the end of 172 days from Passover. The one place for the new moon of Nisan on March 30, 1843, and also of the full moon of April 3, 1844--which must belong to Adar because it is too early for Nisan--represent two fixed positions of the moon that exactly determine the date of Tisri 10 in 1844 to be the 22nd day of October.

COMMENTS ON THE 1844 CHRONOLOGY

G. Amadon

In the 1844 problem in prophetic time, an ancient Jewish date presents itself for confirmation. Neither ancient sources nor the Bible appear to provide a law for computing dates of the primitive type according to passover reckoning, on meridians other than Jerusalem. The original pentateuchal law stipulated that the passover (Latin transitus, or Hebrew pesach) be slain at one place only (Deut. 16:6), on one date only (Lev. 23:5), except in case of the levitically unclean (Num. 9:11), and at one hour only--the going down of the sun (Deut. 16:6). Even today the Samaritans are a witness to the prescribed hour, and so also were the Karaites for many centuries.

The Millerite leaders faced great obstacles; but they were faithful and persistent in ascertaining the true paschal season for the spring of 1844. This was one of their first problems, and they left May 2 on record as their chosen passover date of the ancient type, which was correct for America in that year.[1] However, they evidently obtained this date, either by counting forward from their discovered civil date for 1 Nisan as April 19, or else by adding the Karaite intercallary month of 29 days to the rabbinical 14 Nisan on April 3. The Millerite chronology was therefore primarily based upon Nisan new moon reckoning, and not upon the passover date. But their recognition of the true paschal season, coincident upon the barley harvest full moon, led them to decide upon the right passover month--a whole moon later than the rabbinical.

In the solution of their problem, they had to make choice between many alternatives. The following are important to the 1844 chronology:

Rabbinical	Mosaic
1. Equinoctial March moon (Nicean),	or Barley harvest April moon (biblical)
2. Talmudic law	or Pentateuchal law
3. Crucifixion in 33 A.D.,	or Crucifixion in 31 A.D.
4. Rabbinical lunar cycle,	or Karaitic lunar cycle [Dan. 8:14
Tenth Tishri on Sept. 23,	or Tenth Tishri on Oct. 22 for end of
5. 458 B.C.,	or 457 B.C. for beginning of Dan. 8:14

[1] Jewish Year Book, 1917, p. 26.

1. The voices were many that took part in the analysis of these problems, and they were heard from near and far. From the Glad Tidings published in Rochester, an anonymous writer offered the following significant definition of the true paschal moon, in opposition to the Nicaean full moon, which is the first in Aries:

"That new moon, which brought the first succeeding full moon to take place after the vernal equinox, is the first month of the Jewish year." [2]

This definition of the primitive paschal full moon, naming it always the first full moon after the equinoctial new moon, is indeed exactly to the point; for it is not only in agreement with pentateuchal barley-harvest law, but also with the ancient inscriptions of the Babylonians, who from earliest times similarly followed the barley-harvest principle in regulating the year.[3] Millerite editorials argued that it remained to be proved "that our Saviour was crucified on the first full moon after the vernal equinox,"[4] and the conclusion was finally reached that the ecclesiastical Nicaean full moon could not coincide with the Jewish 14th of Abib of the crucifixion.[5] This is one indisputable reason why the calendars of neither the Catholic Church nor the Jews can identify their calculations with the crucifixion date. And on this same basis the argument of the "Wednesday" people falls down. It is fitting that every student of Jewish calendation should ask himself the question, "Why did the Millerites refuse the rabbinical March 21 for 1 Nisan in 1844, and accept the Karaitic April 19 for 1 Nisan? The answer is--Pentateuchal Law.

In support of their barley-harvest argument the Millerites found many statements by travelers in Palestine. Here is one from the "Encyclopedia of Religious Knowledge:"

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[2] Midnight Cry, Sept. 21, 1843, p. 38, col. 1.

[3] Schoch, Karl, Planeten-Tafeln fur Jedermann, cols. XLII, XLIII. Berlin-Pankow, 1927.

[4] Bliss, Sylvester, Signs of the Times, Dec. 5, 1843, p. 133, col. 2.

[5] Ibid., p. 135, col. 2.

"Barley is in full ear all over the holy land in the beginning of April, and about the middle of the same month, it begins to turn yellow, particularly in the southern districts."[6]

And in harmony also are the following two statements from the Spirit of prophecy:

"Barley was the earliest grain in Palestine, and at the opening of the feast it was beginning to ripen. A sheaf of this grain was waved by the priest before the altar of God, as an acknowledgment that all was His. Not until this ceremony had been performed was the harvest to be gathered."[7]

"From the harvest fields the first heads of ripened grain were gathered, and when the people went up to Jerusalem to the Passover, the sheaf of first-fruits was waved as a thank-offering before the Lord. Not until this was presented, could the sickle be put to the grain, and it be gathered into sheaves."[8]

This relationship of the barley sheaf to the ancient passover feast was fully acknowledged by the Christian church of early centuries, as, for example, Theophilus testifies, about 400 A.D.:

"For not in the twelfth month [Adar], as I before said, when the time of winter still exists, is the month of new fruits located; when indeed the new fruits are not yet ripe, and the sickle cannot yet be put to the harvests. For this especially [the sickle] the divine law has constituted as the sign of the first month." [9]

Thus the early Christians upheld the traditional barley harvest principle, but the Jews themselves, under heavy duress, refuted it, even before the redaction, or completion, of the calendar of Hillel II. In the well known letter of Constantine to the churches at the time of the Nicaean Synod, he accuses the Jews of antedating the Nicaean equinox (March 21) in the observance of their passover.[10] And this also Ambrose even more clearly affirms in the year 387 A.D., namely, that the Jews would celebrate their passover in that year, one day before the Nicaean equinox--even in the twelfth month Adar![11]

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[6] Midnight Cry, Oct. 19, 1844, p. 133, col. 3. Editorial.

[7] White, Ellen G., Patriarchs and Prophets, p. 539. Conflict of the Ages Series.

[8] Desire of Ages, p. 786. Conflict of the Ages Series.

[9] Bucherii, Aegidii, De Doctrina Temporum, p. 472. Antverpiae, 1634.

[10] Ibid., Preface, p. xiii.

[11] Ibid.,Preface, p. xiii, and also p. 477 of the text.

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"According therefore to the quality of the season, in the year 1722, the first fruits could not have been offered at the time appointed; and would therefore have required the intercalating of the Ve-adar, and the postponing thereby the passover for at least a month." [24]

In other words, according to personal observation, we here have specific testimony that the year 1722 demanded an intercalary month. By equating three known intercalary seasons, (1) that of the crucifixion in 31 A.D., (2) Dr. Shaw's observation for a Veadar month in the spring of 1722, and (3) that of the Millerites for an intercalary month in the spring of 1844, we discover an indisputable relationship that ties these three embolisms to the 19-year cycle. And we can base the equation upon the crucifixion cycle, which likewise agrees with the results of the Babylonian barley harvest intercalation, and which also ties back to the cycle of the Assuan papyri in the Ezra-Nehemiah age. The following table illustrates the precision with which the barley-harvest full

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Millerite dates depended:

	I Crucifixion Cycle	II Shaw's Observation	III Millerite Reckoning
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Hence (1) the Millerite reckoning for a deferred pasoover in 1844; (2) Shaw's similar conclusion for 1722; and (3) Luke's record of Christ's own words that the trees were in leaf during passion week, are decisions definitely showing that the spring of each one of these years had an additional month Veadar, and definitely tying each year to its own proper place in the 19-year cycle.

