

# **The Calendar of Christ and the Apostles**

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## **Part II**

**June 1, 2004**

# Contents

## Section I History of Lunar Cycles

Introduction		6
One	A Short History of the 8-Year Lunar Cycle of Rome and Alexandria	10
Two	A Short History of the 84-Year Lunar Cycle of Augustalis	32
Three	A Short History of the 19-Year Lunar Cycle of Victorius of Aquitaine	59
Four	A Short History of the 19-Year Lunar Cycle of St. Anatolius	65
Five	A Short History of the 19-Year Lunar Cycle of St. Athanasius the Great	78
Six	A Short History of the 19-Year Lunar Cycle of St. Theophilus of Alexandria	96
Seven	A Short History of the 19-Year Lunar Cycle of St. Cyril of Alexandria	101
Eight	A Short History of the 19-Year Lunar Cycle of Dionysius Exiguus	108
Nine	A Short History of the 19-Year Lunar Cycle of The Venerable Bede	119

# Contents

## **Section I      History of Lunar Cycles**

Ten	The 84-Year Lunar Cycle of Sulpicius Severus	131
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## **Section II      History of the Quartodeciman Controversies**

Eleven	The Early Quartodeciman Controversy	159
Twelve	The Quartodeciman Controversy of Cilicia Syria and Mesopotamia—276 AD	173
Thirteen	The Quartodeciman Controversy Centered at Antioch—386/87 AD	178
Fourteen	The Quartodeciman Controversy of the British Isles—664 AD	190
Fifteen	The Quartodeciman Controversy that Arose between Rome and Alexandria—325-455 AD	210
Sixteen	Evidence Found in the Writings of the Nicene and Post-Nicene Fathers	222

# Contents

## Section III Analysis of the Evidence *(In Preparation)*

Seventeen	Analysis of the Evidence Found in the Writings of the Nicene and Post-Nicene Fathers	253
Eighteen	Analysis of the Evidence Found in the <i>Paschal Chronicle</i> of Pope Hippolytus	261
Nineteen	Analysis of the Evidence Found in the <i>De Ratione Paschali</i> of St. Anatolius	264
Twenty	Analysis of the Evidence Found in the <i>Chronicon Athanasianum</i> of St. Athanasius the Great	266
Twenty-One	Analysis of the Evidence Found in the <i>Laterculum Paschle</i> of St. Cyril	269
Twenty-Two	Analysis of the Evidence Found in the <i>Liber de Paschate</i> of Dionysius Exiguus	270
Twenty-Three	Analysis of the Evidence Found in the <i>De Temporum Ratione</i> of The Venerable Bede	275
Twenty-Four	Analysis of the Evidence Found in the Padua <i>Latercus</i> of Sulpicius Severus	276

# Contents

## Section IV    **Summary and Application of Synchronization Data** *(In Preparation)*

Twenty-Five	Julian and Hebrew Calendar Synchronization Dates from Parts I & II	281
Twenty-Six	Introduction to the 247-Year Cycle	295
Twenty-Seven	Application of the 247-Year Cycle to Selected Dates	304
Twenty-Eight	Application of the 247-Year Cycle to all Dates of Synchronization	311
Twenty-Nine	Listing of all Synchronized and 247-Year Cycle Dates	316
	Conclusion	331
	Appendix	351
	Bibliography	413

# Introduction

Since the publication of Part I of *The Calendar of Christ and the Apostles*, much progress has been made in locating historical records that synchronize Julian and Hebrew calendar dates. These historical records offer indisputable evidence that the Hebrew Calendar has not changed in any of its calculations or rules but has remained accurate and consistent throughout the centuries since Jesus and His apostles walked the earth.

The initial four synchronizations of Part I were only a preview of the multitude of historical synchronizations that have since come to light. The discoveries began with two references in the writings of St. John Chrysostom linking the Julian dates of 386 and 387 AD with the Hebrew Calendar. Many more links were identified through a short work by Archimandrite Sergius, former Assistant Professor at the Theological Academy in Sofia, Bulgaria. His paper entitled *The First Ecumenical Synod and the Feast of Pascha "...not with the Jews"* presents the writings of several of the early church fathers regarding the controversy over the proper dating of Easter. The Catholic Church and the Greek Orthodox Church were engaged in a spirited debate over the issue at that very time. These records of the controversy supplied eleven additional synchronizations of the Julian and Hebrew calendars from 323 to 455 AD.

These historical finds provided us with an extensive series of synchronizations to confirm the accuracy and reliability of the Hebrew Calendar. Yet we sought further evidence to silence the mouths of stubborn gainsayers. God heard our prayers and soon we were knee-deep in historical data.

The first breakthrough was in the discovery of the work of Dr. David McCarthy of Trinity College in Dublin, Ireland. Dr. McCarthy has published several papers in which he brilliantly analyzes and reconstructs the ancient *Paschal* records of the early Celtic Church of the British Isles. These records list the dates in consecutive years for both the 14<sup>th</sup> moon of the first month and Easter Sunday as calculated by the Celtic Church in the early centuries AD. Dr. McCarthy's publications are of great value in

understanding the Easter dating controversy that swirled in the early churches. His work entitled *Early British Isles' Easters* very clearly expounds the principles on which these early *Paschal Canons* and the *Pascal Tables* derived from them were constructed. An analysis of his reconstruction of the 84-year lunar cycle of the *Laterculus of Padua MS. I. 27* has enabled us to verify more than two dozen historical synchronizations of the Julian and Hebrew calendars between the years 438 and 522 AD. Going back even earlier in history, Dr. McCarthy's reconstruction of the Paschal Table of *De Ratione Paschali*, published in his work *The Lunar and Paschal Tables of De Ratione Paschali attributed to Anatolius of Laodicea*, enabled us to verify four additional synchronizations of the Julian and Hebrew calendars between the years 271 and 289 AD.

Other breakthroughs came in rapid order beginning with the Festal Letters and Tables of St. Athanasius the Great of the Council of Nicaea. His *Chronicon Athanasianum* yielded an additional twenty-two synchronizations between the years 328 to 373 AD. The *Paschal Chronicle* of Pope Hippolytus yielded seven synchronizations. The *Laterculum Paschle* of St. Cyril yielded nine synchronizations. The *Liber de Paschate* of Dionysius Exiguus yielded an amazing fifty-four synchronizations. The proceedings of the Synod of Whitby, Northumbria, England, yielded two synchronizations. The *De Temporum Ratione* of The Venerable Bede yielded eight synchronizations. The rabbinic debate of 922 AD provided yet one more synchronization.

The veritable mountain of evidence that has been preserved in historical records leaves no room for the assertion that the Hebrew Calendar has been altered over the centuries and is not reliable. The vast number of synchronized dates in the Hebrew and Julian calendars demonstrates that the Hebrew Calendar has remained constant and unchanged from 785 BC to 1252 AD—covering the time of the prophet Amos down through the centuries to the time of Maimonides of Spain—a period of 2,037 years.

With the application of the 247-year rule of the Hebrew Calendar, the total number of synchronizations is tripled, adding even more to the historical and mathematical verification of the accuracy of the Hebrew Calendar. The unique programming of the new Holy Day Calendar at <http://www.cbcbg.org/Calendar/index.html> has enabled us to apply the 247-year rule in a fraction of the time that would otherwise have been required, greatly speeding up our research.

Part II of *The Calendar of Christ and the Apostles* is divided into four major sections. Section I introduces the reader to the various Paschal Tables of Rome, Alexandria, Laodicea and the Celtic Churches of the British Isles. This section also contains a reconstruction and synchronization of the various lunar cycles that were used in the calculation of the Paschal Tables. The cycles vary in length from 8 to 84 years. The records of the disparate cycles used by the astronomers of Rome and Alexandria illustrate the difficulty they faced in dealing with lunar mathematics due to ecclesiastical policy which set the date for Easter. It took more than seven hundred years for the Christian world of Rome to resolve this problem and agree on one universal lunar cycle.

During this entire period of seven centuries, the Hebrew Calendar continued to accurately prescribe the months of each year according to the calculations of the new moon of Tishri. The precision of its calculations is confirmed by the data presented in *Appendix A*. As illustrated, random samplings of illumination percentages on the eve of Tishri 15 reveal that from 99 BC to 2089 AD, the Hebrew Calendar maintained an average illumination of 99.32%. In view of the historical facts, it is absurd to claim that rabbinic authorities gathered together after the fall of Herod's Temple in 70 AD to concoct the Hebrew Calendar, or that Hillel II did so in 358/59 AD. The matchless accuracy of the Hebrew Calendar in calculating the lunar cycles year after year, century after century, testify that it is not derived from rabbinical imagination or arbitrary rules of men.

Section II presents the history of the Quartodeciman Controversy from the time of the apostle Paul through the time of Charlemagne the Great. Early writings of the apostolic era document the conspiracy to turn the early Christians to the heresy of a Passover observance pegged to the vernal equinox. The shift to a solar calendar was one of the early steps in turning the churches of God from the observance of a Nisan 14 Passover to an Easter Sunday celebration. The observers of Nisan 14 Passover disappeared from the pages of history for a season, while the proponents of Easter prevailed, victorious over opposition by the Greek Orthodox Church as well as those faithful few who continued to observe a Nisan 14 Passover.

Section III analyzes the historical data presented in the previous two sections, examining and explaining every synchronization of the Julian and Hebrew Calendar.



Section IV summarizes the data gleaned from the analysis in Section III and presents it in chronological order. The 247-year rule of the Hebrew Calendar is explained and applied to all synchronization data.

In reading the historical data that is presented in each section, please bear in mind that the purpose of this paper is to demonstrate the accuracy and consistency of the Hebrew Calendar. The many references to Easter that appear in this paper are included as part of the historical evidence that supports the Hebrew Calendar. The use of this historical data should in no way be construed as condoning the observance of Easter Sunday in place of the Christian Passover on Nisan 14.

Also, in citing historical records, titles such as Bishop, St., Pope, and Rabbi have been retained for the purpose of identification of the authorities whose works are being discussed. There are occasions when it would be difficult if not impossible to identify the ancient authority if not for the use of these titles. This usage should not be interpreted as supporting or approving the positions or teachings of these men.

With these thoughts in mind, we are ready to begin our examination of the historical records. The first section establishes the framework on which hangs a clear understanding of the centuries of conflict over the observance of Easter Sunday. The historical records that are presented in this section help to explain the process by which the New Testament churches were led away from the ordinances of the Christian Passover that were delivered to them by the apostles of Jesus Christ. The early Christian communities of Rome and sections of Asia Minor began to move away from the truth soon after it was preached to them. By the middle of Paul's ministry, many in the church had moved from a Nisan 14 Passover service in memory of the death of Christ toward a Sunday celebration of His resurrection.

Regardless of how much the early church fathers distanced themselves from "Jewish" practices, they were forced to track the date of Nisan 14 on the Julian Calendar in order to avoid having services on the same day with Christians who were still keeping the "Jewish" practices. Let us begin by examining the cycles by which those who wished to avoid the Nisan 14 Passover calculated the date of the fourteenth moon of the first month.

# Section I

## Chapter One

### **A Short History of the 8-Year Lunar Cycle of Rome and Alexandria**

No less than four different lunar cycles were used by the early church in its first 500 years to calculate the fourteenth moon of Nisan. This moon had to be known with great accuracy if the fledgling Catholic Church was to avoid observing Easter on or before Passover. Thus only the fourteenth moon after the spring equinox would qualify for this purpose. It was further decided that the first Sunday after this moon would be the date for the celebration of Easter, then called Pascha or The Passion of Christ.

We will examine the problems surrounding the dating of Easter in subsequent chapters. For the time being, our focus will be on the various lunar cycles employed by Rome, Alexandria and eventually the Celtic Churches of the British Isles. These cycles were the basis by which the fourteenth moon of the first month was determined and by which Easter Sunday was thus dated. Paschal Canons and especially the Paschal Tables developed from them, are at the core of our historical synchronizations between the Julian and Hebrew Calendars.

Roman bishops employed first of all an 8-year lunar cycle. For a very short period of time they employed a 16-year lunar cycle, next an 84-year lunar cycle, and then a 19-year lunar cycle developed by bishop Victorius of Aquitaine in Gaul. Rome finally adopted the 19-year lunar cycle of Dionysius Exiguus in 532 AD. The bishops of Alexandria employed an 8-year lunar cycle and finally a modified 19-year cycle of bishop Anatolius of Laodicea, Syria. It was this Alexandrian cycle that was finally adopted by Rome and implemented in 532 AD as the Dionysian Cycle.

The Celtic bishops employed an 84-year lunar cycle based on the principles of the Anatolian cycle. Next they employed a 19-year lunar cycle developed by bishop Victorius of Aquitaine of Gaul and finally they adopted a 19-year lunar cycle of Dionysius Exiguus first implemented at Whitby, Northumbria, England in 664 AD. The Celtic churches of Iona, Scotland, and Ireland (all having employed an 84-year lunar cycle) followed suit a few years later. The Celtic churches of Wales finally succumbed to Rome in 768 AD. At the center of these post-Whitby debates was the Venerable Bede who championed the 19-year lunar cycle of Dionysius Exiguus.

Thus it is only fitting that we begin our study with the examination of the various lunar cycles that were at the core of all Easter calculations. Without the development and application of these lunar cycles it would have been impossible to date Easter Sunday.

Once this task is accomplished, we will then examine the *Quartodeciman* controversies that raged on from the middle of the first century AD to the end of the eighth century AD. We use the term *Quartodeciman* in both its narrowest and broadest definitions. Its narrowest definition refers to those Christians who retained a Nisan 14 Passover in remembrance of the death of Christ. Its broadest definition refers to those who rejected this practice and celebrated only the resurrection of Christ—calling it the Passion of Christ. Both extremes are *Quartodeciman* in nature in that the calculation of Nisan 14 is at the center of worship—thus the need for the various lunar cycles.

It is good to understand that these controversies never really ended, they just slipped out of sight for a while and then popped up elsewhere at another time. At this very time the Roman Catholic Church and the Greek Orthodox Church are locked in a bitter debate over the dating of Easter. In fact, the Greek Orthodox Church adamantly refuses to refer to the celebration as Easter, saying the term is pagan. They instead refer to it as the Christian Passover. We Christians who observe a Passover service in remembrance of the death of Christ are a living testimony of this fact. Now for an exposition of the 8-year *Octaeteris* Lunar cycle of Rome and Alexandria.

## The 8-Year *Octaeteris* Lunar Cycle of Rome and Alexandria

The ancient 8-year *Octaeteris* lunar cycle had its roots in 7<sup>th</sup> century BC Greece, but was eventually transplanted to both Rome and Alexandria, Egypt. It was this very lunar cycle that was employed by pagan Rome when Christ and the apostles walked the earth. And it was this cycle, in opposition to the 19-year cycle of the Hebrew Calendar, that was adopted by the Roman Church of that period to determine the 14<sup>th</sup> moon of Nisan. The earliest Paschal Tables attest to this fact. This was the moon which had to be determined with great exactness if the early churches of Rome and Alexandria were to avoid any confluence of worship with the Passover service of the Jews—and, various Christian fellowships of Asia Minor.

The priests of Rome used this 8-year cycle until about 217 AD when it was replaced by a 16-year lunar cycle for a short time, which in turn was replaced by an 84-year lunar cycle. The priests of Alexandria used an 8-year cycle until about 284 AD when the 19-year Anatolian cycle replaced it.

The origin of this lunar cycle is attributed to Solon of Athens, Greece, who lived from 638 to 588 BC. It has quite an interesting history. This 8-year cycle was based on a lunar year of 354 days of 12 months. Each month alternated between 30 and 29 days yielding an average month of 29.52 days. Every other year an extra month of 30 days was added, lengthening these years to 384 days each.

An early Greek calendar attributed to Solon of Athens (638-558 BC) specified a year of 12 months containing alternately 30 days (full months) and 29 days (deficient months) to give a total of 354 days. The calendar was reconciled with the year by introducing an intercalated month of 30 days every other year. Thus two lunar years would contain 738 (=2x354+30) days, whereas two tropical years contained about 730 ½ days. The average length of the month was  $738 \frac{8}{25} = 29.52$  days, so that the calendar would get a day out of step with the moon after about eight years.

After a generation of two, it was recognized that Solon's lunar cycle was out of step with the heavens, and the result was the birth of the true *Octaeteris* lunar cycle. This was not the end of the story, however.

The discrepancy of seven and a half days was ultimately unacceptable and a little later Cleostratus of Tenedos (c. 520 BC) suggested that the intercalated month be

dropped once every eight years. Thus an eight-year cycle, the octreteris, which contained 2922 days and 99 months, was developed. Miraculously, eight solar years of  $365 \frac{1}{4}$  days also contained 2922 days.

The matter seemed to be settled, but, alas the actual length of these 99 lunations was 2923.528 days. This meant that Cleostratus' calendar was a day and a half out of step with the moon at the end of eight years; after 160 years the discrepancy would be 30 days. It was suggested therefore that one of the intercalated months be dropped every 160 years. In practice the Athenians reverted to the older and unsatisfactory method of dropping the month when they felt like it, with the inevitable result of corruption and chaos in the calendar. Nevertheless, the Octaeteris came to be considered a fundamental time period; for instance, the Olympic Games were held (and still are) every four years (half an Octaeteris). There the matter stood till Meton and Euctemon of Athens introduced a new method in 432 BC. This method was almost certainly invented by the Babylonians and in use there by 499 BC (Richards, *Mapping Time: The Calendar and Its History*, pp. 94-95).

William Smith's "Dictionary of Greek and Roman Antiquities, published in London in 1875 gives a good account of the cycle adoption by Rome and Alexandria, how it worked and its major problems in long term calculation of Easter Tables.

**CALENDARĪUM**, or rather **KALENDARĪUM**, is the account-book, in which creditors entered the names of their debtors and the sums which they owed. As the interest on borrowed money was due on the Calendae of each month, the name of Calendarium was given to such a book (Senec. *De Benef.* i.2, vii.10). The word was subsequently used to indicate a register of the days, weeks, and months, thus corresponding to a modern almanac or calendar.

The system of intercalating in alternate years 22 or 23 days, that is ninety days in eight years, was borrowed, we are told by Macrobius, from the Greeks; and the assertion is probable enough, first, because from the Greeks the Romans generally derived all scientific assistance; and secondly, because the decemviral legislation was avowedly drawn from that quarter. Moreover, at the very period in question, a cycle of eight years appears to have been in use at Athens, for the Metonic period of 19 years was not adopted before 432 B.C.