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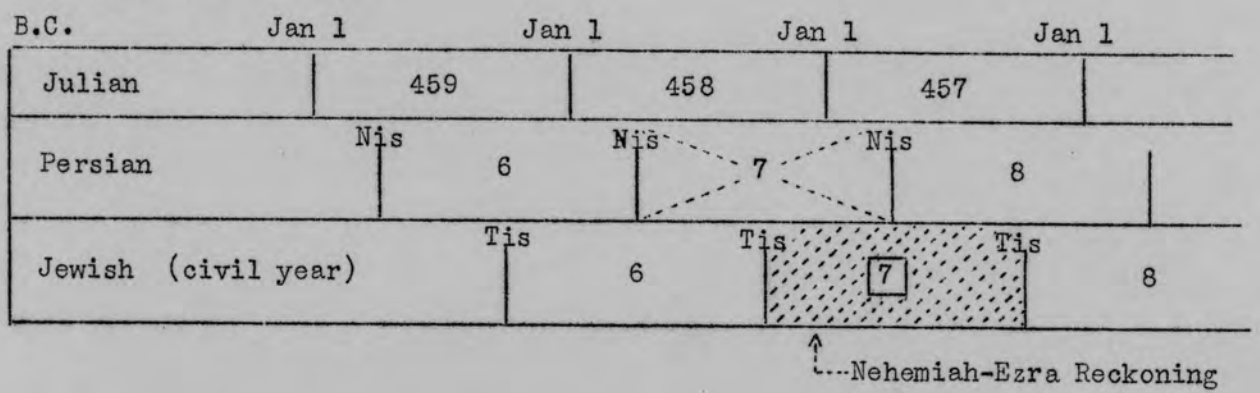
beginning of the 2300 years. Chiefly through the aid of Ptolemy's canon, agreement was reached that the spring of 457 B.C. marked the return of the Jewish captives from Babylon. But today it is claimed that Ezra based his dates in terms of the Persian calendar, which began its year in the spring; and that consequently he left Babylon in April-Nisan of 458 B.C., and not in 457 B. C.[35] On the contrary, it is necessarily admitted that Nehemiah computes his dates according to Jewish reckoning of the Persian regnal year, because of the fact that he counts both Kisleu and the subsequent Nisan in the same 20th year of Artaxerxes. In other words, he does not change the year of the king's reign on the first day of Nisan (Neh. 2:1). Hence he must have begun the 21st of Artaxerxes in Tishri (444-443 B.C.),[36] and by counting back, it is readily demonstrated that Nehemiah dated the "seventh" year of the Persian king as 458-457, reckoned from Tishri to Tishri. Consequently, the Nisan when the Jewish captives left Babylon, would obviously come in the spring of 457, for with Nehemiah, the year 458 began in the fall, and therefore had no Nisan in this portion of the regnal year.

The difference between Jewish and Persian reckoning of the seventh of Artaxerxes is illustrated by the following table:

"Seventh" of Artaxerxes



35 Morgenstern, Journal of Near Eastern Studies, Vol. II, April, 1943, p. 129, col. b.

36 Ibid.

Explanation: The Julian date for the "seventh of Artaxerxes," according to the Persian calendar, is 458-457 B.C.[37] Scholarship commonly acknowledges this date, for it is fixed by the double-dated synchronisms of the Aramaeans at Assuan, who obviously employed the calendar of their Persian overlords. If Ezra's "seventh year" is to be tied to the Persian calendar, then the month Nisan in which he left Babylon can coincide only with the spring of 458.[38] But, if this conclusion were correct, then, in the period between Nisan and Tishri, Ezra's "seventh" according to Persian reckoning, would actually be "sixth" of Artaxerxes according to Jewish reckoning. That is, in the summer, from Nisan to Tishri, the Jews counted the year of the Persians one less than the Persian reckoning, while, from Tishri to Nisan, both counts were the same. On the contrary, according to Parker, the Egyptian Aramaeans, who apparently started their year before the Persians in the Ezra-Nehemiah age, had the same regnal year as the Persians from Nisan to 1 Thoth, but in the winter were one in advance.[39] Thus the Aramaean rule of correspondence was definitely different from that of the Jews.

Therefore, it would obviously be absurd for chronology to maintain that by an Ezra Jewish calendar, the return was in the sixth year of Artaxerxes, and that by Nehemiah's Jewish calendar, the return was in the seventh of this king! The only consistent conclusion is that both Ezra and his colleague Nehemiah employed the same Jewish reckoning, and that the Nisan return from Babylon in the seventh year of Artaxerxes must have occurred in the spring of 457 B.C., and not in 458.

It is to be remembered that from the time of Moses, all the months of the Jewish year--even including the civil year from fall to fall--were numbered from the Nisan spring beginning of the sacred year. The Tishri fall beginning civil year was very ancient, and was ultimately employed in reckoning the reigns of the kings of Judah under the monarchy. It can be shown that Jeremiah, the chronicler, the writer of Kings, Ezekiel, as also Nehemiah and Ezra, used the Jewish civil year, from fall to fall, in recording their dates.

The Call-out-of-Babylon phase of the Second Angel's Message was based upon time. This special feature "was first proclaimed by the servants of God in the summer of 1844."[40] Nearly a century has passed, but all three of the

[37] Mahler, Eduard, Chronologie der Babylonier, Denkschriften der kaiserlichen Akademie der Wissenschaften, 62 Band, p. 652. Wien, 1895; Parker, Richard A., Dubberstein, Waldo H., Babylonian Chronology, p. 30. University of Chicago Press.

[38] For on the Persian calendar, the "eighth" cf king began with 457.

[39] Parker, Richard A.,"Persian and Egyptian Chronology," The American Journal of Semitic Languages and Literatures, July, 1941, p. 299.

[40] White, Ellen G., Life Sketches, p. 59.

messages in Revelation 14 are still to be proclaimed.[41] It has been demonstrated that the "seventh month movement" in 1844 belongs to the same 19-year cycle as the cycle of the crucifixion in the spring of 31 A.D. Both events were based upon the prophecy in Daniel 8 and 9. This prophecy "pointed so unmistakably to the time of the Messiah's coming, and so directly foretold His death, that they [the Jews] discouraged its study, and finally the rabbis pronounced a curse on all who should attempt a computation of the time."[42] The following words are for the encouragement of those who seriously desire to understand the time message of 1844:

"Whoever is with singleness of purpose seeking to do God's will, earnestly heeding the light already given, will receive greater light; to that soul some star of heavenly radiance will be sent, to guide him into all truth." [43]

Grace Amadon,
Washington, D.C.

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41 White, Ellen G., MS 32, Dec. 6, 1896.

42 Great Controversy, p. 378.

43 Ibid., p. 378.

COMMENTS ON THE 1844 CHRONOLOGY

In the 1844 problem in prophetic time, an ancient Jewish date presents itself for confirmation. Neither ancient sources nor the Bible appear to provide a law for computing dates of the primitive type according to passover reckoning, on meridians other than Jerusalem. The original pentateuchal law stipulated that the passover (Latin transitus, or Hebrew pesach) be slain at one place only (Deut. 16:6), on one date only (Lev. 23:5), except in case of the levitically unclean (Num. 9:11), and at one hour only--the going down of the sun (Deut. 16:6). Even today the Samaritans are a witness to the prescribed hour, and so also were the Karaites for many centuries.

The Millerite leaders faced great obstacles; but they were faithful and persistent in ascertaining the true paschal season for the spring of 1844. This was one of their first problems, and they left May 2 on record as their chosen passover date of the ancient type, which was correct for America in that year.[1] However, they evidently obtained this date, either by counting forward from their discovered civil date for 1 Nisan as April 19, or else by adding the Karaite intercallary month of 29 days to the rabbinical 14 Nisan on April 3. The Millerite chronology was therefore primarily based upon Nisan new moon reckoning, and not upon the passover date. But their recognition of the true paschal season, coincident upon the barley harvest full moon, led them to decide upon the right passover month--a whole moon later than the rabbinical.

In the solution of their problem, they had to make choice between many alternatives. The following are important to the 1844 chronology:

Rabbinical	Mosaic
1. Equinoctial March moon (Nicean),	or Barley harvest April moon (biblical)
2. Talmudic law	or Pentateuchal law
3. Crucifixion in 33 A.D.,	or Crucifixion in 31 A.D.
4. Rabbinical lunar cycle,	or Karaitic lunar cycle [Dan. 8:14
Tenth Tishri on Sept. 23,	or Tenth Tishri on Oct. 22 for end of
5. 458 B.C.,	or 457 B.C. for beginning of Dan. 8:14

[1] Jewish Year Book, 1917, p. 26.