The ancient priests of Rome apparently adopted the *Octaeteris* lunar cycle sometime in the second century BC. As we will see, however, these priests were neither accurate nor consistent in their application of the cycle. This Roman proclivity would continue on in one form or another for another 700 years until they finally adopted the right cycle—the 19-year lunar cycle of Dionysius Exiguus. Rome seems to have had a "genius" for getting

things wrong and then demanding that others adopt the same errors. It is quite apparent that Rome hasn't changed.

The Romans, however, seem to have been guilty of some clumsiness in applying the science they derived from Greece. The addition of ninety days in a cycle of eight years to a lunar year of 354 days, would, in substance, have amounted to the addition of  $11\frac{1}{4}$  ( $= 90 \div 8$ ) days to each year, so that the Romans would virtually have possessed the Julian calendar. As it was, they added the intercalation to a year of 355 days; and consequently, on an average, every year exceeded its proper length by a day, if we neglect the inaccuracies of the Julian calendar.

Accordingly we find that the civil and solar years were greatly at variance in the year 564 A.U.C. On the 11th of Quinctilis, in that year, a remarkable eclipse of the sun occurred (Liv. xxxvii.4). This eclipse, says Ideler, can have been no other than the one which occurred on the 14th of March, 190 B.C. of the Julian calendar, and which at Rome was nearly total. Again, the same historian (Liv. xlv.37) mentions an eclipse of the moon which occurred in the night between the 3rd and 4th of September, in the year of the city 586. This must have been the total eclipse in the night between the 21st and 22nd of June, 168 B.C.

That attempts at legislation for the purpose of correcting so serious an error were actually made, appears from Macrobius, who, aware himself of the cause of the error, says that, by way of correction, in every third octoennial period, instead of 90 intercalary days, only 66 were inserted. Again it appears that M'. Acilius Glabrio, in his consulship 169 B.C., that is, the very year before that in which the above-mentioned lunar eclipse occurred, introduced some legislative measure upon the subject of intercalation (Macro. i.13). According to the above statement of Macrobius, a cycle of 24 years was adopted, and it is this very passage which has induced the editors of Livy to insert the word *quarto* in the text already quoted.

[http://www.ku.edu/history/index/europe/ancient\\_rome/E/Roman/Texts/secondary/SMIGRA\\*/Calendarium.html](http://www.ku.edu/history/index/europe/ancient_rome/E/Roman/Texts/secondary/SMIGRA*/Calendarium.html)

We will now drop down a few decades to the time of the early Christian bishops of Rome. These early bishops adopted the *Octaeteris* lunar cycle from the pagan priests of Rome. Exactly when, we do not know. A likely time period, however, would be sometime between 50 and 60 AD. Reasons for this likelihood will be explored in Chapter 11. Although rather easy to use (thus the reason for its adoption) this cycle, as we have already seen, was not without its flaws—especially in the calculation of Easter tables.

The lunar calendar used to track the new moons was also a subject of debate. The earliest surviving Easter tables show the approximation 8 years = 99 months was used. This approximation results in an error of 1 day every 5.2 years. Clearly, for

any long-term calculation of the moon, this rule will very quickly accumulate significant errors. <http://www.polysyllabic.com/Easter.html>

These “significant errors” would bring the calculated Roman dates for the fourteenth moon of the first month into direct conflict with the extremely accurate calculations of the Hebrew Calendar utilized by the early Christians of Asia Minor. These conflicting dates would become so common that they would stimulate the embryonic *Quartodeciman* controversy between the bishops of Rome and the bishops of Asia Minor.

Nevertheless, the bishops of Rome continued to utilize the 8-year *Octaeteris* lunar cycle until *circa* 224 AD when it was abandoned for the even less accurate 16-year lunar cycle of the Anti-Pope Hippolytus. Due to the fact that the Alexandrian church also employed the 8-year lunar cycle, conflicting dates for the celebration of Easter during this early period were all but non-existent, and therefore there are no historical records of any conflict for the first 224 years AD. Not until Rome abandoned the 8-year cycle in *circa* 224 AD would conflicts begin to appear. These deviations would be exaggerated after Rome’s adoption of the 84-year lunar cycle in 235 AD and further exacerbated by the Alexandrian adoption of the 19-year lunar cycle of Anatolius in 284 AD, while Rome still used an 84-year cycle. These cycle differences, along with different dates for the *ecclesiastical* spring equinox, and the ongoing *Quartodeciman* Controversy, would directly led to the convening of the Council of Nicaea in 325 AD by the recently crowned Roman Emperor—Constantine the Great.

We will now reconstruct this *Octaeteris* Cycle and in doing so lay it side by side with three other lunar cycles. Placing the *Octaeteris* Cycle in this context gives us points of reference along the way which will help explain the Easter dating conflicts that arise after 224 AD. Please keep in mind throughout this paper that in no way are we condoning the practice of Easter Sunday in place of a Nisan 14 Christian Passover. We simply reconstruct this history in defense of the accuracy and veracity of the Hebrew Calendar which underpins the dating from year-to-year of the Christian Passover as well as the High Sabbath seasons that follow.

Regarding the lunar cycles of the following tables, the Hebrew 19-year cycle had been around from time immemorial and long predates the Metonic Cycle of the Greeks. The “Pre-Athanasian” 19-year cycle is listed due to the fact that there are scholars who track this cycle in its historical context back

to the time of Christ. This cycle, tho not adopted by Alexandria until 284 AD, is the same as the Dionysian cycle adopted by Rome and Alexandria in

532 AD. Dionysius simply picked-up with the Athanasian cycle, ran it back 532 years to the time of Christ (as well as forward in time) and “walla”, we have the embryonic beginnings of an AD/BC chronology. This means of reckoning time, however, would not enter popular scribal usage until the time of The Venerable Bede in the early 8<sup>th</sup> century AD. The 84-year lunar cycle of Sulpicius is listed for the same reasons as those given for the “Pre-Athanasian” cycle and is dubbed the “pre-Sulpicius” cycle. The actual Sulpicius Cycle was adopted by the Celtic Churches of the British Isles beginning in 438 AD and was finally and totally replaced by the Dionysian 19-year cycle among the Celtic churches of Wales in 768 AD.

Each of the following tables is structured on the 19-year “Pre-Athanasian” cycle for the sake on continuity. It is this cycle that is adopted as that of Dionysius by Rome in 532 AD and which was thereafter computed to the time of Pope Gregory XIII in 1582 AD when the Julian Calendar was reformed. The Dionysian Cycle, however, was retained and still underpins the calculation of Easter Sunday for the Roman Catholic and Protestant world. Each table is presented on its own page for greater clarity and ease of review and study. New Testament chronology listed on these tables is taken from *The New Testament In Its Original Order: A Faithful Version With Commentary*, 2004, Appendix Q, by Fred R. Coulter.



**Table 1.0 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
1 BC-18 AD**

Cycle		Julian			
Year		Year AD			
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>		
1	67	4	17	1	BC
2	68	5	18	1	AD
3	69	6	19	2	
4	70	7	1	3	
5	71	8	2	4	
6	72	1	3	5	
7	73	2	4	6	
8	74	3	5	7	
9	75	4	6	8	
10	76	5	7	9	
11	77	6	8	10	
12	78	7	9	11	
13	79	8	10	12	
14	80	1	11	13	
15	81	2	12	14	
16	82	3	13	15	
17	83	4	14	16	
18	84	5	15	17	
19	1	6	16	18	

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.1 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
19-37 AD**

				Cycle Year	Julian Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	2	7	17	19		
2	3	8	18	20		
3	4	1	19	21		
4	5	2	1	22		
5	6	3	2	23		
6	7	4	3	24		
7	8	5	4	25		
8	9	6	5	26	The beginning of Christ's ministry	
9	10	7	6	27		
10	11	8	7	28		
11	12	1	8	29		
12	13	2	9	30	The crucifixion and resurrection of Christ	
13	14	3	10	31		
14	15	4	11	32	Martyrdom of Stephen (Acts 6,7). Simon Magus elected first bishop of Rome—32-67 AD. See Catholic Encyclopedia for complete <a href="#">list of the popes</a>	
15	16	5	12	33	Saul's conversion (Acts 9:3-18)	
16	17	6	13	34	Saul in Arabia 3 years—34-36	
17	18	7	14	35		
18	19	8	15	36	Saul visits Jerusalem (Acts 9:26-30)	
19	20	1	16	37		

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.2 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
38-56 AD**

				Cycle	Julian	
				Year	Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	21	2	17	38	Vision of Cornelius (Acts 10:1-6)	
2	22	3	18	39		
3	23	4	19	40	Book of James written	
4	24	5	1	41		
5	25	6	2	42	Apostles leave to preach to Lost Ten Tribes	
6	26	7	3	43	3 Years of famine begins (43-45 AD)	
7	27	8	4	44	Paul begins 1 <sup>st</sup> evangelistic journey (Acts 13/14)	
8	28	1	5	45		
9	29	2	6	46	Paul ends 1 <sup>st</sup> evangelistic journey	
10	30	3	7	47		
11	31	4	8	48		
12	32	5	9	49	Paul begins 2 <sup>nd</sup> evangelistic journey (Acts 15/18)	
13	33	6	10	50	I Thessalonians written. Death of R. Simeon B. Gamaliel the Elder. Nasi of Sanhedrin from 20 –50 AD	
14	34	7	11	51	II Thessalonians written	
15	35	8	12	52	Paul ends 2 <sup>nd</sup> evangelistic journey	
16	36	1	13	53	Paul begins 3 <sup>rd</sup> evangelistic journey (Acts 18)	
17	37	2	14	54	Galatians written—53 AD	
18	38	3	15	55		
19	39	4	16	56	I Corinthians written	

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.3 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
57-75 AD**

Cycle					Julian	
Year					Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	40	5	17	57	II Corinthians written. Romans written	
2	41	6	18	58		
3	42	7	19	59		
4	43	8	1	60		
5	44	1	2	61	Book of Hebrews written	
6	45	2	3	62	Ephesians, Philippians, Colossians and	
7	46	3	4	63	Philemon written (61-63 AD)	
8	47	4	5	64		
9	48	5	6	65		
10	49	6	7	66	Jewish revolt begins.	
11	50	7	8	67	Linus elected bishop of Rome—67-78 AD	
12	51	8	9	68	Nero dies in Greece—June 9	
13	52	1	10	69		
14	53	2	11	70	The destruction of the Jewish temple Ab 9-10. Death of R. Simeon B. Gamaliel I, father of R. Simeon B. Gamaliel II.	
15	54	3	12	71		
16	55	4	13	72		
17	56	5	14	73		
18	57	6	15	74		
19	58	7	16	75		

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.4 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
76-94 AD**

Cycle					Julian	
Year					Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	59	8	17	76		
2	60	1	18	77		
3	61	2	19	78	Cletus elected bishop of Rome—78-80 AD	
4	62	3	1	79		
5	63	4	2	80	Clements I elected bishop of Rome—80-99 AD	
6	64	5	3	81		
7	65	6	4	82		
8	66	7	5	83		
9	67	8	6	84		
10	68	1	7	85		
11	69	2	8	86		
12	70	3	9	87		
13	71	4	10	88		
14	72	5	11	89		
15	73	6	12	90		
16	74	7	13	91		
17	75	8	14	92		
18	76	1	15	93		
19	77	2	16	94		

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.5 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
95-113 AD**

				Cycle	Julian	
				Year	Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	78	3	17	95		
2	79	4	18	96	The election of R. Simeon B. Gamaliel II as <i>Nasi</i>	
3	80	5	19	97	of the Sanhedrin in exile	
4	81	6	1	98		
5	82	7	2	99	Euaristus elected bishop of Rome—99-107 AD	
6	83	8	3	100	Roman Empire day of worship changed from	
					Saturday to Sunday	
7	84	1	4	101		
8	1	2	5	102		
9	2	3	6	103		
10	3	4	7	104		
11	4	5	8	105		
12	5	6	9	106		
13	6	7	10	107	Alexander elected bishop of Rome—107-117 AD	
14	7	8	11	108		
15	8	1	12	109		
16	9	2	13	110		
17	10	3	14	111		
18	11	4	15	112		
19	12	5	16	113		

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.6 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
114-132 AD**

				Cycle Year	Julian Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	13	6	17	114		
2	14	7	18	115		
3	15	8	19	116		
4	16	1	1	117	Sixtus I elected bishop of Rome—117-127 AD	
5	17	2	2	118		
6	18	3	3	119		
7	19	4	4	120		
8	20	5	5	121		
9	21	6	6	122		
10	22	7	7	123		
11	23	8	8	124		
12	24	1	9	125		
13	25	2	10	126		
14	26	3	11	127	Telesphorus elected bishop of Rome—127-138 AD	
15	27	4	12	128		
16	28	5	13	129		
17	29	6	14	130		
18	30	7	15	131		
19	31	8	16	132	Rebellion of Bar Kochba begins	

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.7 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
133-151 AD**

				Cycle Year	Julian Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	32	1	17	133		
2	33	2	18	134		
3	34	3	19	135	The death of Bar Kochba on Ab 9, August 7.	
4	35	4	1	136		
5	36	5	2	137		
6	37	6	3	138	Hyginus elected bishop of Rome—138-142 AD	
7	38	7	4	139		
8	39	8	5	140		
9	40	1	6	141		
10	41	2	7	142	Pius I elected bishop of Rome—142-157 AD	
11	42	3	8	143		
12	43	4	9	144		
13	44	5	10	145		
14	45	6	11	146		
15	46	7	12	147		
16	47	8	13	148		
17	48	1	14	149		
18	49	2	15	150		
19	50	3	16	151		

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar



**Table 1.8 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
152-170 AD**

				Cycle Year	Julian Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	51	4	17	152		
2	52	5	18	153		
3	53	6	19	154		
4	54	7	1	155		
5	55	8	2	156		
6	56	1	3	157	Anicetus elected bishop of Rome—157-166 AD	
7	57	2	4	158		
8	58	3	5	159		
9	59	4	6	160	Polycarp of Smyrna visits Anicetus re: Passover	
10	60	5	7	161		
11	61	6	8	162		
12	62	7	9	163		
13	63	8	10	164	Melito of Laodicea writes of the Passover	
14	64	1	11	165		
15	65	2	12	166	Soter elected bishop of Rome—166-175 AD	
16	66	3	13	167		
17	67	4	14	168		
18	68	5	15	169		
19	69	6	16	170		

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.9 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
171-189 AD**

				Cycle	Julian
				Year	Year AD
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>		
1	70	7	17	171	
2	71	8	18	172	
3	72	1	19	173	
4	73	2	1	174	Apollinaris of Hierapolis writes re: Passover
5	74	3	2	175	Eleuterius elected bishop of Rome—175-189 AD
6	75	4	3	176	
7	76	5	4	177	
8	77	6	5	178	Severe drought begins in Germania. Runs 4
9	78	7	6	179	years from 178-182 AD. Europe, Asia and
10	79	8	7	180	Africa affected (Holt, p. 54).
11	80	1	8	181	
12	81	2	9	182	
13	82	3	10	183	
14	83	4	11	184	
15	84	5	12	185	
16	1	6	13	186	
17	2	7	14	187	
18	3	8	15	188	
19	4	1	16	189	Victor I elected bishop of Rome—189-199 AD

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

**Table 1.10 The 8-Year *Octaeteris* Cycle of Rome and Alexandria—  
190-208 AD**

				Cycle	Julian	
				Year	Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	O <sup>3</sup>	H <sup>4</sup>			
1	5	2	17	190	Passover controversy between bishop Victor I of Rome and bishop Polycrates of Ephesus.	
2	6	3	18	191		
3	7	4	19	192		
4	8	5	1	193		
5	9	6	2	194		
6	10	7	3	195		
7	11	8	4	196		
8	12	1	5	197		
9	13	2	6	198	Severe drought begins in Germania. Runs 14 years from 198-212 AD. Europe, Asia and Africa affected (Holt, p. 96).	
10	14	3	7	199		
11	15	4	8	200		
12	16	5	9	201		
13	17	6	10	202		
14	18	7	11	203		
15	19	8	12	204		
16	20	1	13	205		
17	21	2	14	206		
18	22	3	15	207		
19	23	4	16	208		

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>8-year *Octaeteris* Lunar Cycle used by Rome and Alexandria.

<sup>4</sup>19-year cycle of the Hebrew Calendar

## The 16-Year Lunar Cycle of St. Hippolytus Utilized by Rome Circa 224-235 AD

Anti-pope Hippolytus replaced the 8-year *Octaeteris* lunar cycle, used by the bishops and priests of Rome for *circa* 174 years, with his own ill-conceived 16-year cycle. This new cycle was used to calculate the fourteenth moon of the first month, and thus the dates for Easter, for years 222 through 333 AD—seven 16-year cycles. Although it dates from 222 AD it was probably implemented in 224 AD. The first seven years or so of the cycle are quite accurate. The cycle then degenerates into complete inaccuracy.

The story of this short-lived cycle plays out like this. Hippolytus revolted against Callistus when Callistus was chosen pope and set himself up as pope in 217 AD. Both Pope Hippolytus and Pope Pontian, (Pontian had succeeded Pope Callistus), were banished by Emperor Maximinus to the mines of Sardinia in 235 AD.

It is more likely that the saint whose feast is kept on August 13th was a priest and theologian who lived in Rome during the first part of the third century. He composed a number of works, all in Greek, then the official language of the church of Rome, of which few survive. Among these is the *Philosophoumena* in which he attacks contemporary heresies, affiliating them to various pagan philosophies. In **his honor his disciples erected a statue** which was discovered headless in the sixteenth century. **On his chair a list of his books is inscribed. He drew up a table for calculating the date of Easter which was proved, however, almost immediately to be incorrect.** Among his many commentaries on Scripture, one survives, the oldest extant Christian commentary on a book of the Bible, a commentary on Daniel in which he seeks to calm fears or destroy excited anticipations of the Second Advent by proving that the world must last 6,000 years, 300 more than the date of writing. Though he did not condemn it, Pope Callistus looked askance at Hippolytus's theology of the Divine Word which continued an undeveloped and ill-formulated theology tending to regard the Word as a subordinate Deity. When Callistus was chosen pope **in 217 Hippolytus revolted and set himself up as anti-pope.** He also denounced what he regarded as Callistus' laxities; nor did he shrink from personal slander. For his followers' use he drew up a book of directions, chiefly liturgical, called the *Apostolic Tradition*. Soon forgotten in the west, it long survived, variously modified, in eastern churches. It is our sole authority for the canon of a Roman mass earlier than the fourth century, though his canon was not intended to be a formula verbally fixed. When **in 235** the Emperor Maximinus revived the persecution of Christians, **Pope Pontian and the anti-pope Hippolytus were banished to the**

**Sardinian mines;** Hippolytus surrendered his papal claim and invited his followers to submit to the legitimate pontiff. Both soon died, victims of this concentration camp, and when the persecution ceased their bodies were brought back to Rome for burial (August 13th). Though Hippolytus' conduct was not saintly, his private life had always been austere, and his death was a martyrdom. <http://www.cin.org/saints/pontian-hippolytus.html>

E. G. Richards reports that the dates of the fourteenth moon of the first month are recorded on the above stature which was discovered in 1551 AD.

The Romans used a method designed by Hippolytus (who died in about AD 236), which was essentially similar to the Octaeteris, but employed a cycle of 16 years; **they believed that the equinox fell on 25 March.** The inscription on a statue of Hippolytus, unearthed in Rome in 1551, provided full details of this [Easter] canon—the **dates of the moons repeated every 16 years**, but on different days of the week; a combination of day of the week and date repeated every 112 years. However, the scheme was no more accurate with respect to the real moon than the Octaeteris (*Mapping Time: The Calendar and Its History*, p. 349).

Once again this new 16-year cycle of Hippolytus is given in the context of other lunar cycles. The Hebrew 19-year cycle, the “Pre-Athanasian” 19-year cycle, the end of the Octaeteris 8-year cycle and the Sulpicius 84-year cycle, and the beginning of the Augustalis 84-year cycle. These Tables are a reconstruction of scant information coming down to us from the misty past. They are not presented as an absolute, God given representation of the cycles of the period. By the time we get to the implementation of the 19-year cycle of Athanasius the Great in 284, the facts are much more specific and therefore we can reconstruct our cycles with much greater confidence.

**Table 1.11 The 8-Year *Octaeteris* Cycle of Rome and Alexandria. The 16-Year Cycle of Rome. The 8-Year Cycle of Alexandria—209-227 AD**

					Cycle	Julian
					Year	Year AD
AT <sup>1</sup>	SU <sup>2</sup>	HI <sup>3</sup>	O <sup>4</sup>	H <sup>5</sup>		
1	24		5	17	209	
2	25		6	18	210	
3	26		7	19	211	
4	27		8	1	212	Severe drought ends. Ran from
5	28		1	2	213	198-212 AD
6	29		2	3	214	
7	30		3	4	215	Severe drought begins in Germania. Runs
19						
8	31		4	5	216	from 215-234 AD. Europe, Asia and Africa
9	32		5	6	217	affected (Holt, pp. 54, 96).
10	33		6	7	218	
11	34		7	8	219	
12	35		8	9	220	Extremely severe drought year.
13	36		1	10	221	
14	37	1	2	11	222	
15	38	2	3	12	223	Last year Rome uses 8-year cycle.
16	39	3	4	13	224	First year Rome uses 16-year cycle.
17	40	4	5	14	225	Parthian Empire collapses. Sassanid Empire
18	41	5	6	15	226	replaces Parthian.
19	42	6	7	16	227	

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>16-year cycle of Hippolytus.

<sup>4</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 1.12 The 16-Year Cycle of Rome. The 84-Year Cycle of Rome. The 8-Year *Octaeteris* Cycle of Alexandria—228-246 AD**

Cycle Year						Julian Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	HI <sup>4</sup>	O <sup>5</sup>	H <sup>6</sup>	
1	43		7	8	17	228
2	44		8	1	18	229
3	45		9	2	19	230
4	46		10	3	1	231
5	47		11	4	2	232
6	48		12	5	3	233
7	49		13	6	4	234
8	50	1	14	7	5	235
9	51	2	15	8	6	236
10	52	3	16	1	7	237
11	53	4		2	8	238
12	54	5		3	9	239
13	55	6		4	10	240
14	56	7		5	11	241
15	57	8		6	12	242
16	58	9		7	13	243
17	59	10		8	14	244
18	60	11		1	15	245
19	61	12		2	16	246

Severe drought ends in 234 AD.  
Rome abandons 16-year cycle  
in 235 AD for 84-year cycle.

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table.

<sup>4</sup>16-year cycle of Hippolytus.

<sup>5</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>6</sup>19-year cycle of the Hebrew Calendar

## Chapter Two

### A Short History of the Roman 84-Year Lunar Cycle of Augustalis

The short-lived 16-year cycle of Hippolytus was replaced in 235 AD with the 84-year cycle of an otherwise unknown Roman by the name of Augustalis. Based on the information regarding anti-pope Hippolytus, it seems likely that the introduction of Roman 84-year lunar cycle occurred around 235 AD and overlapped the end of the Hippolytus cycle by some 3 years. This new lunar cycle, used by Rome from 235 to 456 AD, was a great improvement over both the 8-year *Octaeteris* Cycle and the 16-year cycle, but still had major drawbacks.

In the early third century, a Roman named **Augustalis** introduced a new approximation: 84 years = 1039 months. This equation leads to an error of 1 day every 64.6 years--a significant improvement.  
<http://www.polysyllabic.com/Easter.html>

This lunar cycle was used by the Roman Church for the computation of Easter tables for approximately two and a half 84-year cycles to 456 AD. At that time it was abandoned in favor of the much more accurate Victorian 19-year cycle of Victorius of Aquitaine, Gaul, a cycle that was based on the Alexandrian lunar cycle. The Victorian Cycle was in turn abandoned by Rome in 532 for the Dionysian 19-year Cycle.

The Alexandrian church retained use of the *Octaeteris* 8-year cycle for another 50 years until 284 AD. The first year of Alexandria's new 19-year cycle was 285 AD. The story of Alexandria's 19-year lunar cycle will be presented in Chapter Five.

The 84-year cycle of Augustalis is a triplicate of the 28-year lunar cycle. The same solar date repeats on the same day of the week every 28 years. January 1, 438 AD, for example, fell on a Saturday. This pattern holds for each 84-year cycle through 1530 AD. Then, in 1614 AD (due to the



Gregorian adjustment of 10 days) the day shifts to Wednesday and remains on Wednesday through 1698 AD. The day shifts to a Tuesday in 1782 AD. Then to a Monday in 1866 AD. Then to a Sunday in 1950 AD on which day it remains on Sunday through 2034. The cycle finally reverts back to a Saturday in 2118 AD.

As we know, the Julian Calendar did not correct for seasonal slippage, thus the date of the spring equinox slipped backwards a bit century by century. The Gregorian Calendar, however, does track the seasons quite accurately, thus when we switch to the Gregorian Calendar in 1582 AD the cycle jumps one day of the week after each 84 years. By the time the Gregorian was introduced, these corrections had not been made, thus it was necessary to make up for lost time by jumping 10 whole days.

So, at 4 x or 112 years the solar date per day of the week jumps ahead one day. So, the 28-year cycle, same day of the week lock only holds for 84 years, then picks a new day of the week for the same solar date.

The reader will notice that Table 2.0 is a duplicate of Table 1.12. So much is happening at this time we retained the same Table to introduce the 84-year cycle of Rome in a meaningful context.

**Table 2.0 The 16-Year Cycle of Rome. The 84-Year Roman Cycle of Augustalis. The 8-Year *Octaeteris* Cycle of Alexandria—228-246 AD**

Cycle						Julian
Year						Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	HI <sup>4</sup>	O <sup>5</sup>	H <sup>6</sup>	
1	43		7	8	17	228
2	44		8	1	8	229
3	45		9	2	19	230
4	46		10	3	1	231
5	47		11	4	2	232
6	48		12	5	3	233
7	49		13	6	4	234
8	50	1	14	7	5	235
9	51	2	15	8	6	236
10	52	3	16	1	7	237
11	53	4		2	8	238
12	54	5		3	9	239
13	55	6		4	10	240
14	56	7		5	11	241
15	57	8		6	12	242
16	58	9		7	13	243
17	59	10		8	14	244
18	60	11		1	15	245
19	61	12		2	16	246

Severe drought ends in 234 AD.  
Rome abandons 16-year cycle  
in 235 AD for 84-year cycle.

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table.

<sup>4</sup>16-year cycle of Hippolytus.

<sup>5</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>6</sup>19-year cycle of the Hebrew Calendar

**Table 2.1 84-Year Cycle of the Augustalis Paschal Table—  
247-265 AD**

Cycle					Julian
Year					Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	O <sup>4</sup>	H <sup>5</sup>	
1	62	13	3	17	247
2	63	14	4	18	248
3	64	15	5	19	249
4	65	16	6	1	250
5	66	17	7	2	251
6	67	18	8	3	252
7	68	19	1	4	253
8	69	20	2	5	254
9	70	21	3	6	255
10	71	22	4	7	256
11	72	23	5	8	257
12	73	24	6	9	258
13	74	25	7	10	259
14	75	26	8	11	260
15	76	27	1	12	261
16	77	28	2	13	262
17	78	29	3	14	263
18	79	30	4	15	264
19	80	31	5	16	265

Severe drought begins in Germania. Runs  
9 years from 264-273 AD. Europe, Asia  
and

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>5</sup>19-year cycle of the Hebrew Calendar

The story of the 19-year cycle of bishop Anatolius of Laodicea, Syria will be presented in Chapter Four. For the present, we simply introduce the cycle in Table 2.2, and will continue to follow the story of Rome’s 84-year cycle.

**Table 2.2 84-Year Cycle of the Augustalis Paschal Table—  
266-284 AD**

=====							
Cycle							Julian
Year							Year AD
=====							
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	O <sup>5</sup>	H <sup>6</sup>		
1	81	32		6	17	266	Africa affected (Holt, p. 54).
2	82	33		7	18	267	
3	83	34		8	19	268	
4	84	35		1	1	269	
5	1	36		2	2	270	
6	2	37	1	3	3	271	271 AD was year 1 of the Anatolian 19-year cycle.
7	3	38	2	4	4	272	
8	4	39	3	5	5	273	Severe drought ends in 273 AD.
9	5	40	4	6	6	274	
10	6	41	5	7	7	275	
11	7	42	6	8	8	276	
12	8	43	7	1	9	277	Severe drought begins in Germania.
13	9	44	8	2	10	278	Runs 6 years from 277-283 AD.
14	10	45	9	3	11	279	Europe, Asia and Africa affected (Holt, p. 54).
15	11	46	10	4	12	280	
16	12	47	11	5	13	281	
17	13	48	12	6	14	282	
18	14	49	13	7	15	283	Severe drought ends in 283 AD.
19	15	50	14	8	16	284	284 is last year Alexandria used 8-year cycle
=====							

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis’ Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius’ Paschal Table.

<sup>5</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>6</sup>19-year cycle of the Hebrew Calendar

**Table 2.3 84-Year Cycle of the Augustalis Paschal Table—  
285-303 AD**

					Cycle Year	Julian Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	16	51	15	17	285	285 AD is Year 1 of Alexandria's New 19-year lunar cycle.
2	17	52	16	18	286	
3	18	53	17	19	287	
4	19	54	18	1	288	
5	20	55	19	2	289	
6	21	56	1	3	290	
7	22	57	2	4	291	
8	23	58	3	5	292	
9	24	59	4	6	293	
10	25	60	5	7	294	
11	26	61	6	8	295	
12	27	62	7	9	296	
13	28	63	8	10	297	
14	29	64	9	11	298	
15	30	65	10	12	299	
16	31	66	11	13	300	
17	32	67	12	14	301	
18	33	68	13	15	302	
19	34	69	14	16	303	

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.4 84-Year Cycle of the Augustalis Paschal Table—  
304-322 AD**

					Cycle	Julian
					Year	Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	35	70	15	17	304	
2	36	71	16	18	305	
3	37	72	17	19	306	In 306 AD Constantine the Great crowned
4	38	73	18	1	307	Emperor of the Roman Empire.
5	39	74	19	2	308	
6	40	75	1	3	309	
7	41	76	2	4	310	
8	42	77	3	5	311	
9	43	78	4	6	312	
10	44	79	5	7	313	
11	45	80	6	8	314	
12	46	81	7	9	315	
13	47	82	8	10	316	
14	48	83	9	11	317	
15	49	84	10	12	318	
16	50	1	11	13	319	
17	51	2	12	14	320	
18	52	3	13	15	321	
19	53	4	14	16	322	

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.5 84-Year Cycle of the Augustalis Paschal Table—  
323-341 AD**

					Cycle Year	Julian Year AD		
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>				
1	54	5	15	17	323			
2	55	6	16	18	324			
3	56	7	17	19	325	Council of Nicaea		
4	57	8	18	1	326			
5	58	9	19	2	327			
6	59	10	1	3	328			
7	60	11	2	4	329			
8	61	12	3	5	330			
9	62	13	4	6	331			
10	63	14	5	7	332			
11	64	15	6	8	333			
12	65	16	7	9	334			
13	66	17	8	10	335			
14	67	18	9	11	336			
15	68	19	10	12	337	Constantine the Great dies. Civil war		
16	69	20	11	13	338	breaks out among his three sons.		
17	70	21	12	14	339			
18	71	22	13	15	340			
19	72	23	14	16	341			

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.6 84-Year Cycle of the Augustalis Paschal Table—  
342-360AD**

					Cycle	Julian
					Year	Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	73	24	15	17	342	
2	74	25	16	18	343	
3	75	26	17	19	344	
4	76	27	18	1	345	
5	77	28	19	2	346	
6	78	29	1	3	347	
7	79	30	2	4	348	
8	80	31	3	5	349	
9	81	32	4	6	350	Constantius II finally emerges as
10	82	33	5	7	351	sole Emperor of the Roman Empire.
11	83	34	6	8	352	
12	84	35	7	9	353	
13	1	36	8	10	354	
14	2	37	9	11	355	
15	3	38	10	12	356	
16	4	39	11	13	357	
17	5	40	12	14	358	Hillel II publishes Hebrew Calendar
18	6	41	13	15	359	secrets in 358 AD. Constantinople becomes
						new capital of Roman Empire in 359 AD.
19	7	42	14	16	360	

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar



**Table 2.7 84-Year Cycle of the Augustalis Paschal Table—  
361-379 AD**

					Cycle	Julian
					Year	Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	8	43	15	17	361	
2	9	44	16	18	362	
3	10	45	17	19	363	
4	11	46	18	1	364	
5	12	47	19	2	365	
6	13	48	1	3	366	
7	14	49	2	4	367	
8	15	50	3	5	368	
9	16	51	4	6	369	
10	17	52	5	7	370	
11	18	53	6	8	371	
12	19	54	7	9	372	
13	20	55	8	10	373	Last year of Paschal Table of St. Athanasius
14	21	56	9	11	374	
15	22	57	10	12	375	First year of Paschal Table of St.
	Theophilus					
16	23	58	11	13	376	
17	24	59	12	14	377	
18	25	60	13	15	378	Great Goth victory in Battle of Adrianople.
19	26	61	14	16	379	

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.8 84-Year Cycle of the Augustalis Paschal Table—  
380-398 AD**

Cycle Year						Julian Year AD
TH <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	27	62	15	17	380	
2	28	63	16	18	381	
3	29	64	17	19	382	
4	30	65	18	1	383	
5	31	66	19	2	384	
6	32	67	1	3	385	
7	33	68	2	4	386	
8	34	69	3	5	387	
9	35	70	4	6	388	
10	36	71	5	7	389	
11	37	72	6	8	390	
12	38	73	7	9	391	
13	39	74	8	10	392	
14	40	75	9	11	393	
15	41	76	10	12	394	
16	42	77	11	13	395	In 395 AD Theodosius divides Roman Empire into Western and Eastern Empires with Milano and Constantinople as their capitals.
17	43	78	12	14	396	
18	44	79	13	15	397	
19	45	80	14	16	398	

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.9 84-Year Cycle of the Augustalis Paschal Table—  
399-417 AD**

=====						
Cycle						Julian
Year						Year AD
=====						
TH <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	46	81	15	17	399	
2	47	82	16	18	400	
3	48	83	17	19	401	
4	49	84	18	1	402	Western capital of Rome moved from Milano to Ravenna
5	50	1	19	2	403	
6	51	2	1	3	404	
7	52	3	2	4	405	
8	53	4	3	5	406	
9	54	5	4	6	407	
10	55	6	5	7	408	
11	56	7	6	8	409	
12	57	8	7	9	410	Visigoths sack Rome. Rome withdraws from Britannia
13	58	9	8	10	411	
14	59	10	9	11	412	
15	60	11	10	12	413	
16	61	12	11	13	414	
17	62	13	12	14	415	
18	63	14	13	15	416	
19	64	15	14	16	417	
=====						

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.10 84-Year Cycle of the Augustalis Paschal Table—  
418-436 AD**

=====					
Cycle					
Year					
=====					
Julian					
Year AD					
=====					
TH <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>	
1	65	16	15	17	418
2	66	17	16	18	419
3	67	18	17	19	420
4	68	19	18	1	421
5	69	20	19	2	422
6	70	21	1	3	423
7	71	22	2	4	424
8	72	23	3	5	425
9	73	24	4	6	426
10	74	25	5	7	427
11	75	26	6	8	428
12	76	27	7	9	429
13	77	28	8	10	430
14	78	29	9	11	431
15	79	30	10	12	432
16	80	31	11	13	433
17	81	32	12	14	434
18	82	33	13	15	435
19	83	34	14	16	436

Year 1 of St. Cyril's Paschal Table

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.11 84-Year Cycle of the Augustalis Paschal Table—  
437-455 AD**

					Cycle	Julian		
					Year	Year AD		
CY <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>				
1	84	35	15	17	437	Last year Pre-Sulpicius Cycle		
2	1	36	16	18	438	438 AD year 1 of Sulpicius 84-year Cycle— Celtic Churches of the British Isles		
3	2	37	17	19	439			
4	3	38	18	1	440			
5	4	39	19	2	441			
6	5	40	1	3	442			
7	6	41	2	4	443			
8	7	42	3	5	444			
9	8	43	4	6	445			
10	9	44	5	7	446			
11	10	45	6	8	447			
12	11	46	7	9	448			
13	12	47	8	10	449			
14	13	48	9	11	450			
15	14	49	10	12	451			
16	15	50	11	13	452			
17	16	51	12	14	453			
18	17	52	13	15	454			
19	18	53	14	16	455	Last year of Augustalis' 84-year Cycle		

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table—437 to 531 AD.

<sup>2</sup>84-year cycle of Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

The 84-year cycle is a triplicate of the 28-year lunar cycle. The same solar date repeats on the same day of the week every 28 years. January 1, 438 AD, for example, fell on a Saturday. This pattern holds for each 84-year

cycle through 1530 AD. Then, in 1614 AD (due to the Gregorian adjustment of 10 days) the day shifts to Wednesday and remains on Wednesday through 1698 AD. The day shifts to a Tuesday in 1782 AD. Then to a Monday in 1866 AD. Then to a Sunday in 1950 AD on which day it remains on Sunday through 2034. The cycle finally reverts back to a Saturday in 2118 AD.