1. The voices were many that took part in the analysis of these problems, and they were heard from near and far. From the Glad Tidings published in Rochester, an anonymous writer offered the following significant definition of the true paschal moon, in opposition to the Nicaean full moon, which is the first in Aries:

"That new moon, which brought the first succeeding full moon to take place after the vernal equinox, is the first month of the Jewish year." [2]

This definition of the primitive paschal full moon, naming it always the first full moon after the equinoctial new moon, is indeed exactly to the point; for it is not only in agreement with pentateuchal barley-harvest law, but also with the ancient inscriptions of the Babylonians, who from earliest times similarly followed the barley-harvest principle in regulating the year.[3] Millerite editorials argued that it remained to be proved "that our Saviour was crucified on the first full moon after the vernal equinox," [4] and the conclusion was finally reached that the ecclesiastical Nicaean full moon could not coincide with the Jewish 14th of Abib of the crucifixion.[5] This is one indisputable reason why the calendars of neither the Catholic Church nor the Jews can identify their calculations with the crucifixion date. And on this same basis the argument of the "Wednesday" people falls down. It is fitting that every student of Jewish calendation should ask himself the question, "Why did the Millerites refuse the rabbinical March 21 for 1 Nisan in 1844, and accept the Karaitic April 19 for 1 Nisan? The answer is--Pentateuchal Law.

In support of their barley-harvest argument the Millerites found many statements by travelers in Palestine. Here is one from the "Encyclopedia of Religious Knowledge:"

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[2] Midnight Cry, Sept. 21, 1843, p. 38, col. 1.

[3] Schoch, Karl, Planeten-Tafeln fur Jedermann, cols. XLII, XLIII. Berlin-Pankow, 1927.

[4] Bliss, Sylvester, Signs of the Times, Dec. 5, 1843, p. 133, col. 2.

[5] Ibid., p. 135, col. 2.

"Barley is in full ear all over the holy land in the beginning of April, and about the middle of the same month, it begins to turn yellow, particularly in the southern districts."[6]

And in harmony also are the following two statements from the Spirit of prophecy:

"Barley was the earliest grain in Palestine, and at the opening of the feast it was beginning to ripen. A sheaf of this grain was waved by the priest before the altar of God, as an acknowledgment that all was His. Not until this ceremony had been performed was the harvest to be gathered."[7]

"From the harvest fields the first heads of ripened grain were gathered, and when the people went up to Jerusalem to the Passover, the sheaf of first-fruits was waved as a thank-offering before the Lord. Not until this was presented, could the sickle be put to the grain, and it be gathered into sheaves."[8]

This relationship of the barley sheaf to the ancient passover feast was fully acknowledged by the Christian church of early centuries, as, for example, Theophilus testifies, about 400 A.D.:

"For not in the twelfth month [Adar], as I before said, when the time of winter still exists, is the month of new fruits located; when indeed the new fruits are not yet ripe, and the sickle cannot yet be put to the harvests. For this especially [the sickle] the divine law has constituted as the sign of the first month." [9]

Thus the early Christians upheld the traditional barley harvest principle, but the Jews themselves, under heavy duress, refuted it, even before the redaction, or completion, of the calendar of Hillel II. In the well known letter of Constantine to the churches at the time of the Nicaean Synod, he accuses the Jews of antedating the Nicaean equinox (March 21) in the observance of their passover.[10] And this also Ambrose even more clearly affirms in the year 387 A.D., namely, that the Jews would celebrate their passover in that year, one day before the Nicaean equinox--even in the twelfth month Adar![11].

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[6] Midnight Cry, Oct. 19, 1844, p. 133, col. 3. Editorial.

[7] White, Ellen G., Patriarchs and Prophets, p. 539. Conflict of the Ages Series.

[8] Desire of Ages, p. 786. Conflict of the Ages Series.

[9] Bucherii, Aegidii, De Doctrina Temporum, p. 472. Antverpiae, 1634.

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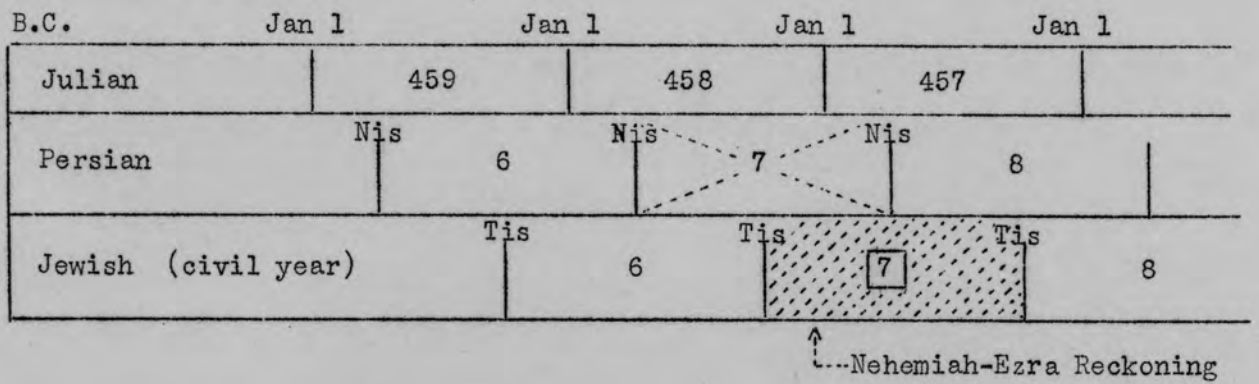
[33] In 1800 years--nearly 95 cycles--the moon takes about 8 days longer than the sun. But in the years 100 and 200, 2 days were added by the Julian calendar that Gregory XIII did not correct. This leaves only 6 days difference.

[34] Cf. Ginzel's Chronologie.

beginning of the 2300 years. Chiefly through the aid of Ptolemy's canon, agreement was reached that the spring of 457 B.C. marked the return of the Jewish captives from Babylon. But today it is claimed that Ezra based his dates in terms of the Persian calendar, which began its year in the spring; and that consequently he left Babylon in April-Nisan of 458 B.C., and not in 457 B. C.[35] On the contrary, it is necessarily admitted that Nehemiah computes his dates according to Jewish reckoning of the Persian regnal year, because of the fact that he counts both Kisleu and the subsequent Nisan in the same 20th year of Artaxerxes. In other words, he does not change the year of the king's reign on the first day of Nisan (Neh. 2:1). Hence he must have begun the 21st of Artaxerxes in Tishri (444-443 B.C.),[36] and by counting back, it is readily demonstrated that Nehemiah dated the "seventh" year of the Persian king as 458-457, reckoned from Tishri to Tishri. Consequently, the Nisan when the Jewish captives left Babylon, would obviously come in the spring of 457, for with Nehemiah, the year 458 began in the fall, and therefore had no Nisan in this portion of the regnal year.

The difference between Jewish and Persian reckoning of the seventh of Artaxerxes is illustrated by the following table:

"Seventh" of Artaxerxes



35 Morgenstorn, Journal of Near Eastern Studies, Vol. II, April, 1943, p. 129, col. b.

36 Ibid.

Explanation: The Julian date for the "seventh of Artaxerxes," according to the Persian calendar, is 458-457 B.C.[37] Scholarship commonly acknowledges this date, for it is fixed by the double-dated synchronisms of the Aramaeans at Assuan, who obviously employed the calendar of their Persian overlords. If Ezra's "seventh year" is to be tied to the Persian calendar, then the month Nisan in which he left Babylon can coincide only with the spring of 458.[38] But, if this conclusion were correct, then, in the period between Nisan and Tishri, Ezra's "seventh" according to Persian reckoning, would actually be "sixth" of Artaxerxes according to Jewish reckoning. That is, in the summer, from Nisan to Tishri, the Jews counted the year of the Persians one less than the Persian reckoning, while, from Tishri to Nisan, both counts were the same. On the contrary, according to Parker, the Egyptian Aramaeans, who apparently started their year before the Persians in the Ezra-Nehemiah age, had the same regnal year as the Persians from Nisan to 1 Thoth, but in the winter were one in advance.[39] Thus the Aramaean rule of correspondence was definitely different from that of the Jews.

Therefore, it would obviously be absurd for chronology to maintain that by an Ezra Jewish calendar, the return was in the sixth year of Artaxerxes, and that by Nehemiah's Jewish calendar, the return was in the seventh of this king! The only consistent conclusion is that both Ezra and his colleague Nehemiah employed the same Jewish reckoning, and that the Nisan return from Babylon in the seventh year of Artaxerxes must have occurred in the spring of 457 B.C., and not in 458.