As we know, the Julian Calendar did not correct for seasonal slippage, thus the date of the spring equinox slipped backwards a bit century by century. The Gregorian Calendar, however, does track the seasons quite accurately, thus when we switch to the Gregorian Calendar in 1582 AD the cycle jumps one day of the week after each 84 years. By the time the Gregorian was introduced, these corrections had not been made, thus it was necessary to make up for lost time by jumping 10 whole days.

So, at 4 x or 112 years the solar date per day of the week jumps ahead one day. So, the 28-year cycle, same day of the week lock only holds for 84 years, then picks a new day of the week for the same solar date.

The reader will notice that Table 2.0 is a duplicate of Table 1.12. So much is happening at this time we retained the same Table to introduce the 84-year cycle of Rome in a meaningful context.

**Table 2.0 The 16-Year Cycle of Rome. The 84-Year Roman Cycle of Augustalis. The 8-Year *Octaeteris* Cycle of Alexandria—228-246 AD**

						Cycle	Julian
						Year	Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	HI <sup>4</sup>	O <sup>5</sup>	H <sup>6</sup>		
1	43		7	8	17	228	
2	44		8	1	8	229	
3	45		9	2	19	230	
4	46		10	3	1	231	
5	47		11	4	2	232	
6	48		12	5	3	233	
7	49		13	6	4	234	Severe drought ends in 234 AD.
8	50	1	14	7	5	235	Rome abandons 16-year cycle
9	51	2	15	8	6	236	in 235 AD for 84-year cycle.
10	52	3	16	1	7	237	
11	53	4		2	8	238	
12	54	5		3	9	239	
13	55	6		4	10	240	
14	56	7		5	11	241	
15	57	8		6	12	242	
16	58	9		7	13	243	
17	59	10		8	14	244	
18	60	11		1	15	245	
19	61	12		2	16	246	

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table.

<sup>4</sup>16-year cycle of Hippolytus.

<sup>5</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>6</sup>19-year cycle of the Hebrew Calendar

**Table 2.1 84-Year Cycle of the Augustalis Paschal Table—  
247-265 AD**

					Cycle Year	Julian Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	O <sup>4</sup>	H <sup>5</sup>		
1	62	13	3	17	247	
2	63	14	4	18	248	
3	64	15	5	19	249	
4	65	16	6	1	250	
5	66	17	7	2	251	
6	67	18	8	3	252	
7	68	19	1	4	253	
8	69	20	2	5	254	
9	70	21	3	6	255	
10	71	22	4	7	256	
11	72	23	5	8	257	
12	73	24	6	9	258	
13	74	25	7	10	259	
14	75	26	8	11	260	
15	76	27	1	12	261	
16	77	28	2	13	262	
17	78	29	3	14	263	
18	79	30	4	15	264	Severe drought begins in Germania. Runs
19	80	31	5	16	265	9 years from 264-273 AD. Europe, Asia and

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>5</sup>19-year cycle of the Hebrew Calendar



The story of the 19-year cycle of bishop Anatolius of Laodicea, Syria will be presented in Chapter Four. For the present, we simply introduce the cycle in Table 2.2, and will continue to follow the story of Rome's 84-year cycle.

**Table 2.2 84-Year Cycle of the Augustalis Paschal Table—  
266-284 AD**

Cycle Year						Julian Year AD	
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	O <sup>5</sup>	H <sup>6</sup>		
1	81	32		6	17	266	Africa affected (Holt, p. 54).
2	82	33		7	18	267	
3	83	34		8	19	268	
4	84	35		1	1	269	
5	1	36		2	2	270	
6	2	37	1	3	3	271	271 AD was year 1 of the
7	3	38	2	4	4	272	Anatolian 19-year cycle.
8	4	39	3	5	5	273	Severe drought ends in 273 AD.
9	5	40	4	6	6	274	
10	6	41	5	7	7	275	
11	7	42	6	8	8	276	
12	8	43	7	1	9	277	Severe drought begins in Germania.
13	9	44	8	2	10	278	Runs 6 years from 277-283 AD.
14	10	45	9	3	11	279	Europe, Asia and Africa affected
15	11	46	10	4	12	280	(Holt, p. 54).
16	12	47	11	5	13	281	
17	13	48	12	6	14	282	
18	14	49	13	7	15	283	Severe drought ends in 283 AD.
19	15	50	14	8	16	284	284 is last year Alexandria used 8-year cycle

Note:

<sup>1</sup>19-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>8-year *Octaeteris* Lunar Cycle used by Alexandria until 285 AD.

<sup>6</sup>19-year cycle of the Hebrew Calendar

**Table 2.3 84-Year Cycle of the Augustalis Paschal Table—  
285-303 AD**

					Cycle	Julian
					Year	Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	16	51	15	17	285	285 AD is Year 1 of Alexandria's New 19-year lunar cycle.
2	17	52	16	18	286	
3	18	53	17	19	287	
4	19	54	18	1	288	
5	20	55	19	2	289	
6	21	56	1	3	290	
7	22	57	2	4	291	
8	23	58	3	5	292	
9	24	59	4	6	293	
10	25	60	5	7	294	
11	26	61	6	8	295	
12	27	62	7	9	296	
13	28	63	8	10	297	
14	29	64	9	11	298	
15	30	65	10	12	299	
16	31	66	11	13	300	
17	32	67	12	14	301	
18	33	68	13	15	302	
19	34	69	14	16	303	

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.4 84-Year Cycle of the Augustalis Paschal Table—  
304-322 AD**

					Cycle Year	Julian Year AD
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	35	70	15	17	304	
2	36	71	16	18	305	
3	37	72	17	19	306	In 306 AD Constantine the Great crowned Emperor of the Roman Empire.
4	38	73	18	1	307	
5	39	74	19	2	308	
6	40	75	1	3	309	
7	41	76	2	4	310	
8	42	77	3	5	311	
9	43	78	4	6	312	
10	44	79	5	7	313	
11	45	80	6	8	314	
12	46	81	7	9	315	
13	47	82	8	10	316	
14	48	83	9	11	317	
15	49	84	10	12	318	
16	50	1	11	13	319	
17	51	2	12	14	320	
18	52	3	13	15	321	
19	53	4	14	16	322	

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.5 84-Year Cycle of the Augustalis Paschal Table—  
323-341 AD**

=====						
Cycle					Julian	
Year					Year AD	
=====						
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	54	5	15	17	323	
2	55	6	16	18	324	
3	56	7	17	19	325	Council of Nicaea
4	57	8	18	1	326	
5	58	9	19	2	327	
6	59	10	1	3	328	
7	60	11	2	4	329	
8	61	12	3	5	330	
9	62	13	4	6	331	
10	63	14	5	7	332	
11	64	15	6	8	333	
12	65	16	7	9	334	
13	66	17	8	10	335	
14	67	18	9	11	336	
15	68	19	10	12	337	Constantine the Great dies. Civil war
16	69	20	11	13	338	breaks out among his three sons.
17	70	21	12	14	339	
18	71	22	13	15	340	
19	72	23	14	16	341	
=====						

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.6 84-Year Cycle of the Augustalis Paschal Table—  
342-360AD**

=====						
Cycle						Julian
Year						Year AD
=====						
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	73	24	15	17	342	
2	74	25	16	18	343	
3	75	26	17	19	344	
4	76	27	18	1	345	
5	77	28	19	2	346	
6	78	29	1	3	347	
7	79	30	2	4	348	
8	80	31	3	5	349	
9	81	32	4	6	350	
10	82	33	5	7	351	
11	83	34	6	8	352	
12	84	35	7	9	353	
13	1	36	8	10	354	
14	2	37	9	11	355	
15	3	38	10	12	356	
16	4	39	11	13	357	
17	5	40	12	14	358	
18	6	41	13	15	359	
19	7	42	14	16	360	

Constantius II finally emerges as sole Emperor of the Roman Empire.

Hillel II publishes Hebrew Calendar secrets in 358 AD. Constantinople becomes new capital of Roman Empire in 359 AD.

Note:  
<sup>1</sup>19-year cycle of the Athanasian Paschal Table.  
<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.  
<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.  
<sup>4</sup>19-year cycle of Anatolius' Paschal Table.  
<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.7 84-Year Cycle of the Augustalis Paschal Table—  
361-379 AD**

					Cycle Year	Julian Year AD		
AT <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>				
1	8	43	15	17	361			
2	9	44	16	18	362			
3	10	45	17	19	363			
4	11	46	18	1	364			
5	12	47	19	2	365			
6	13	48	1	3	366			
7	14	49	2	4	367			
8	15	50	3	5	368			
9	16	51	4	6	369			
10	17	52	5	7	370			
11	18	53	6	8	371			
12	19	54	7	9	372			
13	20	55	8	10	373		Last year of Paschal Table of St. Athanasius	
14	21	56	9	11	374			
15	22	57	10	12	375		First year of Paschal Table of St.	
							Theophilus	
16	23	58	11	13	376			
17	24	59	12	14	377			
18	25	60	13	15	378		Great Goth victory in Battle of Adrianople.	
19	26	61	14	16	379			

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.8 84-Year Cycle of the Augustalis Paschal Table—  
380-398 AD**

					Cycle	Julian
					Year	Year AD
TH <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	27	62	15	17	380	
2	28	63	16	18	381	
3	29	64	17	19	382	
4	30	65	18	1	383	
5	31	66	19	2	384	
6	32	67	1	3	385	
7	33	68	2	4	386	
8	34	69	3	5	387	
9	35	70	4	6	388	
10	36	71	5	7	389	
11	37	72	6	8	390	
12	38	73	7	9	391	
13	39	74	8	10	392	
14	40	75	9	11	393	
15	41	76	10	12	394	
16	42	77	11	13	395	In 395 AD Theodosius divides Roman
17	43	78	12	14	396	Empire into Western and Eastern Empires
18	44	79	13	15	397	with Milano and Constantinople as their
19	45	80	14	16	398	capitals.

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2.9 84-Year Cycle of the Augustalis Paschal Table—  
399-417 AD**

=====						
Cycle						Julian
Year						Year AD
=====						
TH <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	46	81	15	17	399	
2	47	82	16	18	400	
3	48	83	17	19	401	
4	49	84	18	1	402	Western capital of Rome moved from Milano to Ravenna
5	50	1	19	2	403	
6	51	2	1	3	404	
7	52	3	2	4	405	
8	53	4	3	5	406	
9	54	5	4	6	407	
10	55	6	5	7	408	
11	56	7	6	8	409	
12	57	8	7	9	410	Visigoths sack Rome. Rome withdraws from Britannia
13	58	9	8	10	411	
14	59	10	9	11	412	
15	60	11	10	12	413	
16	61	12	11	13	414	
17	62	13	12	14	415	
18	63	14	13	15	416	
19	64	15	14	16	417	
=====						

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar



**Table 2.10 84-Year Cycle of the Augustalis Paschal Table—  
418-436 AD**

					Cycle	Julian
					Year	Year AD
TH <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	65	16	15	17	418	
2	66	17	16	18	419	
3	67	18	17	19	420	
4	68	19	18	1	421	
5	69	20	19	2	422	
6	70	21	1	3	423	
7	71	22	2	4	424	
8	72	23	3	5	425	
9	73	24	4	6	426	
10	74	25	5	7	427	
11	75	26	6	8	428	
12	76	27	7	9	429	
13	77	28	8	10	430	
14	78	29	9	11	431	
15	79	30	10	12	432	
16	80	31	11	13	433	
17	81	32	12	14	434	
18	82	33	13	15	435	
19	83	34	14	16	436	Year 1 of St. Cyril's Paschal Table

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>84-year cycle of Pre-Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 2. 11 84-Year Cycle of the Augustalis Paschal Table—  
437-455 AD**

					Cycle	Julian
					Year	Year AD
=====						
CY <sup>1</sup>	SU <sup>2</sup>	AU <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	84	35	15	17	437	Last year Pre-Sulpicius Cycle
2	1	36	16	18	438	438 AD year 1 of Sulpicius 84-year Cycle— Celtic Churches of the British Isles
3	2	37	17	19	439	
4	3	38	18	1	440	
5	4	39	19	2	441	
6	5	40	1	3	442	
7	6	41	2	4	443	
8	7	42	3	5	444	
9	8	43	4	6	445	
10	9	44	5	7	446	
11	10	45	6	8	447	
12	11	46	7	9	448	
13	12	47	8	10	449	
14	13	48	9	11	450	
15	14	49	10	12	451	
16	15	50	11	13	452	
17	16	51	12	14	453	
18	17	52	13	15	454	
19	18	53	14	16	455	Last year of Augustalis' 84-year Cycle

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table—437 to 531 AD.

<sup>2</sup>84-year cycle of Sulpicius Paschal Table.

<sup>3</sup>84-year cycle of Augustalis' Paschal Table--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

## Chapter Three

### A Short History of the 19-Year Lunar Cycle of Victorius of Aquitaine

St. Hilarius, deacon of Rome, and later Pope Hilarius, asked St. Victorius, Bishop of Aquitaine, to examine why the Roman and Alexandrian churches computed different dates for Easter on various years. The result was Victorius' discovery of the 532-year cycle. That is, the dates for Easter repeat every 532 years. Pope Hilarius (461-468 AD) published Victorius' Paschal Canon in 465 AD. The Canon ran from 465 to 532 AD.

An important step in establishing a definitive and universally acceptable method was taken by Victorius, Bishop of Aquitaine, at the request of Hilary, Deacon of Rome (who later became Pope). **Hilary had asked Victorius to examine the reasons why the Roman and Alexandrian canons differed occasionally.** Victorius discovered that the dates of **Easter Sunday calculated according to the Alexandrian canon repeat every 532 (7 x 19 x 4) years—the paschal cycle.** He went on to propose a method based on this discovery and a table of dates for Easter spanning 532 years from AD 28. Hilary published Victorius' Easter method or canon in AD 465, and the 532-year cycle is sometimes called the 'Victorian cycle' (Richards, p. 350).

**Victorius of Aquitaine, a countryman of Prosper and also working in Rome, produced in 457 an Easter Cycle,** which was based on the consular list provided by **Prosper's** Chronicle. This dependency caused scholars to think that Prosper had been working on his own Easter Annals for quite some time. In fact, Victorius published his work only two years after the final publication of Prosper's Chronicle. **Victorius finished his *Cursus Paschalis* in 457;** from that date onwards he left blank the column giving the names of the consuls, but **his lunar tables were extended to the year A.D. 559** or A.P. 532 - hence the name, *Cursus Paschalis annorum DXXXII* (Easter Table up to the year 532). This first version was later continued by other authors, who filled in the names as the years passed.

The Victorian system of the *Cursus Paschalis* was made official by synod in Gaul in 541 and was still in use for historical work in England by 743, when an East Anglian king-list was created, which double-dated by Victorian and Dionysian eras. Also, it was used for a letter to Charlemagne in 773. Victorius was, probably

in its continued form, a source for both Bede (who found here that Aetius was consul for the third time in A.D. 446) and the *Historia Brittonum*. However, by this time the *Cursus* was probably obsolete both in England and Wales.  
<http://www.vortigernstudies.org.uk/artsou/victorius.htm>

The Victorian Cycle was adopted in southern Ireland by Cumman and others in 632 AD. This cycle was used in parts of Ireland until the end of the tenth century. Cumman in a letter to Segene, fifth abbot of Iona, seeks to persuade the northern Irish and British to adopt the Victorian cycle. The Victorian Cycle celebrated Easter between the 16<sup>th</sup> and 22<sup>nd</sup> moons and employed a 19-year lunar cycle.

**Table 3.0 19-Year Cycle 1 of the *Paschal Table of Cursus Paschalis Annorum DXXXII* by Victorius of Aquitaine — 456 to 474 AD**

					Cycle	Julian
					Year	Year AD
CY <sup>1</sup>	SU <sup>2</sup>	VI <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	19	1	15	17	456	Year 1 of Victorius Cycle
2	20	2	16	18	457	
3	21	3	17	19	458	
4	22	4	18	1	459	
5	23	5	19	2	460	
6	24	6	1	3	461	
7	25	7	2	4	462	
8	26	8	3	5	463	
9	27	9	4	6	464	
10	28	10	5	7	465	
11	29	11	6	8	466	
12	30	12	7	9	467	
13	31	13	8	10	468	
14	32	14	9	11	469	
15	33	15	10	12	470	
16	34	16	11	13	471	
17	35	17	12	14	472	
18	36	18	13	15	473	
19	37	19	14	16	474	

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table—437 to 531 AD.

<sup>2</sup>84-year cycle of Sulpicius Paschal Table.

<sup>3</sup>19-Year Victorius Cycle--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 3.1 19-Year Cycle 1 of the *Paschal Table of *Cursus Paschalis Annorum DXXXII** by Victorius of Aquitaine — 475 to 493 AD**

					Cycle
					Year
					Julian
					Year AD
CY <sup>1</sup>	SU <sup>2</sup>	VI <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>	
1	38	1	15	17	475
2	39	2	16	18	476
3	40	3	17	19	477
4	41	4	18	1	478
5	42	5	19	2	479
6	43	6	1	3	480
7	44	7	2	4	481
8	45	8	3	5	482
9	46	9	4	6	483
10	47	10	5	7	484
11	48	11	6	8	485
12	49	12	7	9	486
13	50	13	8	10	487
14	51	14	9	11	488
15	52	15	10	12	489
16	53	16	11	13	490
17	54	17	12	14	491
18	55	18	13	15	492
19	56	19	14	16	493

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table—437 to 531 AD.

<sup>2</sup>84-year cycle of Sulpicius Paschal Table.

<sup>3</sup>19-Year Victorius Cycle--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 3.2 19-Year Cycle 3 of the *Paschal Table of *Cursus Paschalis Annorum DXXXII* by Victorius of Aquitaine — 494 to 512 AD***

					Cycle
					Year
					Julian
					Year AD
CY <sup>1</sup>	SU <sup>2</sup>	VI <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>	
1	57	1	15	17	494
2	58	2	16	18	495
3	59	3	17	19	496
4	60	4	18	1	497
5	61	5	19	2	498
6	62	6	1	3	499
7	63	7	2	4	500
8	64	8	3	5	501
9	65	9	4	6	502
10	66	10	5	7	503
11	67	11	6	8	504
12	68	12	7	9	505
13	69	13	8	10	506
14	70	14	9	11	507
15	71	15	10	12	508
16	72	16	11	13	509
17	73	17	12	14	510
18	74	18	13	15	511
19	75	19	14	16	512

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table—437 to 531 AD.

<sup>2</sup>84-year cycle of Sulpicius Paschal Table.

<sup>3</sup>19-Year Victorius Cycle--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

**Table 3.3 19-Year Cycle 4 of the *Paschal Table of *Cursus Paschalis Annorum DXXXII* by Victorius of Aquitaine — 513 to 531 AD***

					Cycle	Julian
					Year	Year AD
CY <sup>1</sup>	SU <sup>2</sup>	VI <sup>3</sup>	AN <sup>4</sup>	H <sup>5</sup>		
1	76	1	15	17	513	
2	77	2	16	18	514	
3	78	3	17	19	515	
4	79	4	18	1	516	
5	80	5	19	2	517	
6	81	6	1	3	518	
7	82	7	2	4	519	
8	83	8	3	5	520	
9	84	9	4	6	521	
10	1	10	5	7	522	
11	2	11	6	8	523	
12	3	12	7	9	524	
13	4	13	8	10	525	
14	5	14	9	11	526	
15	6	15	10	12	527	
16	7	16	11	13	528	
17	8	17	12	14	529	
18	9	18	13	15	530	
19	10	19	14	16	531	531 AD last year of Cyril's Cycle. 531 AD last year of Victorius Cycle

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table—437 to 531 AD.

<sup>2</sup>84-year cycle of Sulpicius Paschal Table.

<sup>3</sup>19-Year Victorius Cycle--Rome.

<sup>4</sup>19-year cycle of Anatolius' Paschal Table.

<sup>5</sup>19-year cycle of the Hebrew Calendar

Both Rome and Alexandria adopted the Dionysian Cycle beginning in 532 AD. We will examine the 19-year cycle of St. Anatolius next and explore the cycle of Dionysius in Chapter Eight.



# Chapter Four

## A Short History of the 19-Year Lunar Cycle of St. Anatolius

Bishop Anatolius of Laodicea, the province of Syria, was a very influential astronomer, philosopher and mathematician in the early Catholic Church. It was his introduction of the 19-year lunar cycle to the Laodicean church in his *De Ratione Paschali* about 276 AD that became the backbone for the formulation of Paschal Tables for the next 1200 years or more. The Alexandrian Church adopted a modified version of Anatolius' work in 284 AD. It was then refined by St. Athanasius the Great of Alexandria and published in his *Chronicon Athanasianum* in 327 AD, shortly after the Council of Nicaea.

Athanasius' work was further refined by St. Theophilus of Alexandria and published in his *Laterculum Paschale* in 375 AD. Theophilus' work was further refined by his nephew St. Cyril of Alexandria and published in his version of the *Laterculum Paschale* in 437 AD. St. Victorius of Aquitaine in Gaul adopted the essence of the *Laterculum Paschale* and published his Paschal Table in his *Cursus Paschalis* in 456 AD. Victorius' work was adopted by the Roman Church, replacing the old 84-year lunar cycle Rome had utilized since 235 AD.

The Roman monk Dionysius Exiguus adopted and improved the *Laterculum Paschale* cycle, publishing his work *Liber de Paschate* in 532 AD. From this time forward, and for the first time in 297 years, both Rome and Alexandria utilized the same lunar cycle. The Dionysian Cycle was eventually adopted by the Celtic Churches of the British Isles. The telling of that story must wait until a little later in the paper.

The following biographical sketch by the translator of *The Paschal Canon of Anatolius of Alexandria* outlines the many accomplishments of Anatolius and the great influence he had on his age. We will then take up the specific details of Anatolius' *De Ratione Paschali*

[a.d. 230-270-280.] From Jerome<sup>2</sup> we learn that Anatolius flourished in the reign of Probus and Carus, that he was a native of Alexandria, and that he became bishop of Laodicea. Eusebius gives a somewhat lengthened account of him,<sup>3</sup> and

speaks of him in terms of the strongest laudation, as one surpassing all the men of his time in learning and science. He tells us that he attained the highest eminence in arithmetic, geometry, and astronomy, besides being a great proficient also in dialectics, physics, and rhetoric. His reputation was so great among the Alexandrians that they are said to have requested him to open a school for teaching the Aristotelian philosophy in their city.<sup>4</sup> He did great service to his fellow-citizens in Alexandria on their being besieged by the Romans in a.d. 262, and was the means of saving the lives of numbers of them. After this he is said to have passed into Syria, where Theotecnus, the bishop of *Caesareia*, ordained him, destining him to be his own successor in the bishopric. After this, however, having occasion to travel to Antioch to attend the synod convened to deal with the case of Paul of Samosata, as he passed through the city of Laodicea, he was detained by the people and made bishop of the place, in succession to Eusebius. This must have been about the year 270 a.d. How long he held that dignity, however, we do not know. Eusebius tells us that he did not write many books, but yet enough to show us at once his eloquence and his erudition. Among these was a treatise on the *Chronology of Easter*; of which a considerable extract is preserved in Eusebius. The book itself exists now only in a Latin version, which is generally ascribed to Rufinus, and which was published by Aegidius Bucherius in his *Doctrina Temporum*, which was issued at Antwerp in 1634. Another work of his was the *Institutes of Arithmetic*, of which we have some fragments in the *geologou/mena th=j a0riqmhtikh=j*, which was published in Paris in 1543. Some small fragments of his mathematical works, which have also come down to us, were published by Fabricius in his *Bibliotheca Graeca* , iii. p. 462.  
<http://www.ccel.org/fathers2/ANF-06/anf06-57.htm/>

Before we investigate the actual *Paschal Table* of Anatolius, it is incumbent upon us to understand the rationale that led to its formation; i.e., his *Paschal Canon*. The following excerpts are taken from *The Paschal Canon of Anatolius of Alexandria*. The Canon is divided into seventeen short paragraphs each headed by Roman Numerals.

Anatolius was born in 230 AD, a little over 30 years from the time of the Passover controversy between bishop Victor of Rome and bishop Polycrates of Ephesus, Asia Minor. Anatolius did not observe the Christian Passover but celebrated the resurrection of Christ on a Sunday that fell on or after the fourteenth moon of the first month that also fell after the spring equinox. In paragraph X he traces this post equinox observance to the practice of the apostle John and not the apostle Peter. John's observance, however, gave no regard to the day of the week. Thus a dispute broke out between bishop Victor I of Rome and bishop Polycrates of Ephesus. In Anatolius' words, Victor demanded that the Asian Christians observe the "mystery of the

Lord's Passover" on the Lord's Day only. Key sections have been bolded to aid the reader. Bracketed material is the author's:

X.

But nothing was difficult to them with whom **it was lawful to celebrate the Passover on any day when the fourteenth of the moon happened after the equinox**. Following their example up to the present time all the bishops of Asia, as themselves also receiving the rule from an unimpeachable authority, to wit, **the evangelist John**, who leant on the Lord's breast, and drank in instructions spiritual without doubt-were in the way of **celebrating the Paschal feast**, without question, every year, **whenever the fourteenth day of the moon had come, and [at the very same time] the lamb was sacrificed by the Jews after the equinox was past**; not acquiescing, so far as regards this matter, with the authority of some [men], namely, the successors of Peter and Paul, who have taught all the churches in which they sowed the spiritual seeds of the Gospel, that the solemn festival of the resurrection of the Lord can be celebrated only on the Lord's day. **Whence, also, a certain contention broke out between the successors of these, namely, Victor, at that time bishop of the city of Rome, and Polycrates, who then appeared to hold the primacy among the bishops of Asia**. And this contention was adjusted most rightfully by Irenaeus, at that time president of a part of Gaul, so that both parties kept by their own order, and did not decline from the original custom of antiquity.

**The one party [that of the apostle John and Polycrates], indeed, kept the Paschal day on the fourteenth day of the first month, according to the Gospel [that is in remembrance of Christ's death], as they thought, adding nothing of an extraneous kind, but keeping through all things the rule of faith [regardless of the day of the week].**

**And the other party, passing the day of the Lord's Passion as one replete with sadness and grief, hold that it should not be lawful to celebrate the Lord's mystery of the Passover at any other time but on the Lord's day, on which the resurrection of the Lord from death took place [Sunday], and on which rose also for us the cause of everlasting joy.**

For it is one thing to act in accordance with the precept given by the apostle, yea, by the Lord Himself, and be sad with the sad, and suffer with him that suffers by the cross, His own word being: "My soul is exceeding sorrowful, even unto death; " and it is another thing to rejoice with the victor as he triumphs over an ancient enemy, and exults with the highest triumph over a conquered adversary, as He Himself also says: "Rejoice with Me; for I have found the sheep which I had lost."

Although Anatolius ascribes to the apostle John his authority for observing the Passover after the equinox, he amplifies that authority by referring to authorities both after and before John. In paragraph I he

mentions Hippolytus, Isadore, Jerome, Clement and Origen as authorities subscribing to a post equinox Passover observance. Anatolius quotes Origen to the fact that “attention must be given not only to the course of the moon and the transit of the equinox, but also to the passage (*transcensum*) of the sun, which removes every foul ambush and offence of all darkness, and brings on the advent of light and the power and inspiration of the elements of the whole world” The wording “elements of the whole world” evokes the words of the apostle Paul in Galatians 4:8-10 and Colossians 2.

I.

For even in the ancient exemplars, that is, in the books of the Hebrews and Greeks, we find not only the course of the moon, but also that of the sun, and, indeed, not simply its course in the general, but even the separate and minutest moments of its hours all calculated, as we shall show at the proper time, when the matter in hand demands it. Of these **Hippolytus** made up a period of sixteen years with certain unknown courses of the moon. Others have reckoned by a period of twenty-five years, others by thirty, and some by eighty-four years, without, however, teaching thereby an exact method of calculating Easter. But our predecessors, men most learned in the books of the Hebrews and Greeks,-I mean **Isidore and Jerome and Clement**,-although they have noted similar beginnings for the months just as they differ also in language, have, nevertheless, come harmoniously to one and the same most exact reckoning of Easter, day and month and season meeting in accord with the highest honour for the Lord's resurrection. But **Origen** also, the most erudite of all, and the acutest in making calculations,-a man, too, to whom the epithet xalkenth/j is given,-has published in a very elegant manner a little book on Easter. And in this book, while declaring, with respect to the day of Easter, that **attention must be given not only to the course of the moon and the transit of the equinox, but also to the passage (*transcensum*) of the sun, which removes every foul ambush and offence of all darkness, and brings on the advent of light and the power and inspiration of the elements of the whole world...**

In paragraph III he mentions Philo, Josephus, Musaeus, Agathobuli and Aristobulus as all subscribing to a Passover sacrifice on the fourteenth moon of the first month when the sun passes through the first segment of the zodiacal circle—i.e., the spring equinox. Notice also that this list runs backward in time from Philo to the time of Aristobulus, “one of the Seventy who translated the sacred and holy Scriptures of the Hebrew.” Anatolius may have placed this Aristobulus too early in history. Whether he was one of the 70 to translate the Books of Moses into Greek or not is neither “here nor there”. The naming of Aristobulus is however, as we will learn from paragraphs IV and V, of great significance, as Anatolius reveals that the

ultimate source in the matter for the eminent Levite Aristobulus is the Book of Enoch:

III.

Nor is this an opinion confined to ourselves alone. For it was also known to the Jews of old and before Christ, and it was most carefully observed by them.<sup>11</sup> And this may be learned from what Philo, and Josephus, and Musaeus have written; and not only from these, but indeed from others still more ancient, namely, the two Agathobuli, who were surnamed the Masters, and the eminent **Aristobulus, who was one of the Seventy who translated the sacred and holy Scriptures of the Hebrews for Ptolemy Philadelphus and his father, and dedicated his exegetical books on the law of Moses to the same kings.** These writers, in solving some questions which are raised with respect to Exodus, say that **all alike ought to sacrifice the Passover after the vernal equinox in the middle of the first month. And that is found to be when the sun passes through the first segment of the solar, or, as some among them have named it, the zodiacal circle.**

IV.

But this **Aristobulus also adds**, that for the feast of the Passover **it was necessary not only that the sun should pass the equinoctial segment, but the moon also.** For as there are two equinoctial segments, the vernal and the autumnal, and these diametrically opposite to each other, and since the day of the Passover is fixed for the fourteenth day of the month, in the evening, the moon will have the position diametrically opposite the sun; as is to be seen in full moons. And the sun will thus be in the segment of the vernal equinox, and the moon necessarily will be at the autumnal equinox.

V.

But **that the first month among the Hebrews is about the equinox, is clearly shown also by what is taught in the book of Enoch.**

But why is the Book of Enoch such an ultimate authority in the matter and why must the fourteenth moon of the first month be that which follows the spring equinox? The reason hinges on the fact that Aristobulus had mystical leanings and the Book of Enoch was a mystical writing. In unorthodox Jewish philosophy light itself was good and darkness itself was evil. This teaching may have derived from Judah's Babylonian experience and her restoration to the land of Palestine by Cyrus the Great. (Cyrus became a mystical figure embodying the attributes of Mithras.) Early post-restoration mystical writings of the Jews are full of Mithriac and Magian symbolism. The 2<sup>nd</sup> century BC Book of Enoch, therefore, was simply a precursor of classical 1<sup>st</sup> and 2<sup>nd</sup> century AD Gnosticism.

The celebration of the resurrection of Christ must therefore wait until the moon displaces all evil (the darkness of night) and fills the whole night. This occurs when the post spring equinox nights shorten to the point where this is possible.

Notice this fact in paragraphs VI and II. Notice also the connection made with this philosophy and Moses. The Passover and Unleavened Bread season is shortened to seven days, the Passover day is combined with the First High Sabbath of UB and is therefore made a day of unleavened bread. In so doing, Anatolius is defining the age or limits of the Paschal Moon—i.e., Nisan 14 through Nisan 20. This measurement is called the “Paschal Term”, a phrase we will encounter many times over in this paper. The last few sentences of paragraph VIII further clarify his meaning. This moon is also known as the *ecclesiastical moon*. Please note that an *ecclesiastical moon* is not the same as an astronomical moon:

#### VI.

And, therefore, in this concurrence of the sun and moon, **the Paschal festival is not to be celebrated, because as long as they are found in this course the power of darkness is not overcome;** and as long as equality between light and darkness endures, and is not diminished by the light, it is shown that the Paschal festival is not to be celebrated. **Accordingly, it is enjoined that that festival be kept after the equinox, because the moon of the fourteenth,<sup>18</sup> if before the equinox or at the equinox, does not fill the whole night.** But after the equinox, the moon of the fourteenth, with one day being added because of the passing of the equinox, although it does not extend to the true light, that is, the rising of the sun and the beginning of day, will nevertheless leave no darkness behind it. And, in accordance with this, **Moses is charged by the Lord to keep seven days of unleavened bread for the celebration of the Passover, that in them no power of darkness should be found to surpass the light.** And although the outset of four nights begins to be dark, that is, the 17th and 18th and 19th and 20th, yet the moon of the 20th, which rises before that, does not permit the darkness to extend on even to midnight.

#### II.

Now the sun is found on the said six-and-twentieth day of Phamenoth, not only as having mounted to the first segment, but as already passing the fourth day in it. And this segment they are accustomed to call the first dodecatemoron (twelfth part), and the equinox, and the beginning of months, and the head of the cycle, and the starting-point<sup>9</sup> of the course of the planets. And the segment before this they call the last of the months, and the twelfth segment, and the last dodecatemoron, and the end of the circuit<sup>10</sup> of the planets. And for this reason, also, we maintain that those who place the first month in it, and who determine

the fourteenth day of the Paschal season by it, make no trivial or common blunder.

Anatolius knew from the Old Testament that from the time of Moses to Christ, the lamb was sacrificed on the night of Nisan 13/14 and that in like manner Jesus was taken on the night of Nisan 13/14, crucified on Nisan 14, laid in the grave at sunset Nisan 14/15 and rose from the dead three days later. There was no Synoptic problem at the time of Anatolius. He erroneously believed that Christ rose on Sunday, however.

St. Ambrose, bishop of Milan, wrote some 100 years after Anatolius that apostolic Christians adhered to the same chronology as described by Anatolius and that a Friday crucifixion/Sunday resurrection was not canon law until the Council of Nicaea (*Epistle XXIII*, Cp. 1, Migne, *Patrologia Latina*, Vol. XVI, col. 1070).

Notice now that Anatolius uses a misapplication of Matt. 26:17, Mark 14:12 and Luke 22:7 to justify his combination of the Passover day with the First High Sabbath of UB, thus shifting the High Sabbaths of the fifteenth and twenty first to the fourteenth and twentieth, reducing the entire period to seven days and calling the entire period the Passover. We must hasten to add that Anatolius understood that the fourteenth moon rose on the night of Nisan 13/14. This fact is made abundantly clear in the last few sentences of paragraph VIII:

#### VIII.

Accordingly, it is not the case, as certain calculators of Gaul allege, that this assertion is opposed by that passage in Exodus, [**Exodus 12:18-19**] where we read: "**In the first month, on the fourteenth day of the first month, at even, ye shall eat unleavened bread until the one-and-twentieth day of the month at even. Seven days shall there be no leaven found in your houses.**" From this they maintain that it is quite permissible to celebrate the Passover on the twenty-first day of the moon; understanding that if the twenty-second day were added, there would be found eight days of unleavened bread. A thing which cannot be found with any probability, indeed, in the Old Testament, as the Lord, through Moses, gives this charge: "**Seven days ye shall eat unleavened bread.**" [**Exodus 12:15; Lev. 23:6**]. Unless perchance the fourteenth day is not reckoned by them among the days of unleavened bread with the celebration of the feast; which, however, is contrary to the Word of the Gospel which says: "**Moreover, on the first day of unleavened bread, the disciples came to Jesus.**" [**Matt. 26:17; Mark 14:12; Luke 22:7**] And there is no doubt as to its being the fourteenth day on which the disciples asked the Lord, in accordance

with the custom established for them of old, "Where wilt Thou that we prepare for Thee to eat the Passover?" But they who are deceived with this error maintain this addition, because they do not know that the 13th and 14th, the 14th and 15th, the 15th and 16th, the 16th and 17th, the 17th and 18th, the 18th and 19th, the 19th and 20th, the 20th and 21st days of the moon are each found, as may be most surely proved, within a single day. **For every day in the reckoning of the moon does not end in the evening as the same day in respect of number, as it is at its beginning in the morning. For the day which in the morning, that is up to the sixth hour and half, is numbered the 13th day of the month, is found at even to be the 14th. [Anatolius thus defines "between the two evenings as that period at sunset the beginning of Nisan 14]** Wherefore, also, the Passover is enjoined to be extended on to the 21st day at even; which day, without doubt, in the morning, that is, up to that term of hours which we have mentioned, was reckoned the 20th. **Calculate, then, from the end of the 13th day of the moon, which marks the beginning of the 14th, on to the end of the 20th, at which the 21st day also begins, and you will have only seven days of unleavened bread, in which, by the guidance of the Lord, it has been determined before that the most true feast of the Passover ought to be celebrated.**

As he closes his argument, Anatolius reveals another piece of his calendar puzzle. In paragraph XV he argues that the Passover should not be celebrated before the spring equinox because it is only at the fourteenth moon that "the autumnal *term* is overtaken." In other words the length of the night is shortened to the point where the moon reflects the light of the sun all night long until the sun arises once more in the east—yet another reference to Gnostic beliefs.