It is to be remembered that from the time of Moses, all the months of the Jewish year--even including the civil year from fall to fall--were numbered from the Nisan spring beginning of the sacred year. The Tishri fall beginning civil year was very ancient, and was ultimately employed in reckoning the reigns of the kings of Judah under the monarchy. It can be shown that Jeremiah, the chronicler, the writer of Kings, Ezekiel, as also Nehemiah and Ezra, used the Jewish civil year, from fall to fall, in recording their dates.

The Call-out-of-Babylon phase of the Second Angel's Message was based upon time. This special feature "was first proclaimed by the servants of God in the summer of 1844."[40] Nearly a century has passed, but all three of the

[37] Mahler, Eduard, Chronologie der Babylonier, Denkschriften der kaiserlichen Akademie der Wissenschaften, 62 Band, p. 652. Wien, 1895; Parker, Richard A., Dubberstein, Waldo H., Babylonian Chronology, p. 30. University of Chicago Press.

[38] For on the Persian calendar, the "eighth" of king began with 457.

[39] Parker, Richard A.,"Persian and Egyptian Chronology," The American Journal of Semitic Languages and Literatures, July, 1941, p. 299.

[40] White, Ellen G., Life Sketches, p. 59.

messages in Revelation 14 are still to be proclaimed.[41] It has been demonstrated that the "seventh month movement" in 1844 belongs to the same 19-year cycle as the cycle of the crucifixion in the spring of 31 A.D. Both events were based upon the prophecy in Daniel 8 and 9. This prophecy "pointed so unmistakably to the time of the Messiah's coming, and so directly foretold His death, that they [the Jews] discouraged its study, and finally the rabbis pronounced a curse on all who should attempt a computation of the time."[42] The following words are for the encouragement of those who seriously desire to understand the time message of 1844:

"Whoever is with singleness of purpose seeking to do God's will, earnestly heeding the light already given, will receive greater light; to that soul some star of heavenly radiance will be sent, to guide him into all truth." [43]

Grace Amadon,
Washington, D.C.

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[41] White, Ellen G., MS 32, Dec. 6, 1896.

[42] Great Controversy, p. 378.

[43] Ibid., p. 378.

MILLERITE COMPUTATION OF THE OCTOBER 22 DATE

The question has frequently been asked, What calendar did the Millerites use in computing the prophesied Day of Atonement in 1844? And the inquiry is continued in the challenge why September 23--the rabbinical Yom Kippur in that year--is not just as consistent as the October 22 date. What difference would twenty-nine days more or less make to the period about to be ushered in? Another question also presses itself home: How would Adventist scholarship of today have handled an ancient Jewish calendar argument one hundred years ago? It can be briefly stated that the September Yom Kippur in 1844 was based upon modern Jewish calculation, while the October 22 date was computed in ancient Jewish time, in harmony with the requirements of Moses. A review of the Millerite experience and the discussion of the questions in 1844 chronology should be full of encouragement and inspiration to those who are interested in the foundation principles of the Advent teaching of historical prophecy.

The year 1844 belonged to a period of serious investigation all over the world regarding the second advent of Christ. The movement was brought to its final conclusion in America, from whose shores second-advent influence went forth to countries east and west. Millerite leadership faced difficult alternatives in the study of Biblical chronology. The question was asked many times whether the crucifixion passover was in March or April, and just when a passover of the ancient type would occur in the year proposed to end the 2300-year prophecy of Daniel. It was basic to the problem to be solved, when the death of Jesus occurred. Was the year 33 A.D., 31 A.D., or 30 A.D.? From the time of Roger Bacon (13th century), the year 33 A.D. had been the popular crucifixion date, and at first William Miller accepted this conclusion. He had no Spirit-of-prophecy literature to which he could turn for guidance. He writes that he "laid by all commentaries, former views and prepossessions" in the endeavor to understand the figures and metaphors of prophecy. Under the influ-

ence of his teaching and example, many people began to live in a very real expectancy. Jesus might come any time. And when the day's work was over, one sought for assurance that his record was white and clean.

The Millerite Adventists met often in prayer together. Repeatedly they would spend the whole night in intensive study. These students of prophecy read and translated the Bible from its original texts. Some wrote in German, French, or Latin; others were astronomers and authoritative computers. They were called philomaths, and as recognized scholars they met other scholars in argument. They had at their disposal the best libraries in America, and they were fully acquainted with sanctioned writings at home and abroad on the subject of their investigation--the chronology of prophecy. Their documentary evidence is witness to their scholarship. But more than all else, they were of the number to whom it is said: "Behold, I have set before thee an open door, and no man can shut it." Even a Voice from the golden altar in heaven spoke to the Millerite age. The message was understood and was given at the appointed time. The Millerite movement was the preface to the hour of judgment.

Such was the spiritual atmosphere in which were analyzed and deciphered the important chronological problems and historical dates upon which Adventism of our generation has founded its teachings. We owe to the Millerites the interpretation of difficult chapters in prophecy, whose main features of exposition the Spirit of prophecy has also confirmed. Through their faith in the prophetic Word, the ~~end of the~~ 2300 years have been demonstrated as an historical period, and thereby the age of Ezra has been tied to the nineteenth century. The decipherment was based upon principles of computation that were not only Biblical, but they were also astronomical and inherently adapted to the American continent. If the "seventh month movement" had occurred in Europe, or farther east, the 2300 years of Daniel would have ended on a different day of the month. The 1844 Adventists have left records showing that they understood this calendar fact, and, in the face of it, they chose the cor-

rect alternative. So also will it be clear to those who are observers of time service announcements over the air.

William Miller's Chronology

The chronological investigation of William Miller was along general lines only. The Biblical periods of prophecy were his specialty, and he himself did not therefore point out specific dates or days of the month. One of his great contributions was the revival of the year-day principle by which every prophetic period is calculated if in harmony with the historical school of interpretation. This principle was definitely understood in the time of Christ, but was largely lost and forgotten in the early centuries of apostasy. It was not fully recognized by Bede, the scholarly English monk of the seventh century. But when the time came for prophecy and history to meet again, men arose who recognized the coincidence between time and prophecy. And thus the fulfillment of every prophetic period has had its witnesses, who each proclaimed the year-day principle of prophetic computation. And more than all else, William Miller discovered that the year-day principle not only gives Bible history a definite chronological outline, but that by this same principle, the Biblical outline is linked with modern time. Let us state the law in the exact words of Mr. Miller's coadjutor: Each day of the prophetic period represents a true solar year. (Signs of the Times [Boston, 1843], April 26, p. 61, col. 1.)

The Millerites were challenged as to the meaning of this principle. Inquirers wished to know how long the "true solar year" is. The answer was given that it is "365 days, 5 hours and a fraction" long. In William Miller's day, the exact length of the solar year had not been known for a century as yet. Another query was this: "But does not Mr. Miller reckon some years at 360 and some 365 days?" The answer was an emphatic "No." (Id., p. 60, col. 3.) It was carefully explained that a prophetic year is always the equivalent of 360 prophetic days, but that each one of these "days" equals a true solar year. The proof for this marvelous equation is found in Numbers 14:34 and Ezekiel

4:6.