XV.

For even in the ancient law it is laid down that this is to be seen to, viz., that the Passover be not celebrated before the transit of the vernal equinox, at which the last of **the autumnal term is overtaken**, on the fourteenth day of the first month, which is one calculated not by the beginnings of the day, but by those of the moon.

We now turn our attention to an application of Anatolius' canon toward building a Paschal Table. In paragraph XVI he lays out what is called a "Paschal Term". The Lunar Term, remember, is based on the *ecclesiastical full moon* not the astronomical full moon. This Paschal Term defines the earliest date on which Easter Sunday can fall in relationship to the *ecclesiastical equinox*, which in this case is March 25. Thus, the earliest date on which Easter Sunday can fall is March 26. Although not defined in this Canon, the latest date on which Easter can fall in Anatolius' Paschal Term is April 23.



We know that the lamb was sacrificed at *beyn ha arbayim* at the beginning of Nisan 14 regardless of the position of the moon in relationship to the equinox (see Coulter, *The Christian Passover*). We also know that the slaying of the lamb was not postponed “if the number went beyond that.” This line of reasoning allows Anatolius to define his Paschal Term under the umbrella of the “Passover.” This is how he justified dropping the passion of Christ’s crucifixion and transferring it to the “passion” of his resurrection. After all, in this line of reasoning whatever day Sunday Easter fell on during the days of Unleavened Bread it was still “Passover” or the “Passion of His resurrection.”

#### XVI.

The matter proceeds thus: In fifteen days and half an hour, the sun ascending by so many minutes, that is, by four in one day, from the eighth day before the Kalends of January, i.e., 25th December, to the eighth before the Kalends of April, i.e., **25th March**, an hour is taken up; **at which date there are twelve hours and a twelfth. On this day, towards evening, if it happen also to be the moon's fourteenth, the lamb was sacrificed among the Jews. But if the number went beyond that, so that it was the moon's fifteenth or sixteenth on the evening of the same day, on the fourteenth day of the second moon**, in the same month, the Passover was celebrated; and the people ate unleavened bread for seven days, up to the twenty-first day at evening.

Dr. Daniel McCarthy has restored the Lunar and Paschal Tables of Anatolius as we see in Table 1.1. His reconstruction rationale may be found in his paper entitled “*The Lunar and Paschal Tables of De ratione paschali attributed to Anatolius of Laodicea.*” There is no need to define each and every element of this table. We should point out, however, that the first column headed with the letter “c” is the 19-year lunar cycle on which the table is constructed. Year 1 of this cycle is dated to 271 AD. Year 19 is dated to 289 AD. Column “la” represents equinoctial lunar dates. Column “P” represents Paschal or Easter Sunday dates. These dates are presented in ancient Julian Calendar format. (A table for the conversion of ancient Roman Calendar format to modern calendar format may be found in *Appendix E*) Column “p” represents Paschal lunar dates. All subscripted letters in the body of the table represent sources Dr. McCarthy utilized to make this reconstruction.

Columns “la” “P” and “p” allow us to synchronize Nisan dates of the Hebrew Calendar with Easter Sunday dates of the Julian Calendar, thus

confirming the historical accuracy of the Hebrew Calendar. For example, the *ecclesiastical equinox* for this calendar was March 25. When we check the lunar value of “<sup>l</sup>a” for 271 AD (19-year cycle 1) we see that it is xxv. Column “P” tells us that Easter Sunday was calculated for xvi k.m or April 16. And column “<sup>l</sup>p” informs us that the lunar value at Easter is xviii or 18. Counting back from this Sunday date places the 14<sup>th</sup> moon on a Wednesday, April 12. Checking the Hebrew Calendar we find a perfect match for these dates! We thus have a historical synchronization between the Julian Calendar and the Hebrew Calendar for year 271 AD. We will leave the full analysis of *De Ratione Paschali* of Anatolius until Chapter Nineteen. In the meantime, it must be understood that not all dates on this table synchronize with the Hebrew Calendar. Even though both are based on a 19-year lunar cycle, there are major computational differences between the two, which make full synchronizations impossible. This fact by no means invalidates those dates that do synchronize, however.

**Table 5.0 The Restored Lunar and Paschal Table of Bishop Anatolius—*De Ratione Paschali***

<u>c</u>	<sup>f</sup> <u>k</u> <sup>a</sup>	<sup>l</sup> <u>k</u>	<sup>f</sup> <u>a</u>	<sup>l</sup> <u>a</u>	<u>P</u>	<sup>l</sup> <u>p</u>	<u>Computistic Elements</u>
1	d	I	sab	xxv <sup>h</sup>	xvi k.m <sup>w</sup>		xviii <sup>k</sup>
2	ii	xii	d	vii <sup>i</sup>	k.ap	xiiii <sup>l</sup>	
3	iii	xxiii	ii	xviii <sup>j</sup>	xi k.m	xvi <sup>m</sup>	Embolism
4	iiii	iiii	iii <sup>c</sup>	xxviii <sup>k</sup>	id.ap	xviii <sup>n</sup>	
5	v	xv	iiii <sup>d</sup>	x <sup>l</sup>	iiii k.ap <sup>y</sup>		xiiii
6	vi	xxvi	v	xxi	xiiii k.m <sup>z</sup>	xvi	Embolism
7	sab	vii	sab <sup>e</sup>	ii	v id ap <sup>a</sup>		xvii Bissextile
8	ii	xviii	d	xiii <sup>m</sup>	k.ap	xx	
9	iii	xxviii	ii	xxiii <sup>n</sup>	xviii k.m <sup>b</sup>	xiiii <sup>o</sup>	Embolism
10	iiii	x	iii	v <sup>o</sup>	viii id.ap <sup>c</sup>	xvii <sup>p</sup>	
11	v	xxi	iiii	xvi <sup>p</sup>	iiii k.ap		xx <sup>q</sup> Embolism
12	vi	ii	v <sup>f</sup>	xxvi <sup>q</sup>	iii id.apd <sup>r</sup>	xiiii <sup>r</sup>	
13	sab	xii	vi	viii	iii n.ap <sup>e</sup>		xvii <sup>s</sup>
14	d	xxiiii	sab	xviii <sup>r</sup>	viii k.m <sup>f</sup>	xviii <sup>t</sup>	Embolsim
15	ii	v	d	xxviii <sup>s</sup>	vi id ap	xiiii <sup>u</sup>	
16	iii	xvi <sup>b</sup>	ii	xi <sup>t</sup>	ii k.ap <sup>g</sup>		xvii <sup>v</sup>
17	iiii	xxvii	iiii <sup>g</sup>	xxii <sup>u</sup>	xiii k.m <sup>h</sup>	xviii <sup>w</sup>	Bissextile & Embolism
18	vi	viii	v	iii <sup>v</sup>	iii id ap <sup>i</sup>		xx <sup>x</sup> Saltus
19	sab	xx	vi	xv	vi k.ap <sup>j</sup>		xvii <sup>y</sup> Embolism

The column entitled “Computistic Elements” contains four calendric terms that need definition. An “embolism” is simply the addition of a thirteenth month of 30 days—in other words, an intercalation. Mediaeval computus, that is, those who computed Paschal Tables, placed this additional month variously in January, March, August, September, November and December (McCarthy, *Easter Principles and a Lunar Cycle used by Fifth Century Christian Communities in the British Isles*, p. 4). Notice in Table 5.0 that these embolistic or intercalary years are arranged in the pattern of years 3, 6, 9, 11, 14, 17 and 19. This pattern varies from the pattern of the Hebrew Calendar in year 9 only. Year 8 of the Hebrew Calendar is intercalated instead of year 9.

The reader’s attention should also be drawn to the fact that neither the Anatolian nor the Hebrew intercalary cycles are patterned after the Metonic intercalary cycle. The intercalary pattern of the Metonic Cycle was years 3, 5, 8, 11, 13, 16 and 19. (Please see Table 4.1 for a listing of ancient intercalary patterns of the 19-year cycle.)

A “*Bissextile*” is an intercalary day that was added in years 7 and 17 of the Anatolian Paschal Table to change one of the hollow lunar months of the lunar year to a full month. A hollow month had 29 days. This action slowed the calendar moon down so that it matched more closely the age of the real moon. In other words, a *bissextile* performs the same purpose of postponement Rules 1 & 2 of the Hebrew Calendar. This *bissextile* day was inserted by repeating the sixth Kalends of March; i.e., March 27. In the Hebrew Calendar the hollow month of Heshvan immediately following the month of Tishri is sometimes increased from 29 days to 30 days and fills the same function as the *bissextile day*. In the following paragraph Dr. McCarthy explains the origin of the *bissextile*, as well as its purpose and application:

The role of the *bissextus* in a lunar calendar derives from the fact that the inclusion of an embolismic month approximately every third year is insufficient to extend the average calendar month to match that of the real Moon. Furthermore is no account were taken of the lengthening of the solar year then the lunar age would be found to increase by twelve rather than eleven following *bissextile* years. Therefore what was done was to change one of the hollow lunar months of the lunar year to a full month, which the joint consequence that the average lunar month was further lengthened and the pattern of lunar ages in *bissextile* years matched that in common years commencing with the same age, except for some days between the intercalated solar day ie the *bissextile* or leap

day and the intercalated lunar day. Unfortunately the joint effect of the embolism and the *bissextus* is to produce a lunar month which is now longer than that of the real moon by an amount which will produce an error of about one day every eighteen years, ie. After eighteen years the real Moon will be one day older than the calendar Moon. This is responsible for the third mechanism [the *saltus*] which was used to bring the lunar calendar into alignment with the real Moon (McCarthy, *Easter Principles and a Lunar Cycle used by Fifth Century Christian Communities in the British Isles*, pp. 4-5).

The role of the “*Saltus*” is to subtract one day from a full lunar month and thus speed up the calendar moon so as to match more closely the age of the real moon. The *Saltus* thus acts in the same manner as does postponement Rule 3 of the Hebrew Calendar. In the Metonic Cycle the *embolistic* month of year 19 was shortened from 30 days to 29 days (Richards, p. 355). In the Anatolian Cycle however, a 30-day month of the 18<sup>th</sup> year was shortened to 29 days. Dr. McCarthy has the following to say regarding the origin, purpose and application of the *Saltus*.

The role of the *saltus* is to shorten slightly the average calendar month and it accomplishes this in effect by changing one of the full months of the lunar year to a hollow month with the result that the age at the start of the following solar year increases by twelve so the calendar Moon keeps better synchronism with the real Moon. The name *saltus* derives from the Latin *saltare*, the verb “to jump”, which seems likely to refer to the moon “jumping” over the thirtieth day in order to make the full lunar month hollow. The best interval for the *saltus* from the point of view of accuracy would be every eighteen years, as indicated above. However it was realized in both Babylon and Greece at least by the fourth century BC that if a slightly lower rate of a *saltus* every nineteen years was accepted then a short closed cycle of lunar ages would result; this is because  $18 \times 11 + 12 = 210 = 7 \times 30$ , so that the seven full embolismic months and single *saltus* ensure that the Moon’s age at the start of the twentieth year is the same as that at the start of the first year. The error that is accepted results in the real Moon advancing ahead of the calendar Moon by one day in about 286 years (McCarthy, *Easter Principles and a Lunar Cycle used by Fifth Century Christian Communities in the British Isles*, p. 5).

Therefore, we can only conclude that knowledge of the necessity of postponements was not considered to be exclusive to Jews, but rather an accepted concept of astronomy for those wanting to draw up a lunar calendar, regardless of RACE, CULTURE, NATIONALITY or RELIGION. That has to be the only answer to the question, "why did they argue about how to determine solar dates, but totally left silent any discussion of methods used to determine dates on a lunar calendar." The

only answer is that, in the Western world, as well as Asia Minor and the Near East, lunar methods of calculation were universal, while solar dating continued to be a squabble, even up to the year 1582 and past.

Before we leave the discussion of the Anatolian Paschal Canon and Table we should take a look at the solar calendar of the ancient renegade Levites of the pre-Christian era. Although structured differently, the Pre-Gnostic and Anatolian Calendars have at their cores some of the same basic computational elements. This Levitical calendar was divided into 4 quarters with 3 months each. The months of the first quarter were: Nisan, Iyar and Sivan. The months of the second quarter were: Tammuz, Ab and Elul. The months of the third quarter were: Tishri, Heshvan and Kislev. And the months of the fourth quarter were: Tebeth, Shebat and Adar.

Each quarter was 91 days in length. Two quarters summed up to 182 days. Four quarters thus summed up to 364 days. The first two months of each quarter always had 30 days while the last month of each quarter always had 31 days. The first month of each of the four quarters always began on a Wednesday. The second month of each of the four quarters always began on a Friday. And the third month of each of the four quarters always began on a Sunday.

Nisan 1 to Sivan 31 of the first quarter ran from the spring equinox to summer solstice. Tammuz 1 to Elul 31 of the second quarter ran from the summer solstice to the fall equinox. Tishri 1 to Kislev 31 of the third quarter ran from the fall equinox to fall solstice. And Tebeth 1 to Adar 31 of the fourth quarter ran from the fall solstice to spring equinox.

Thus the entire month of Nisan always fell after the spring equinox. Consequently, so did Passover and the Days of Unleavened Bread. Pentecost always fell before the summer solstice. And, the Feast of Trumpets always fell after the fall equinox. There are those in our midst today who would return us to the base elemental things of the world of the ancient mystics and their ilk. These misguided zealots insist that the new moon of Nisan should be determined by its relationship to the spring equinox instead of Tishri 1. They then dictate that the observance of Passover must always follow the spring equinox and that the observance of the Feast of Tabernacles must always follow the fall equinox. Such teachings are nothing less than the same heresies Paul wrote against in

Galatians 4:8-10 and Colossians 2:8. (Please see *Appendix D* for a reconstruction of the ancient Levitical solar calendar.)

**Table 4.1 Ancient Intercalary Patterns of the 19-Year Lunar Cycle**

A	B	C	D	E	F	G	H
1	3	1	3	3	3	3	3
3	6	4	5	6	6	6	6
6	8	7	8	8	9	9	9
9	11	10	11	11	11	11	11
11	14	12	13	14	14	14	14
14	17	15	16	17	17	17	17
17	19	18	19	19	19	19	19

<sup>A</sup>Babylonian: 503 BC—19<sup>th</sup> year of Darius I  
<http://groups.yahoo.com/group/seleukids/message/670>

<sup>B</sup>Persian: 380 BC (Richards, p. 148).

<sup>C</sup>Macedonian: <http://groups.yahoo.com/group/seleukids/message/670>

<sup>D</sup>Metonic: 432 BC (Richards, p. 95).  
<http://scienceworld.wolfram.com/astronomy/MetonicCycle.html>

<sup>E</sup>Hebrew:

<sup>F</sup>Anatolian: *Liber Anatolii* of Bishop Anatolius of Laodicia, Syria 276 AD. Bishop Anatolius traced his 19-year cycle to the Apostle John of Ephesus, Asia Minor.

<sup>G</sup>Alexandrian: Alexandria adopted the *Liber Anatolii* of Bishop Anatolius of Laodicia, Syria in 284 AD. Bishop Anatolius traced his 19-year cycle to the Apostle John of Ephesus, Asia Minor.

<sup>H</sup>Dionysian: The Roman Dionysian Cycle was developed from the Alexandrian 19-year cycle in 532 AD (Richards, p. 359).

## Chapter Five

### A Short History of the 19-Year Lunar Cycle of St. Athanasius the Great

#### The Abandonment of the *Octaeteris* Lunar Cycle by Alexandria

The church at Rome abandoned the *Octaeteris* lunar cycle around 224 AD. Adopted a 16-year lunar cycle for about eleven years and then abandoned this cycle for the more accurate 84-year lunar cycle in 235 AD. The church at Alexandria, however, retained the 8-year lunar cycle through this entire period. E. G. Richards reports that the bishops of Alexandria were still utilizing the *Octaeteris* cycle as late as 260 AD:

According to a paschal letter written by Dionysius of Alexandria in about AD 260, the bishops there were maintaining that Easter should not be celebrated till after the vernal equinox, which they assumed was on 21 March, and **were using the Octaeteris (see Chapter 6) to calculate the date of the first full moon after the equinox.** The Octaeteris guarantees that the dates of this would repeat every eight years, and it thus provides a very simple method suitable for use by any country priest. It is not, however, an accurate representation of the real moon. The bishops might have used the more accurate Metonic cycle, which had been known for a thousand years—but for some reason did not (Richards, *Mapping Time: The Calendar and Its History*, p. 349).

The Alexandrian bishops and priests continued to use the *Octaeteris* lunar cycle for another 24 years, adopting the 19-year lunar cycle of bishop Anatolius of Laodicea in 284 AD.

No ones' name is more closely associated with the Council of Nicaea than that St. Athanasius the Great, bishop of Alexandria. An imperial invitation under the hand of Emperor Constantine was sent to 1800 bishops of the church. 1000 bishops were Greek and 800 were Latin. 318 or one-sixth of the 1800 bishops complied and gathered at Nice, also known as Nicaea, Asia Minor. Constantine opened the council at his palace on June 19, 325 AD. They met variously at the palace, local churches or places of

public assembly for the next two months, wrapping up the proceedings on August 25, 325 AD.

Of the 800 Latin bishops of the Roman Catholic Church, only 7 delegates were in attendance, which means that of the 318 bishops in attendance, 311 were Greek. Bishop Hosius of Cordova, Spain, was instrumental in introducing the quasi-philosophical term *homoöusion* to “express the character of orthodox belief in the Person of the historic Christ...” (See the biography of Athanasius in *Appendix C* for full details):

...from Spain **Hosius or Osius of cordova, the ablest and most influential of the Western representatives**; from France Nicasius of Dijon; from North Africa, Caecilian of Carthage; from Pannonia, Domnus of Strido; from Italy, Eustorgius of Milan and Marcus of Calabria; from Rome, the two presbyters Victor of Vitus and Vincentius, as delegates of **the aged pope Sylvester I, who found it impossible to attend in person.**

Of the 311 Greek bishops in attendance:

**Besides a great number of obscure mediocrities**, there were several distinguished and venerable men, as e.g. Eusebius of Caesarea, who was most eminent for learning; **the young archdeacon Athanasius, who accompanied the bishop Alexander of Alexandria, for zeal, intellect, and eloquence.** Some, as confessors, still bore in their body the marks of Christ from the times of persecution: Paphnutius of the Upper Thebaid, Potamon of Herakles, whose right eye had been put out, and Paul of Neo-Caesarea, who had been tortured with red-hot iron under Licinius, and was crippled in both his hands. Others were distinguished for extraordinary ascetic holiness, and even for miraculous works; like **Jacob of Nisibis, who spent years as a hermit in forests and caves, and lived like a wild beast on roots and leaves**, and Spyridion (or St. Spiro) of Cyprus, the patron of the Ionian Isles, who even after his ordination remained a simple shepherd. (McCintock, John and James Strong. *Cyclopedia of Biblical, Theological, and Ecclesiastical Literature*. Vol. 7, *Nicaean Councils*. Grand Rapids: Baker Book House Company, 1981).

The reason for convening 318 bishops at Nicaea was twofold:

- 1) To discuss and resolve the heresy of Arius. The Athanasian Creed was the result of their work. It would be another two hundred years or more, however, before the final definition of the Godhead would be agreed to. And,



2) To discuss and resolve the Passover controversy which had been raging for more than two hundred years. As a result, Friday was officially declared the day of Christ's crucifixion and Sunday the day of the resurrection. Pope Gregory XIII wrote in paragraph 6 of his Papal Bull that Popes Pius I and Victor I both decreed that Sunday is the day of the celebration of Easter rather than Nisan 14. The Gregorian Calendar is named after Gregory XIII:

6. One notes in examining this that it is necessary to rule at the same time on three points to restore the celebration of Easter according to rules fixed by the previous Roman pontiffs, particularly Pius I [ca. 140 - 154] and Victor I [ca. 189 - 198, who established Easter's celebration on Sunday, **rather than 14 Nisan favored by the "Quartodeciman" bishops of Asia**], and by the fathers of the councils, in particular those of the [first] great ecumenical council of Nicæa [May 20 - August 25, AD 325, deciding the following rules]. Namely: First, the precise date of the vernal equinox, then the exact date of the fourteenth day of the moon which reaches this age the very same day as the equinox or immediately afterwards, finally the first Sunday which follows this same fourteenth day of the moon. Therefore we took care not only that the vernal equinox returns on its former date, of which it has already deviated approximately ten days since the Nicene Council, and so that the fourteenth day of the Paschal moon is given its rightful place, from which it is now distant four days and more, but also that there is founded a methodical and rational system which ensures, in the future, that the equinox and the fourteenth day of the moon do not move from their appropriate positions (see the full text of the *Inter Gravissimas* in **Appendix F** ).

The problems that arose with the "Oriental" churches was so acute that

Athanasius recorded that they were keeping the seventh day Sabbath:

The ancient Christians were very careful in the observance of Saturday, or the seventh day...It is plain that **all the Oriental churches, and the greatest part of the world**, observed the Sabbath as a festival...**Athanasius** likewise tells us that they held religious assembles on the Sabbath, not because they were infected with Judaism, but to worship Jesus, the Lord of the Sabbath, **Epiphanius** says the same" (Bingham, Joseph, 1668-1723. *The Antiquities of the Christian Church*, and other works; with the quotations at length, in the original languages, and a biographical account of the author. London: W. Straker, 1843-1834. Vol.II, Book XX, chap. 3, sec.1, 66. 1137,1138).

Archimandrite Sergius, former Assistant Professor at the Theological Academy in Sofia, Bulgaria, writes that Athanasius the Great confirmed in

two of his epistles that the Christian Pascha should not be kept at the same time as the Jews:

In two of his epistles, St. Athanasios touches on the matter of the celebration of Pascha. In a letter to the Bishops of Africa (Chapter 2), he writes: “The Synod of Nicaea was convened on account of the heresy of Arius and because of the issue of Pascha. Because the Christians in Syria, Cilicia, and Mesopotamia were not in concord, *at the same time...that the Jews celebrated their Passover*, they celebrated...[the Christian Pascha]..., too” (Migne, *Patrologia Graeca*, Vol. XXVI, col. 1029). In his letter “On the Synods in Ariminum and Seleucia” (Chapter 5), the Saint comments: “The Synod in Nicaea was held not without manifest reason, but out of good reason and urgent need; for the Christians of Syria, Cilicia, and Mesopotamia were erring with regard to the holy days and celebrated the Pascha with the Jews...” (*ibid.*, col. 688). It is evident from the context, here, that “met...” *with the Jews*, means precisely what the Church has always taught; the expression refers to nothing other than a common celebration with the Jews *at one and the same moment in time...* Moreover, it is this very *temporal* concelebration which invited reproach and which was one of the reasons for the convocation of a synod in Nicaea (Sergius, Archimandrite, *The First Ecumenical Synod and the Feast of Pascha* “...not with the Jews”).

Sergius wrote further of the opinion of St. Ambrose, bishop of Milan, Italy who lived from about 339 to 397 AD. Bracketed comments are those of Sergius:

St. Ambrose of Milan (*circa* 339-97), in an epistle written to the Bishops of the district of Emilia in 386, observes, in response to a question from them regarding the lateness of Pascha in the coming year (387): “The determination of the Feast of Pascha according to the teaching of Holy Scripture and *the Holy Tradition of the Fathers who assembled at the Synod in Nicaea* requires not a little wisdom. Aside from other marvelous rules of Faith, the Holy Fathers, with the aid of eminently experienced men appointed to determine the aforementioned Feast Day, produced **a calculation for its date of nineteen years’ duration and established a cycle of sorts that became a model for ensuing years. This cycle they called the “nonus decennial,” its goal being...the sacrifice of the Resurrection of Christ at all places on the same night**” (*Epistle XXIII*, Chap. 1, Migne, *Patrologia Latina*, Vol. XVI, col. 1070). The basic rule for the calculation of Pascha is set forth by St. Ambrose in the eleventh chapter of the same epistle: “We must observe a rule, such that **the fourteenth moon [i.e., the fourteenth day of the month of Nisan, the Jewish Passover] be not set on the day of the Resurrection, but on the day of the passion of Christ**, or on another preceding day, since the celebration of the Resurrection is celebrated on Sunday.”

To assure these decrees would be religiously followed, a mathematical formula for the exact calculation of the fourteenth moon of Nisan was

agreed to. This formula was known as the “*nonus decennial*” cycle of 19 years.

Although agreed to by all 318 bishops present, these acts did not resolve the problem of determining a universally agreed to date for Easter! Although the date of the 14<sup>th</sup> moon of Nisan was never in doubt, Rome and Alexandrian astronomers could not agree on the date of the spring *ecclesiastical equinox*. The Romans insisted the proper date for this equinox was March 25 while the Alexandrians insisted the proper date was March 21.

To further complicate the problem, the Romans were not strict in their application of the rules they had agreed to for setting the date for Easter. It had, after all, been decreed by the Council that Christians could not celebrate Pascha at the same time as did the Jews—but the Roman Church paid little attention to this decree:

In fact, however, in both the epistle of St. Constantine the Great to those Bishops who were unable to attend the Synod, as well as the letter sent by the Synod to the Church of Alexandria, there are relevant—albeit, indirect—data to be found in the specific agreements between the Synod and the Christians of the Eastern domains with regard to the common celebration of Pascha by all Christians. Unfortunately, theologians of an ecumenical bent have precipitated from the evidence offered by these sources a simple affirmation that all Christians must celebrate Pascha at the same time, ignoring the question of a specific day. Likewise, **they intentionally distort the explicit prohibition of the first Canon of the Synod held in Antioch in 341—that is, that the Christian Pascha must not be celebrated at the same time as the Jewish Passover—, misrepresenting its original meaning: the expression “not with the Jews” is simply interpreted as an injunction against the calculation of the date for Pascha according to the faulty system employed by the Jews, at that time, for the calculation of their Passover (Sergius, Archimandrite, *The First Ecumenical Synod and the Feast of Pascha* “...not with the Jews”).**

The earliest date on which Easter Sunday could occur on the Alexandrian Calendar was March 22. The Alexandrian’s, remember, held that March 21 was the date of the *ecclesiastical equinox*. The earliest date on which Easter Sunday could occur on the Roman Calendar was March 25—the Roman *ecclesiastical equinox*. The Roman’s, unlike the Alexandrians, however, held that Easter Sunday could be celebrated on the *ecclesiastical equinox*.

The Council of Nicaea called upon archdeacon Athanasius of Alexandria, charging him with the responsibility of drawing up astronomical tables so that all might celebrate Easter on universally agreed to dates. Alexander, the Primate of Alexandria, died five months after the close of the council in August 325 AD. Athanasius, at the young age of thirty, was ordained to replace him. Over the course of the next two years Athanasius, and the astronomers of Alexandria, drew up the assigned astronomical tables which calculated the dates for the celebration of Easter for years 328 AD through 373 AD—a period of 45 years.

Of great interest here is that the Alexandrian church had adopted the *Anatolian* 19-year cycle just forty-one years earlier in 284 AD. The 8-year *Octaeteris* Cycle, by which the Alexandrians had calculated the dates for Nisan 14 and thus Easter Sunday, was replaced after *circa* 214 years by the Anatolian 19-year Cycle. The date of its adoption corresponds to Thoth 1 of the year 1, Era of Martyrs on the Egyptian Calendar and to 29 August, 284 AD on the Julian Calendar. It is, I believe, important to call to the reader's attention that years within the Alexandrian 19-year cycle were calculated from fall to fall—just as is the Hebrew Calendar. We can infer from this that the Anatolian 19-year cycle also ran from fall to fall. The first year of the Alexandrian cycle corresponds to year 17 of the Hebrew cycle. We have here, we believe, an interesting parallel with the Hebrew fall to fall reckoning.

A short biography of St. Athanasius may be found in *Appendix C*. This material is presented to give the reader a flavor of the dangerous world of intrigue in which he worked. And, to give context to the first *Paschal Canon* he was instrumental in producing for the church at large.

We are all familiar with Rome's dispute with the Christians of Asia Minor regarding the observance of Passover. **After the Council of Nicaea, those Christians who continued to observe the death of Christ on Passover Day, Nisan 14<sup>th</sup> irregardless of the day of the week, or continued to practice Easter Sunday on the Passover Day were dubbed *Quartodecimani*.** Henceforth, the Council decreed, Friday was the recognized day of the crucifixion and the following Sunday was the day of the ascension (McCintock, John and James Strong. *Cyclopedia of Biblical, Theological, and Ecclesiastical Literature*. Vol. 8, *Quartodecimani*. Grand Rapids: Baker Book House Company, 1981).

However, the spotlight of ecclesiastical history has not been focused on three vital elements in this equation. The first element is that from the very beginning of the Christian Church, there were bishops of Asia Minor and then Rome who demanded that Passover could not be observed before the equinox nor could it be observed on Nisan 14. This fact assumes these bishops knew the date of the fourteenth moon of Nisan and that these dates were being calculated in advance—else how could the “faithful” be warned in advance.

The heresy of pegging the observation of the “Pascha” to the equinox by demanding its observance after the equinox, in conjunction with the heresy that the remembrance of Christ’s death could not be observed on or adjacent to Nisan 14 were two very powerful elements that quickly drove the early church to the observance of Easter Sunday. These demands also led to the total rejection of the Hebrew Calendar, which was set by the declaration of the Feast of Trumpets on Tishri 1. Obviously, the entire fall festival season was an early casualty of such demands. How easy it was to replace these fall festivals with those of the fall grape festival of the likes of Dionysius and the birth of the sun god on the eve of December 25.

Although we have not yet discussed how these bishops calculated the fourteenth moon, we have discussed the fact that they did calculate this date. The second element is this: without an exact knowledge of the date of the fourteenth moon on the Roman Calendar, it is completely impossible to observe Easter Sunday after the fourteenth moon which occurs *after* the equinox. So the calculation of the fourteenth moon of Nisan was absolutely imperative to the calculation of the date of Easter Sunday.

A third element will now be brought into focus under the spotlight of history. That element is that the astronomers of Rome and Alexandria could not agree on the date of the equinox! For centuries Rome pegged the *ecclesiastical equinox* to March 25, while Alexandria pegged the *ecclesiastical equinox* to March 21. The Romans also ran their liturgical year from January 1 to January 1, while the Alexandrians ran theirs from March 21 to March 21. As a result of these differences, Rome and Alexander conducted a vicious running battle over the date of Easter Sunday for more than 205 years from 325 to 532 AD.

It is from the records of these Paschal disputes that we may draw historical dates of synchronization which verify that the Hebrew Calendar

we still use is accurate in every way. The great irony here is that Rome never conformed to her own demands. What arrogance! What hypocrisy! We shall see in addition, that Rome never, ever understood the inner workings of the 19-year lunar cycle until 532 AD. All of this led to great consternation and conflict among the churches of the British Isles as to the date of Easter Sunday. This robust debate was not settled until 768 AD. when the Romanizers gained full control over the calendars of the British Isles.

We now turn our attention to the Paschal Table of Athanasius. In doing so, it is important to make a connection between the Paschal Table of Anatolius and its linkage with that of Athanasius.

Tables 5.0, 5.1 and 5.2 are all pre-Athanasian Paschal Tables showing the connection among the Athanasian, Anatolian and Hebrew Calendar cycles. By “pre-Athanasian” we mean that the Athanasian cycle does not actually begin until year 285 AD. Accordingly, we have run the Athanasian Cycle back to the year 1 BC. This allows us to demonstrate an interesting linkage among the Anatolian, Hebrew and other cycles. The reader will notice that the Anatolian and Athanasian Cycles overlap a few years. It should also be noted that even though the Athanasian Cycle begins in 285 AD, this date pre-dates the actual Paschal Table of Athanasius by 43 years.

**Table 5.0 19-Year Cycles of the Pre-Athanasian Paschal Table—  
266-284 AD**

Cycle			Julian
Year			Year AD
AT <sup>1</sup>	AN <sup>2</sup>	H <sup>3</sup>	
6		17	266
7		18	267
8		19	268
1		1	269
2		2	270
3	1	3	271
271 AD was the first year of the Anatolian 19-year cycle.			
4	2	4	272
5	3	5	273
6	4	6	274
7	5	7	275
8	6	8	276
1	7	9	277
2	8	10	278
3	9	11	279
4	10	12	280
5	11	13	281
6	12	14	282
7	13	15	283
8	14	16	284

Note:

<sup>1</sup>8-year cycle of the Pre-Athanasian Paschal Table.

<sup>2</sup>19-year cycle of the Anatolian Paschal Table.

<sup>3</sup>19-year cycle of the Hebrew Calendar

**Table 5.1 19-Year Cycles of the Pre-Athanasian Paschal Table—  
285-303 AD**

Cycle Year			Julian Year AD	Year of Diocletian Era
AT <sup>1</sup>	AN <sup>2</sup>	H <sup>3</sup>		
1 <sup>4</sup>	15	17	285	1 <sup>5</sup>
2	16	18	286	2
3	17	19	287	3
4	18	1	288	4
5	19	2	289	5
6	1	3	290	6
7	2	4	291	7
8	3	5	292	8
9	4	6	293	9
10	5	7	294	10
11	6	8	295	11
12	7	9	296	12
13	8	10	297	13
14	9	11	298	14
15	10	12	299	15
16	11	13	300	16
17	12	14	301	17
18	13	15	302	18
19	14	16	303	19

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>19-year cycle of the Anatolian Paschal Table.

<sup>3</sup>19-year cycle of the Hebrew Calendar

<sup>4</sup>The year the Alexandrian Church stopped using the 8-year *Octaeteris* Cycle and adopted the 19-year Anatolian cycle.

<sup>5</sup>The first day of this era—first Thoth of the year 1, Era of Martyrs—corresponds to the Julian date of 29 August AD 284 (Richards, p.159).



**Table 5.2 19-Year Cycles of the Pre-Athanasian Paschal Table—  
304-322 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era
AT <sup>1</sup>	H <sup>2</sup>	
1	17	304
2	18	305
3	19	306
4	1	307
5	2	308
6	3	309
7	4	310
8	5	311
9	6	312
10	7	313
11	8	314
12	9	315
13	10	316
14	11	317
15	12	318
16	13	319
17	14	320
18	15	321
19	16	322

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar

Table 5.3 overlaps the actual Athanasian Table (Table 2.5) from years 328 through 341 AD. We've done this so that the reader may more easily grasp the link between the Anatolian and Athanasian Cycles.

**Table 5.3 19-Year Cycles of the Athanasian Paschal Table—  
323-341 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era	
AT <sup>1</sup>	H <sup>2</sup>		
1	17	323	39
2	18	324	40
3	19	325	41
4	1	326	42
5	2	327	43
6	3	328	44
7	4	329	45
8	5	330	46
9	6	331	47
10	7	332	48
11	8	333	49
12	9	334	50
13	10	335	51
14	11	336	52
15	12	337	53
16	13	338	54
17	14	339	55
18	15	340	56
19	16	341	57

Council of Nicaea

Year 1 of Athanasian Paschal Table

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

We will now turn our attention to a discussion of the Paschal Table attributed to Athanasius. Thus Paschal Table which reproduced in Table 5.4 below is taken from a collection of the Festal Letters of Athanasius entitled the *Chronicon Athanasianum*. The first year of each 19-year cycle is highlighted in blue. A portion of the introductory material to this collection is reproduced below. The blue numbered hyperlinks imbedded in the material are references to footnotes that may be found at the end of Table 5.4. The entire text of the *Chronicon Athanasianum* may be found at [http://www.ccel.org/fathers/NPNF2-04/v2/B1\\_45.HTM](http://www.ccel.org/fathers/NPNF2-04/v2/B1_45.HTM).

The Festal Letters and Paschal Table of Athanasius may also be found under the heading The Festal Letters, and Their Index at: <http://www.ccel.org/ccel/schaff/npnf204.toc.html>

The Festal Letters, and Their Index,  
Or *Chronicon Athanasianum*.

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THE latter document is from the hand, it would seem, of the original collector of the Easter Letters of Athanasius (yet see *infr.* note 6a). He gives, in a paragraph corresponding to each Easter in the episcopate of Athanasius, a summary of the calendar data for the year, a notice of the most important events, and especially particulars as to the Letter for the Easter in question, viz., Whether any peculiar circumstances attended its publication, and whether for some reason the ordinary Letter was omitted.