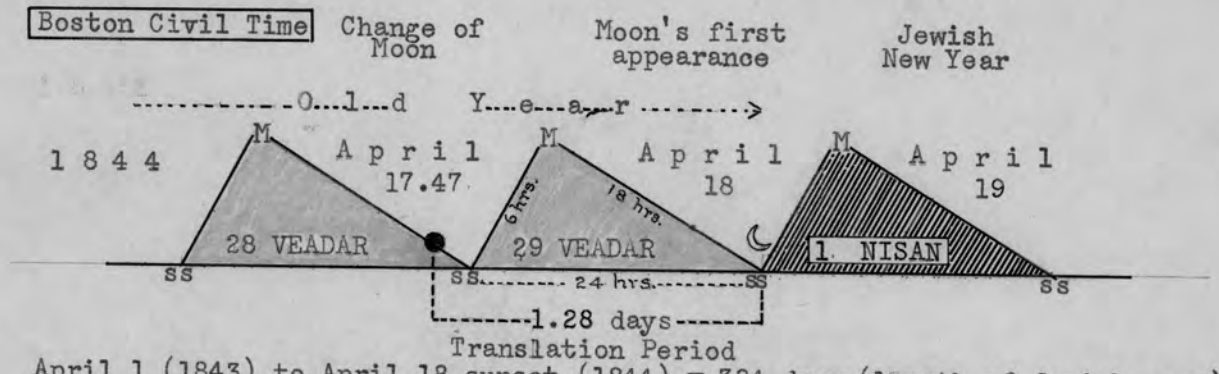
There was a keen sense of humor in every Millerite discussion, and it kept the participants in congenial temper. Throughout the year 1843, the important significance of the year-day method was continuously explained in the second-advent papers, and arguments on both sides of the question were published. But no one came forward with a consistent substitute, and the year-day principle was once more established as indisputable. ~~All of~~ Mr. Miller's calculations ultimately pointed to the spring of 1844 as the probable end of the 2300 days. But the vernal equinox passed, and Jesus did not come. A few students of prophecy had already figured out in 1843 that the 2300 years could not end in the subsequent March. Karaite literature pointed them to Leviticus as teaching that the ancient paschal season had to coincide with ripe barley, which, except in the valley of Jericho, occurs in April-May in Palestine--not in the March period. According to Dalman and others, Palestinian March is a winter month, and has a snowfall equal to that of January. Hence April is the barley-harvest month in Mediterranean countries, and therefore commonly the paschal month. Sometimes, however, the passover was as late as May. In the Near East, spring and winter stand in close connection, and the spring has strong meteorological contrasts, thus tending a delay in the harvest, and in the beginning of the Jewish year. (Gustaf Dalman, Arbeit und Sitte in Palästina [Gütersloh, 1928], 3. Band, 1. Hälfte, pp. 305, 306.)

Millerite Date for 1 Nisan in 1844

The Millerites rejected the rabbinical first day of Nisan on March 21 in 1844, and chose the April new moon for the beginning of the true type of the ancient first month. April 19 was the day. (Joseph Bates, Second Advent Way Marks and High Heaps [New Bedford, 1847], p. 30.) They argued that the modern Jewish calendar is based upon decisions that were unknown in the time of Christ. The modern lengths of the Jewish year--either the 385 days or the 353 days--were not in vogue in the first century. The so-called postponements, according

to which the modern Jewish passover never occurs on Monday, Wednesday, or Friday, are rules that were not adopted until the fourth century. For the crucifixion passover certainly occurred on Friday, and the passover in 28 A.D. was with equal certainty on Wednesday, April 28. ("Ancient Jewish Calendation," Journal of Biblical Literature [New Haven, 1942], December, p. 232.) The Millerites also discovered that the modern rabbinical calendar has an entirely different paschal season from that customary in the time of Christ.

The following diagram presents the astronomical proof for the April 19 date, which the Millerites have recorded as the first day of the Jewish month Nisan, in 1844. Anciently, the new moon's first appearance marked the beginning of the new year.



April 1 (1843) to April 18 sunset (1844) = 384 days (length of Jewish year)

There are only three possible positions for the April new moon's first appearance after its change in 1844: (1) April 17 sunset. This date is excluded because the new moon cannot possibly be seen within five or six hours after the change; (2) April 19 sunset. This date is impracticable, for it would add an extra day to the previous Jewish year, causing it to be 385 days long, which is improbable for the ancient type of lunar year; (3) April 18 sunset was therefore the only possible point of time for the April crescent to be seen. The first day of Nisan therefore occurred from sunset to sunset on April 18/19, and this was the Jewish day which the Millerites record as the "first appearance" of the April new moon. In common parlance it was called April 19, while the moon appeared at the sunset on April 18, ~~beginning~~.

On April 18 the sun set at 6:37 p.m., and the new moon at 8:03 p.m., thus allowing the ample length of $1^h\ 26^m$ during which the new moon crescent could ap-

pear. Unlike the full moon, which has slowly filled its disk with light, the new moon appears suddenly in the dimness of the western horizon, and in the spring commonly needs quite an hour after sunset in order to appear. The new moon must be fairly high above the setting sun in order to be seen at all.

Jesus did not come on April 19, and the disappointment was great. Discouragement followed. Joseph Bates describes the experience as a "stupid, dark and still time." (Way Marks, p. 17.) Then "angels were sent to arouse the discouraged saints;" and they watched "with deepest interest the result of the heavenly messages . . . for another light was yet to shine upon them." (Early Writings, pp. 235-38.) This additional light was based chiefly upon Daniel 9. Briefly stated, this is the Biblical argument that stirred the camp at Exeter, New Hampshire:

> Since the crucifixion occurred "in the midst of the week" in the spring of the year, and hence in the middle of a literal Jewish year and also of a prophetic year, therefore the end of the prophetic year must come in the autumn. In other words, the prophetic years of Daniel end in the fall and not in the spring. (The Midnight Cry [Boston, 1844], August 22, p. 57, cols. 1-3.)

This reasoning came as a startling truth to the Millerites, and an impelling cry went forth in August that Jesus would come within the next three months. Already, a single voice had anticipated this cry in July, on a Sunday in Boston, proclaiming October 22 as the tenth day of the seventh month. This date was computed by adding six lunar months, or 177 days, to April 19, and thereby obtaining as the first day of the seventh month, October 13, from which nine days more extended to the tenth day on October 22. The Millerites have left an official statement that they thus "reckoned" from the "appearance of the moon on the 18th of April" and thereby found that "the seventh Jewish month commenced with the appearance of the moon on the 13th of October, so that the tenth day of the seventh month synchronized with the 22d of that month." (The Advent Shield [Boston, 1844-5], Vol. I, p. 278.)

The "Midnight Cry" dates were the foundation impulse of the seventh month movement in the summer of 1844. The new moon crescent was seen at sunset of

April 18, from which point of time the October dates were calculated in advance. It was the Biblical argument in Daniel 9 and Matthew 25 that gave impetus to the calendar facts, and a resulting momentum was felt throughout Advent communities. This reckoning was accomplished by means of the figures in a common almanac, which in early days was much more complete than a local almanac of the twentieth century.

There is no record that any actual observation of the October new moon was made by the Millerites, except the suggestion by Sylvester Bliss that the moon appeared on October 13, when there was only ten minutes between sunset and moonset. Indeed, this new moon could not be seen so far north as Boston at sunset of October 12, when the moon set a full hour after the sun. Obviously, because of this circumstance, the Adventist computers oriented their problem on the meridian of Jerusalem, and concluded that in that locality the October new moon would be seen at sunset of October 13, (The Advent Herald [Boston, 1844], October 30, p. 93, col. 3.) They figured that the Palestinian new moon at sunset on that date was "one day and 17 hours old," as against 22 hours and 46 minutes for the new moon on the Boston meridian at sunset of October 12. It is just as impossible for the new moon to be seen on the same evening all around the earth as it is for every locality to have simultaneously the same solar date. For as astronomers state, the new moon is frequently not seen in some place, while she is seen in another place not far to the west. But in some months, she may be seen in both places at once.

The Millerites ascertained this astronomical knowledge for themselves. They have left on record the deduction that in Judea the first day of the seventh Jewish month began at sunset of the second evening after the change, ~~but~~ while in America it began at sunset of the first evening after the change. These two days in different parts of the world had seven hours in common, and this coincidence "strengthened" the Adventists that they had chosen the right moon. There were many in 1844 who made merry over a lunar reckoning that was not based upon the modern Jewish calendar. The answer was returned: "Every scholar knows that we are correct as to the Karaite seventh month." The Mill-

erites were well aware of the rabbinical seventh month in September in 1844, and the circumstance was often mentioned in their papers. At the same time they were emphatic in their challenge that they dissented from the modern Jewish calendar because it did not agree with the laws of Moses.

The 1844 October 22 date on the American continent is historical. It was a specific example of the ancient season of the Jewish seventh month, and its computation illustrates the astronomical relation of the moon's change to the beginning of a new month. The Millerites necessarily had to calculate the October moon in advance, for its dates gave rise to the Midnight Cry and to the Second Angel's Message. Furthermore, there were astronomical reasons why this autumnal moon could not be seen in the ~~eastern~~ New England states. On the contrary, the spring moon of April 18 was seen, and its "first appearance" acknowledged in the Advent Shield. In this Millerite record we have a key to the ancient form of the Jewish year, and we may therefore consistently conclude that the Jewish new year in the time of Christ was both computed and also confirmed by observation ~~just as history records.~~ October 22, 1844.

With reference to this historical date Joseph Bates writes: "Many believed in that day. . . For myself I can truly say that it was the most triumphant and soul-inspiring point in all my Christian experience." (Way Marks, p. 41.)

Grace Amadon

Duplicate
(mimeographed Feb. 22, 1945 - sent copies to Gp. Mem. teachers)

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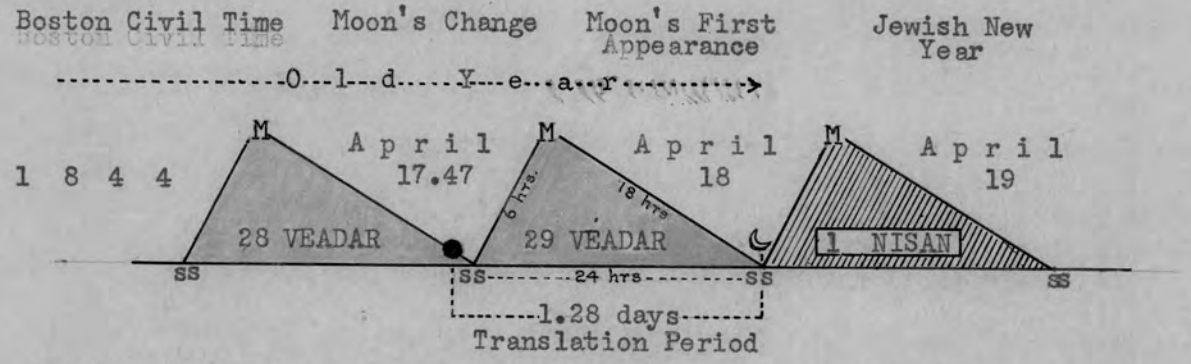

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Jesus did not come on April 19, and the disappointment was great. Discouragement followed. Joseph Bates describes the experience as a "stupid, dark and still time." (Way Marks, p. 17.) Then "angels were sent to arouse the discouraged saints;" and they watched "with deepest interest the result of the heavenly messages . . . for another light was yet to shine upon them." (Early Writings, pp. 235-38.) This additional light was based chiefly upon Daniel 9. Briefly stated, this is the Biblical argument that stirred the camp at Exeter, New Hampshire:

> Since the crucifixion occurred "in the midst of the week" in the spring of the year, and hence in the middle of a literal Jewish year and also of a prophetic year, therefore the end of the prophetic year must come in the autumn. In other words, the prophetic years of Daniel end in the fall and not in the spring. (The Midnight Cry [Boston, 1844], August 22, p. 57, cols. 1-3.)

This reasoning came as a startling truth to the Millerites, and an impelling cry went forth in August that Jesus would come within the next three months. Already, a single voice had anticipated this cry in July, on a Sunday in Boston, proclaiming October 22 as the tenth day of the seventh month. This date was computed by adding six lunar months (or 177 days) to April 19, and thereby obtaining as the first day of the seventh month, October 13, from which nine days more extended to the tenth day on October 22. The Millerites have left an official statement that they thus "reckoned" from the "appearance of the moon on the 18th of April" and thereby found that "the seventh Jewish month commenced with the appearance of the moon on the 13th of October, so that the tenth day of the seventh month synchronized with the 22d of that month." (The Advent Shield [Boston, 1844-5], Vol. I, p. 278.)

The "Midnight Cry" dates were the foundation impulse of the seventh month movement in the summer of 1844. The new moon crescent was seen at sunset of

April 18, from which point of time the October dates were calculated in advance. It was the Biblical argument in Daniel 9 and Matthew 25 that gave impetus to the calendar facts, and a resulting momentum was felt throughout Advent communities. This reckoning was accomplished by means of the figures in a common almanac, which in early days was much more complete than a local almanac of the twentieth century.

There is no record that any actual observation of the October new moon was made by the Millerites, except the suggestion by Sylvester Bliss that the moon appeared on October 13. Indeed, this new moon could not be seen so far north as Boston at sunset of October 12, when there was only ten minutes between sunset and moonset. Obviously, because of this circumstance, the Adventist computers oriented their problem on the meridian of Jerusalem, and concluded that in that locality the October new moon would be seen at sunset of October 13, when the moon set a full hour after the sun. (The Advent Herald [Boston, 1844], October 30, p. 93, col. 3.) They figured that the Palestinian new moon at sunset on that date was "one day and 17 hours old," as against 22 hours and 46 minutes for the new moon on the Boston meridian at sunset of October 12. It is just as impossible for the new moon to be seen on the same evening all around the earth as it is for every locality to have simultaneously the same solar date. For as astronomers state, the new moon is frequently not seen in some place, while she is seen in another place not far to the west. But in some months, she may be seen in both places at once.

Their spirit of research is a noble example to every Adventist.

The Millerites ascertained this astronomical knowledge for themselves. They have left on record the deduction that in Judea the first day of the seventh Jewish month began at sunset of the second evening after the change, while in America it began at sunset of the first evening after the change. These two days in different parts of the world had seven hours in common, and this coincidence "strengthened" the Adventists that they had chosen the right moon. There were many in 1844 who made merry over a lunar reckoning that was not based upon the modern Jewish calendar. The answer was returned: "Every scholar knows that we are correct as to the Karaite seventh month." The Mill-

erites were well aware of the rabbinical seventh month in September in 1844, and the circumstance was often mentioned in their papers. At the same time they were emphatic in their challenge that they dissented from the modern Jewish calendar because it did not agree with the laws of Moses.

The 1844 October 22 date on the American continent is historical. It was a specific example of the ancient season of the Jewish seventh month, and its computation illustrates the astronomical relation of the moon's change to the beginning of a new month. The Millerites necessarily had to calculate the October moon in advance, for its dates gave rise to the Midnight Cry and to the Second Angel's Message. Furthermore, there were astronomical reasons why this autumnal moon could not be seen in ~~the eastern states~~ New England. On the contrary, the spring moon of April 18 was seen, and its "first appearance" acknowledged in the Advent Shield. In this Millerite record we have a key to the ancient form of the Jewish year, and we may therefore consistently conclude that the Jewish new year in the time of Christ was both computed and also confirmed by observation just as history records.

With reference to this historical date - October 22, 1844 - Joseph Bates writes: "Many believed in that day. . . For myself I can truly say that it was the most triumphant and soul-inspiring point in all my Christian experience." (Way Marks, p. 41.)

Grace Amadon
September 17, 1944

Written in reply to Andreasen

L U N I - S O L A R T I M E

The criticism of the astronomical chart submitted in verification of the 1844 movement maintains that it is not Biblical, that it is impractical, and that therefore it will be looked upon as a table especially prepared to support a certain astronomical event. The answer to this general contention embraces the following points:

1. The Diagram illustrating the Lunar Meridian.
2. The logical place of ending for the 2300 days.
3. Jerusalem---its bearing on the prophecy.
4. The Luni-solar Calendar itself---is it Biblical, reasonable, and in harmony with calendrical science.

1. The Lunar Meridian.---In the lunar meridian diagram presented, the last day of a Jewish month---a 24-hour day numbered "30"---is presented as extending from the meridian of the old phasis at sunset to the sunset point of the new meridian. The illusive error in this Diagram consists in the fact that the day numbered "30," corresponding to the red line, and extending from one sunset point to another, is actually 24 hours long, though, according to the Diagram, it is made to be only about 12 hours long, as the day travels. This difference in degrees between two consecutive phasis meridians cannot without confusion be introduced into this form of illustration. The lunar meridians, which intersect the earth's parallel, around which the 24-hour day travels, are simply geographical longitudes, marked out by the moon, and correspond to the moon's earliest phasis, for a particular first day of the month. The designation of these meridians is dependent upon geographical latitude and longitude, upon the place in the sky of both sun and moon, and upon the season of the year. Failure to base the theory of the Diagram upon accepted astronomical facts and definitions is its fundamental error.

On the other hand, whatever difference in longitude prevails between known lunar meridians, for this the Jewish calendar provides in its elastic months Hesvan and Kisleu. These variant months counterbalance inequalities of the moon that tend to vary the length of a luni-solar year. It should also be remembered that the luni-solar calendar itself has monthly differences of about 12 hours with the true

astronomical position of the moon, and that the moon is sometimes in advance of her mean, and sometimes behind. The controlling forces, though variable, keep the moon's motion in time with exact law, so that Scaliger was frequently led to declare that the Jewish calendar was the most certain, and the most ingenious of all.[1] Referring to the Nicaean fathers, he concludes:

"But if those ancients had followed this method, and, if they were unwilling to learn from the Jews, but had learned from the Arabs and Damascenes [who used the same calendar as the Jews], their new moons would not now antedate the ancient epochs by a whole four days, as happens from so great carelessness and neglect."[2]

The "second feast-day of the Diaspora" was designed, among adherents of the Jewish fixed calendar, to meet the difficulty, which for many centuries has invaded luni-solar time-keeping on a round world.[3] A difference in festival dating is nothing new. It has been a source of continual controversy among the Jews ever since the destruction of Jerusalem. We have many historical testimonies on this point. The following are important:

"Elias of Nisibis (abiit post 1046) tells us that the year of the Hegira 309 began on Saturday, the 22nd of Ijar, in the year 1232 of the Greek era; and that, in this year, a schism broke out between the Eastern and Western Jews in reference to the dates of the Feasts. The Western Hebrews began their year on a Tuesday, the Eastern on a Thursday. . . We see also that the Western Jews, i.e., those in Palestine, followed the head of their school and kept Passover--and consequently all the other feasts--two days earlier than their Eastern co-religionists."

"The events here related we have also rediscovered in a Hebrew source, viz. in Sahl b. Mazliach's polemic against Jacob b. Samuel, Saadiah's pupil. The former, a Karaite zealot, says that in the time of the Fajjumite (Saadiah) a dispute broke out concerning the Feasts which the Palestinians kept on different days to the Babylonians."[5]

"Thus we observe seething among the Jews in the tenth century an agitation that was far from superficial, but, on the contrary, stirred men's minds to their depths . . . Possibly to this dispute about the calendar we may trace the fact recorded by Sahl, that some Rabbanites in Palestine kept two days of the Festival--one, according to the observance of the moon; and one according to the fixed calendar."[6]

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[1] Scaliger, Joseph, "De Emendatione Temporum," page 108, etc.
[2] Idem.
[3] Poznanski, Samuel, "Encyclopedia of Religion and Ethics," ed. by Hastings, art. Calendar (Jewish).
[4] Poznanski, "Jewish Quarterly Review, Vol. X, p. 154.
[5] Idem.
[6] Sidersky, "Chronologie juive," p. 623.

"Thus until this day the Karaites in the Orient, and in the Crimea, are seen to have their religious festivals celebrated on different days by different communities."[7]

This calendar quarrel even afflicted Jewry in the time of Christ, and was carried on by the various sects--Sadducees, Pharisees, Essenes, and Bethusaeans. We see the priest and Sadducean class, who in the year of the crucifixion were in power,[8] planning to eat the Passover on Friday evening,[9] contrary to Jesus and His Galilean disciples, who ate it on Thursday evening.[10] And after all, what did it matter? The types were finished, and the true Lamb was to be offered.

And under the operation of the Jewish fixed calendar, festival observance has not resulted in the ideal which the Jews seek, neither is their perverted form of worship, or its calendar, the answer to the divine purpose relative to the earthly ministration of the types. In the hands of astronomers, Catholics, and Jews,[11] the Jewish calendar and its nineteen-year cycle lead to the date, April 3, 33 A.D., or the year of the crucifixion. For this very reason the Millerites rejected the Rabbinical system of computation as a measure of time that did not fit their problem.

Is it not the Committee's problem to lay out a lunar calendar measurement for a known event of prophecy, and tie it to common civil time? No one need see in this a calendar scheme for world operation. Such is not its purpose. It has been encouraging that the calendar rules hitherto employed have led to results in harmony with the Spirit of prophecy. It is encouraging that they are in harmony with the Millerite conclusions. It would be of further encouragement to find other synchronisms that will coincide with the method of luni-solar calendation which has thus far proved true.

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[7] Sidersky, "Chronologie juive," p. 623.

[8] Chwolson, Daniel, "Die Letzte Passahmahl," pp. 87, 129, 147. "Not the Pharisees, but the Sadducees were in power in Christ's time." (p. 87.) At eighty years of age, Chwolson was a profound student of the text (1892).

[9] John 18:28.

[10] John 13:1

[11] Ferguson, the astronomer, Sidersky, Jewish chronologer, and many Catholic computers have used the Jewish calendar as a measure of time for the first century. By this system of reckoning, one common date is obtained for the crucifixion--April 3, 33 A.D.

2. On What Longitude Shall the 2300-Year Prophecy End?--This longest period of prophecy parallels the time of four other prophetic periods: (1) The seventy weeks; (2) the "time," or 360 years in Dan. 11:24; (3) the 1260 years; and (4) the 541 years and 15 days of Revelation 9. The Jewish period started the 2300 days, and the Turkish period virtually ended at the same time. Each one of the four earthly powers represented was put on probation for a certain limited period; each one failed to measure up to the divine purpose; and each respective prophetic period ended where it began. The seventy weeks began and ended in Jerusalem; the 360 years, as pertaining to the Roman empire, would begin and end in the stronghold of Rome; the 1260 years, in the western see; Turkish period, in the eastern empire.

But not so the 2300-year period, which, as a whole, related to the ministry of Christ, first on earth, and then in the heavenly temple. This ministry was not confined to Jews, Romans, or Turks, but pertained to the whole world. It demonstrated its meaning through types and shadows for a limited time on earth, then for the remaining 18 centuries of the prophecy, carried on in the heavenly temple itself. And when, at the end of the 2300 years, a change was made in this ministry, the event occurred in heaven, not in Jerusalem, which for a thousand years had been ruled largely by Mohammedan peoples, and where no Urim, no Thummim, no angel--all the ancient means of communication with God had fled.

The end is described in Revelation 10, when the mighty angel came down from heaven, with a rainbow upon his head, with his face as it were the sun, and set his right foot on the sea, and his left foot on the earth, and cried with a loud voice, taking solemn oath that there should be time no longer. Seven thunders answered with voices the loud voice of this angel. It was a place here on earth with loud voices that answers to the endinf of the 2300 years, not a small spot in Jerusalem, which was silent and speechless in reference to the prophecy. It was a place here on earth where rested the base of that mystic ladder, which "opened to the world the way into the "holiest of all," and on which the angels of God descended. ("Great Controversy," p. 19. Here in America only, the exact time of this message was

announced, and this longitude offers a concrete meridian on which the prophecy may be tied to civil time. The event as it occurred in America is primary, and without this history, the meridian of Jerusalem would be useless.

3. Jerusalem.--On the other hand, Jerusalem does have a certain calendar relation to the 2300-year prophecy; for (1) the paschal full moon on Nisan 13 is a chronological formula that works so far as is yet known, only on the meridian of Jerusalem. On this basis the luni-solar calendar can be laid down in astronomical harmony with all the positions of the moon. In this lies the important evidence of its validity. (2) The necessary form of year--whether common or embolismic--has to be tried out on an agricultural calendar basis in Jerusalem, as of old, and not from the state of the barley field in some other part of the world.

Near Jerusalem, was that special temple barley field in the sheltered Ashes-valley across the Kedron, which was always sown seventy days before the Passover, (Mishnah, Menach. viii, 1,2; Edersheim, Alfred, "The Temple," p. 258.) and which for centuries marked time for the feasts on that meridian. It was more reliable than any agricultural stone the spade could unearth, for it was a permanent, living thing, under promise of God who said that He would give rain in due season that the corn might be gathered in (Deut. 11:14). To break this promise, meant the disruption of the whole feast system of types and ceremonies, the method of instruction ordained of God for Israel. It was the influence of that centuries-old barley harvest in Jerusalem that made it possible for Michallis to conclude that only April and October correspond to the principle feasts of the Mosaic system.

The rules were simple, and the Millerites followed them. They rejected the Rabbinical April 4 for Passover in 1844 because it was a date too early for barley harvest in Jerusalem, and not for ripening barley in any other country. The state of the barley simply located the paschal moon, whether in April or May in the Holy Land. The moon did the rest, and her conjunction and opposition dates on other meridians differed from that of Jerusalem only by the difference in local time, except that the meridian marking the end of the festival day has to be noted. A barley harvest in Africa or California could be no guide at all in locating the paschal moon on some other meridian. When located by Jerusalem, in harmony with Mosaic law, it is an easy matter to follow

this moon around the world, but not, of course, a barley field!

4. The Luni-Solar Calendar Itself--Is it Biblical, Practical, Reasonable?--In 1844, for the first time since the end of the 70 weeks, a problem in luni-solar reckoning, directly related to the ministry of Christ, came up for solution. This problem reverted to the original Mosaic types, and therefore the calendar measure had to be a replica of the primitive Mosaic year. The following astronomical details were a necessary foundation for laying out this luni-solar calendar: (1) The appointed Jewish feast dates; (2) New moon and full moon dates, as found in standard tables; (3) Form and length of the Jewish year--common or embolismic; (4) Position of the moon in the heavens, and her times of setting; and (5) Difference in time between meridians.

The dates of the Jewish festivals, in Jewish time, are found in the Bible. They were given to Moses when he was in the mount with God. The books of Exodus, II Chronicles, II Kings, and the prophecy of Jeremiah contain definite dates for important events. Many such are found also in the prophecies of Ezekiel, Haggai, and Zechariah. They are all lunar time. These chronological references all go to show that the Jewish people, throughout the centuries, had a dependable calendar system, with its related festivals according to which events were reliably recorded. The feasts themselves occupied a period of more than half the Hebrew year, concerning which Moses had received instructions direct from God.

For nearly forty years Moses remained with Israel, and was thus responsible for the operation of those institutions which became an integral part of the Jewish polity. These were far-reaching in purpose, for God's original plan provided that all the families of the earth should come up to Jerusalem to keep the feast of Tabernacles. But a common center of worship in the earth, when, from one new moon to another, by lunar reckoning, and from one sabbath to another, by solar reckoning, all flesh would come to worship before God, shows that a luni-solar time system can be world-embracing in performance. Two millenniums after the world was created, Moses wrote that both great lights--the moon as well as the sun--were for "days and years."[12] The lunar year, therefore had a part in the great plan of creation, and is taken note of in the pages of Holy Writ.

Both new moon and full moon, in ancient practice, could be determined by observation. For at the beginning of every Hebrew month, the moon assumed a certain shape,[13] and position in the heavens, and with this performance the Jews were pre-

[12] Gen. 1:14. "And let them be for signs, and for seasons, and for days and years."
[13] Scaliger, p. 105: "For the new moons are reckoned according to the conjunction, as of the ancient Attics. . . or according to the shape of the moon, such as are the Jewish, Arabic, and ancient Chaldeans and Persians."

eminently familiar. It enabled David to say with finality to Jonathan, "Behold, tomorrow is the new moon."[14] It inspired the psalmist to call the moon a "faithful witness in the sky."[15] And so, in like manner, the Passover full moon had its special feature of observation, for Nisan 14 in Jerusalem always followed the day when the paschal full moon arose at sunset. This testimony has come down to us from the century before Christ, and is fully confirmed by history and astronomy throughout the Christian era.[16] It is an astronomical definition that the full moon rises when the sun sets. In every common almanac, on the day of full moon, the worlds moon rises are placed opposite the hour of setting sun. The "Book of Enoch," written about 150 before Christ, has this historic testimony concerning the full moon:

"She becomes full moon exactly on the day when the sun sets in the west, and from the east she rises at night."[17]

On the evening of Nisan 13, in 31 A.D., Jesus walked with His disciples through the streets of Jerusalem on His way to the mount of Olives. The light of the full moon shone upon a trailing vine, and, as if in response, He said, "I am the true vine." In comment on this scene, these words come from the "Desire of Ages:" "The moon is shining bright, and reveals to Him a flourishing grape-vine."[18] And then again, "The Passover moon, broad and full, shone from a cloudless sky."[19] There can be no uncertainty here, that, according to the Spirit of prophecy, the evening of Nisan 13 in the year of the crucifixion was the evening when the moon had come to her full in Jerusalem.

This is simply Postulate I--the paschal full moon always on Nisan 13 in Jerusalem. With this rule the Millerite reckoning has proved to be in harmony, for when they counted the autumn festivals in Jerusalem to be a day later than in America, it meant that the Passover in the spring in Jerusalem fell on Nisan 13. This Postulate is also in full agreement with the primitive lunar rule that started the lunar month with the "Horned" moon, also called the "second" moon, because of an earliest

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14 I Sam. 20:5.
15 Ps. 89:37 A.R.V.
16 See Page 8.
17 Charles, R.H., "The Apocrypha and Pseudepigrapha of the Old Testament," p. 244. [Oxford, 1913.
18 "Desire of Ages," page 674
19 "Desire of Ages," page 685.

appearance on the second day after conjunction, providing the necessary three factors were favorable.[20] Both astronomy and history say that this older moon was commonly the phasis that began the Jewish month. In like manner, the Millerites repeated among themselves many times that the first day of the Jewish month usually began "the second evening after the change."[21]

The standard ephemerides and astronomical tables of the 20th century give very complete lists of the full moons and new moons, not only for modern times, but also exact computations for the first century. History informs us that the Jews also knew the moon dates for their own day--that mathematicians had made the calculations for them in the time of Alexander.[22] In Jewish history and chronology, the children of Issachar, "men that had understanding of the times," are accounted as having a reputation in calendrical science, and that therefore they were classed as among David's chief officers.[23] It is probable that the Jewish nation learned from Moses the astronomy of the moon, and that this knowledge was passed on from age to age. There is also left on record this testimony written, it is said, in the century before Christ:

"For he hath given me an unerring knowledge of the things that are, to know the constitution of the world, and the operation of the elements; the beginning and end and middle of times, the alternations of the solstices and the changes of seasons, the circuits of years and the positions of stars."[24]

The book of Enoch, written about 150 years before Christ, also bears direct testimony to the 29 and 30 day months. The following is the reference:

"And three months she makes of thirty days, and at her time she makes three months of twenty-nine days each, in which she accomplishes her waning in the first period of time, and in the first portal for one hundred and seventy-seven days. And in the time of her going out she appears for three months (of) thirty days each, and for three months she appears (of) twenty-nine each."[25]

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20 Cf references on page
21 Advent Herald, Sept. 11, 1844, page 45, col. 2.
22 Albirumi, "Chronology of Ancient Nations," page 68, Tr. by Sachau.
23 I Chron. 12:32
24 Charles, R.H., "Apocrypha," Vol. I, p. 520.
25 Idem., Vol. II, p. 244.

The foregoing references to luni-solar time in the Bible, though few in number, are of primary importance in showing that an established and regular calendar system existed among the Jewsin ancient times. Since the Jews had 29 and 30 day months, in the time of Christ, they must have known the number of days between Passover and Atonement. Since they had to keep their feasts in season, they had also to intercalate their months from time to time. Since the Mosaic system was oriented on various meridians--Egypt, Sinai, Jerusalem and Babylon--Israel must have known the effect of a change of longitude on luni-solar time, and this very fact is a reasonable cause of the controversy which disturbed the Jews in the time of Christ over the calendar question. With these Biblical facts the luni-solar table submitted to the Committee is in agreement. It is in harmony with the Mosaic feast calendar, which was tried out on more than one meridian. It is practical and reasonable, because this form of calendar results in a single date only for the crucifixion, agrees with the statements of the Spirit of prophecy, and is in conformity with the Millerite conclusions.

If the calendar table by which the calendar- event may be verified fails to be in harmony with the laws governing the moon, then it is the wrong measure for time and prophecy. But of (1) it follows the known rules which direct the moon's performance; (2) is based, not on an elastic ecclesiastical cycle, but on the precise dates pertaining to the revolution of earth, sun, and moon, (3) gives full sanction to the Mosaic appointments, and to the acknowledged chronological statements in Holy Writ, (4) conforms to the demands of history and the Spirit of prophecy, and (5) is in ultimate accord with the specific determinations of those who worked out to conclusion the end of the prophecy in Daniel 8, is not this luni-solar computation a standard Biblical and scientific measure for the dates of prophecy?