The variations of practice which had rendered the Paschal Feast a subject of controversy from very early times (see *Dict. Christ. Antiq.* EASTER) had given rise to the custom of the announcement of Easter at a convenient interval beforehand by circular letters. In the third century the Bishops of Alexandria issued such letters (e.g. Dionysius in Eus. *H. E.* vii. 20), and at the Council of Nicæa, where the Easter question was dealt with (*ad Afros.* 2), **the Alexandrian see was requested to undertake the duty of announcing the correct date to the principal foreign Churches as well as to its own suffragan sees.** (This is doubted in the learned article PASCHAL LETTERS D.C.A. p. 1562, but the statement of Cyril. Alex. in his 'Prologus Paschalis' is express: cf. Ideler 2, 259. The only doubt is, whether the real reference is to *Sardica*, see *Index* xv. and *Ep.* 18.) This was probably due to the astronomical learning for which Alexandria was

famous<sup>3812</sup>. At any rate we have fragments of the Easter letters of Dionysius and of Theophilus, and a collection of the Letters of Cyril<sup>3813</sup>.

The Easter letters of Athanasius were, until 1842, only known to us by allusions in Jerome (*de V. illustr.* 87) and others, and by fragments in Cosmas Indicopleustes purporting to be taken from the 2nd, 5th, 6th, 22nd, 24th, 28th, 29th, 40th, and 45th. Cardinal Mai had also shortly before the discovery of the ‘Corpus’ unearthed a minute fragment of the 13th. But in 1842 Archdeacon Tattam brought home from the Monastery of the Theotokos in the desert of Skete a large number of Syriac MSS., which for over a century European scholars had been vainly endeavouring to obtain. Among these, when deposited in the British Museum, Cureton discovered a large collection of the Festal Letters of Athanasius, with the ‘Index,’ thus realising the suspicion of Montfaucon (*Migne* xxvi.) that the lost treasure might be lurking in some Eastern monastery. Another consignment of MSS. from the same source produced some further portions, which were likewise included in the translation revised for the present volume<sup>3814</sup>.

### **The Athanasian Paschal Table**

The column with the heading “Number of Letter” refers to the Festal Letters that were issued by Athanasius to the bishops of the principle foreign churches and to the bishops of Africa each year. This column was added to the table by modern scholars.

The column with the heading “Year of Diocl” Is a reference to the Era of Emperor Diocletian who divided the Roman Empire into two administrative parts in 284 AD. Julian year 328 AD was year 44 of the Diocletian Era.

The column with the heading “Year of Our Lord” is self-explanatory. This column was also added by modern scholars. Arabic numerals were not utilized by the ancient computusts until many centuries later.

The column with the heading “Easter Day Roman Calendar” gives the dates of Easter Sunday in Roman Calendar reckoning.

The column with the heading “Modern Reckoning” is a conversion of the ancient Roman Calendar date of Easter Sunday to modern Calendar reckoning and was added by modern scholars. This column was not part of the original table of Athanasius.

The column with the heading “Day of Lunar Moon” gives the age of the moon on Easter Sunday. This date is only accurate in one out of three instances.

The column with the heading “Epact (Age of Moon on March 22)” is the age of the *ecclesiastical full moon* on the date of the *ecclesiastical equinox*.

The column with the heading “Golden Numbers” lists the year of the 19-year cycle.

Columns “Year of Our Lord,” “Modern Reckoning,” “Day of Lunar Moon” allows us to synchronize Nisan dates of the Hebrew Calendar with Easter Sunday dates of the Julian Calendar, thus confirming the historical accuracy of the Hebrew Calendar.

For example, the *ecclesiastical equinox* for this calendar was March 25. When we check the lunar value of “Modern Reckoning,” for 328 AD (year 6 of 19-year cycle) we see that Easter Sunday was calculated for April 14. And the column “Day of Lunar Moon” informs us that the lunar value at Easter Sunday, 328 AD was 18. Counting back from this Easter Sunday date places the 14<sup>th</sup> moon on a Wednesday, April 10.

Checking the Hebrew Calendar for 328 AD we find a perfect match for these dates! We thus have a historical synchronization between the Julian Calendar and the Hebrew Calendar for year 328 AD. We will leave the full analysis of the Paschal Table of the *Chronicon Athanasianum* until Chapter Nineteen.

In the meantime, it must be understood that not all dates on this table synchronize with the Hebrew Calendar. Even though both are based on a 19-year lunar cycle, there are major computational differences between the two which make full synchronizations impossible. This fact by no means invalidates those dates that do synchronize, however.

**Table 5.4 19-Year Cycles of the Athanasian Paschal Table—  
328-373 AD**

Number of Letter.	Year of Diocl.	Year of our Lord.	Easter Day.		Modern Reckoning.	Day of Lunar Month.	Epact (age of Moon on Mar. <u>22</u> ).	Sunday Letter and Concurr-entes.	Indict <sup>n</sup> .	Golden Numbers.
			Egyptian Calendar.	Roman Calendar.						
...	44	328	19 Pharm.	XVIII Kal. Mai	14 April	18	25	1 F	1	6
I	45	329	11 Pharm.	VIII Id. April	6 April	22	6	2 E	2	7
II	46	330	24 Pharm.	XIII Kal. Mai	19 April	15	17	3 D	3	8
III	47	331	16 Pharm.	III Id. April	11 April	18	28	4 C	4	9
IV	48	332	7 Pharm.	IV Non. April	2 April	20	9	6 A	5	10
V	49	333	20 Pharm.	XVI I Kal. Mai	<u>3819</u> 15 April	15	20	7 G	6	11
VI	50	334	12 Pharm.	VII Id. April	7 April	17	1	1 F	7	12
VII	51	335	4 Pharm.	III Kal. April	30 March	20	12	2 E	8	13
VIII	52	336	23 Pharm.	XIV Kal. Mai	18 April	20	23	4 C	9	14
IX	53	337	8 Pharm.	III Non. April	3 April	16	4	5 B	10	15
X	54	338	30 Pharm <sup>th</sup> .	VII Kal. April	26 March	18½	15	6 A	11	16
XI	55	339	20 Pharm.	XVII Kal. Mai	15 April	20	26	7 G	12	17
XII	56	340	4 Pharm.	III Kal. April	30 March	15	7	2 E	13	18
XIII	57	341	24 Pharm.	XIII Kal. Mai	19 April	16	18	3 D	14	19
<b>XIV</b>	<b>58</b>	<b>342</b>	<b>16 Pharm.</b>	<b>III Id. April</b>	<b>11 April</b>	<b>16</b>	<b>29</b>	<b>4 C</b>	<b>15</b>	<b>1</b>
XV	59	343	1 Pharm.	VI Kal. April	27 March	15	11	5 B	1	2
XVI	60	344	20 Pharm.	XVII Kal. Mai	15 April	19	21	7 G	2	3
XVII	61	345	12 Pharm.	VII Id. April	7 April	19	3	1 F	3	4

XVIII	62	346	4 Pharm.	III Kal. April	<u>3820</u> 30 March	21	14	2 E	4	5
XIX	63	347	17 Pharm.	Prid. Id. April	12 April	15	25	3 D	5	6
XX	64	348	8 Pharm.	III Non. April	3 April	18	6	5 B	6	7
XXI	65	349	30 Pham <sup>th</sup> .	VII Kal. April	<u>3821</u> 26 March	19	17	6 A	7	8
XXII	66	350	13 Pharm.	VI Id. April	8 April	19	28	7 G	8	9
XXIII	67	351	5 Pharm.	Prid. Kal. April	31 March	18	9	1 F	9	10
XXIV	68	352	24 Pharm.	XIII Kal. Mai	19 April	18	20	3 D	10	11
XXV	69	353	16 Pharm.	III Id April	11 April	21	1	4 C	11	12
XXVI	70	354	1 Pharm.	VI Kal. April	27 March	17	12	5 B	12	13
XXVII	71	355	21 Pharm.	XVI Kal. Mai	16 April	18	23	6 A	13	14
XXVIII	72	356	12 Pharm.	VII Id. April	7 April	17	4	1 F	14	15
XXIX	73	357	27 Pham <sup>th</sup> .	X Kal. April	23 March	17	15	2 E	15	16
XXX	74	358	17 Pharm.	Prid Id. April	12 April	17	26	3 D	1	17
XXXI	75	359	9 Pharm.	Prid. Non. April	4 April	20	7	4 C	2	18
XXXII	76	360	28 Pharm.	IX Kal. Mai	23 April	21	18	6 A	3	19
<b>XXXIII</b>	<b>77</b>	<b>361</b>	<b>13 Pharm.</b>	<b>VI Id. April</b>	<b>8 April</b>	<b>17</b>	<b>29</b>	<b>7 G</b>	<b>4</b>	<b>1</b>
XXXIV	78	362	5 Pharm.	Prid. Kal. April	31 March	25	<del>3822</del> 10	1 F	5	2
XXXV	79	363	25 Pharm.	XII Kal. Mai	20 April	20	21	2 E	6	3
XXXVI	80	364	9 Pharm.	Prid. Non. April	4 April	16	3	4 C	7	4
XXXVII	81	365	1 Pharm.	VI Kal. April	27 March	19	14	5 B	8	5
XXXVIII	82	366	21 Pharm.	XVI Kal. Mai	16 April	20	25	6 A	9	6
XXXIX	83	367	6 Pharm.	Kal. April	1 April	16	6	7 G	10	7
XL	84	368	25 Pharm.	XII Kal. Mai	20 April	16	17	2 E	11	8
XLI	85	369	17 Pharm.	Prid. Id. April	12 April	15	28	3 D	12	9
XLII	86	370	2 Pharm.	V Kal. April	28 March	15	9	4 C	13	10
XLIII	87	371	22 Pharm.	XV Kal. Mai	17 April	16	20	5 B	14	11
XLIV	88	372	13 Pharm.	VI Id. April	8 April	19	1	7 G	15	12
XLV	89	373	5 Pharm.	Prid. Kal. April	31 March	21	12	1 F	1	13

3812 So Leo Magnus (*Ep. ad Marcian. Imp.*) ‘apud Ægyptios huius supputationis antiquitus tradita peritia.’

3813 We trace differences of opinion in spite of the authority of the Alexandrian Pope in ‘Index’ xii, xv, xxi, and *Ep.* 18.

3814 Further details in Migne, P.G. xxvi. 1339 *sqq.* and Preface (by Williams?) to Oxford Transl. of *Fest. Epp.* (Parker, 1854.)

3815 The very late Arabic Life of Ath. alone gives 47 (Migne xxv. p. ccli.), a statement which we may safely ignore in view of the general character of the document which is ‘crowded with incredible trivialities and follies’ (Montf.), outbidding by far the ‘unparalleled rubbish’ (id.) of the worst of the Greek biographies (see Migne xxv. p. liv. *sq.*).

3816 The italics are ours. Cf. Rufin. *H. E.* ii. 3, ‘xlvi anno sacerdotii sui.’

3817 Some phenomena might suggest (Hefele, ii. 88, note) that the *Index* was originally prefixed to another collection of the letters, and was copied by a collector or transcriber of our present corpus; cf. *Index* xiii., note 17<sup>b</sup>, and p. 527, note 1.

3818 Misunderstood by Hefele, vol. ii. p. 88 (*E. Tra.*).

3819 According to the usual Antegregorian rule, Easter would fall on April 22.

3820 According to the usual rule, Easter would fall on March 23; see *Letter* 18, note 3.

3821 According to rule, Easter would fall on April 23, which perhaps was the day really observed, as it agrees with the age of the moon; but see note on *Index* No. xxi.

3822 Read Moon 20, Epact 11.



## Chapter Six

### A Short History of the 19-Year Lunar Cycle of St. Theophilus of Alexandria

St. Athanasius the Great died in 373 AD leaving the church without the issue of his yearly Festal Letter which set the date for the upcoming Easter Sunday celebration. Within a year or so after the death of Athanasius, Theophilus of Alexandria published his own *Paschal Canon* known as the *Laterculum Paschale*. Unfortunately only the Prologue of this work remains. This Canon was later sent to Emperor Theodosius I whose reign ran from 379 to 395 AD. Theophilus was Patriarch of Alexandria from 385 to 412 AD.

Theophilus' Paschal Table was calculated for years 375 to 475 AD. Some scholars place the dates for the implementation of the *Laterculum Paschale* from 380 to 479 AD (Richards, 350). 61 years after 375 AD, in 436 AD, Theophilus' nephew, St. Cyril, abridged the tables and fixed the time of Easter for the next 95 years; i.e., 436 to 531 AD. In 532 AD, Rome adopted the Dionysian cycle of Dionysius Exiguus. This was the table abridged by St. Cyril that Pope Leo I refers to when he writes that Theophilus fixed Easter for April 24 in 455 AD.

Theophilus had calculated the date for Easter Sunday, 387 AD for April 25. The Romans calculated the date for Easter for March 21, 387 AD. Emperor Theodosius the Great asked Theophilus, Bishop of Alexandria for an explanation of difference in calculation. Theophilus responded by drawing up a chronological table illustrating the reason for the different calculations for Easter. The basic reasons for the difference are based on the fact that the Alexandrians were calculating their Easter dates based on a 19-year lunar cycle, while the Romans were calculating their Easter dates based on an 84-year lunar cycle. Ever so often Easter dates would therefore disagree. Furthermore, the Alexandrians pegged the *ecclesiastical full moon* of Nisan at March 21, while the Romans pegged their *ecclesiastical full moon* at March 25. The Romans also used a different formula for the placement of the Easter Sunday in relation to the *ecclesiastical full moon*. We will examine these factors in detail in Chapter Sixteen as these published

differences quite often allow us to synchronize the Hebrew Calendar with the Julian Calendar thus verifying the accuracy of the Hebrew Calendar.

**Table 6.0 19-Year Cycle 3 of the Athanasian Paschal Table—  
361-373 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era		
AT <sup>1</sup>	H <sup>2</sup>			
1	17	361	77	
2	18	362	78	
3	19	363	79	
4	1	364	80	
5	2	365	81	
6	3	366	82	
7	4	367	83	
8	5	368	84	
9	6	369	85	
10	7	370	86	
11	8	371	87	
12	9	372	88	
13	10	373	89	Last year of Paschal Table of St. Athanasius
14	11	374	90	
15	12	375	91	First year of Paschal Table of St. Theophilus
16	13	376	92	
17	14	377	93	
18	15	378	94	
19	16	379	95	Year one of the reign of Theodosius I the Great

Note:

<sup>1</sup>19-year cycle of the Athanasian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

**Table 6.1 19-Year Cycle 1 of the Paschal Table of St. Theophilus—  
380 to 398 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era	
TH <sup>1</sup>	H <sup>2</sup>		
1	17	380	96
2	18	381	97
3	19	382	98
4	1	383	99
5	2	384	100
6	3	385	101
7	4	386	102
8	5	387	103
9	6	388	104
10	7	389	105
11	8	390	106
12	9	391	107
13	10	392	108
14	11	393	109
15	12	394	110
16	13	395	111
17	14	396	112
18	15	397	113
19	16	398	114

In 380 AD, Theodosius I proclaims Christianity the sole religion of the Roman Empire.

St. Chrysostom preaches his homilies “Against the Jews”—386 to 387 AD

Last year of the reign of Theodosius I the Great

Note:

<sup>1</sup>19-year cycle of Theophilus’ Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

**Table 6.2 19-Year Cycle 2 of the Paschal Table of St. Theophilus—  
399 to 417 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era		
TH <sup>1</sup>	H <sup>2</sup>			
1	17	399	115	
2	18	400	116	
3	19	401	117	
4	1	402	118	
5	2	403	119	
6	3	404	120	
7	4	405	121	
8	5	406	122	
9	6	407	123	
10	7	408	124	
11	8	409	125	
12	9	410	126	
13	10	411	127	
14	11	412	128	Death of St. Theophilus
15	12	413	129	
16	13	414	130	
17	14	415	131	
18	15	416	132	
19	16	417	133	

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

**Table 6.3 19-Year Cycle 3 of the Paschal Table of St. Theophilus—  
418 to 436 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era	
TH <sup>1</sup>	H <sup>2</sup>		
1	17	418	134
2	18	419	135
3	19	420	136
4	1	421	137
5	2	422	138
6	3	423	139
7	4	424	140
8	5	425	141
9	6	426	142
10	7	427	143
11	8	428	144
12	9	429	145
13	10	430	146
14	11	431	147
15	12	432	148
16	13	433	149
17	14	434	150
18	15	435	151
19	16	436	153

St. Patrick arrives in Ireland

Note:

<sup>1</sup>19-year cycle of Theophilus' Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

## Chapter Seven

### **A Very Short History of the 19-Year Lunar Cycle of St. Cyril of Alexandria**

St. Cyril, Theophilus' nephew and successor as Bishop of Alexandria, sent a revision of Theophilus' table the *Laterculum Pashale* to Emperor Theodosius II covering years 436 to 531 AD—a period of 95 years. Theodosius II reigned from 401-450 AD. As E. G. Richards relates in his *Mapping Time: The Calendar and its History*, that it was these tables that finally “enabled the Roman computists to figure out how the Alexandrians did their calculations” (p. 350). Nevertheless, twenty years after 436 AD, in 456 AD, the Roman Church adopted the 19-year cycle of Victorius of Aquitaine. And, seventy-six years after 436 AD in 532 AD, Rome adopted the 19-year cycle of Dionysius Exiguus.

**Table 7.0 19-Year Cycle 1 of St. Cyril's Revised  
*Laterculum Pashale* of St. Theophilus —437 to 455 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era	
CY <sup>1</sup>	H <sup>2</sup>		
1	17	437	153
2	18	438	154
3	19	439	155
4	1	440	156
5	2	441	157
6	3	442	158
7	4	443	159
8	5	444	160
9	6	445	161
10	7	446	162
11	8	447	163
12	9	448	164
13	10	449	165
14	11	450	166
15	12	451	167
16	13	452	168
17	14	453	169
18	15	454	170
19	16	455	171

437 AD is year 1 of Cyril's revision of his uncle Theophilus' *Laterculum Pashale* Cyril's Paschal Table ran for 95 years from 437-531 AD

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

St. Cyril's Paschal Table was replaced with that of Victorius of Aquitaine in 456 AD by Pope Hilarius. Even so, we will run his table on down to the time of Dionysius Exiguus of 532. The reason for doing so is that Dionysius Exiguus publishes the last 19-years of St. Cyril's table as the beginning of his own, totally ignoring that of Victorius. Why this was done we do not know, as it was Victorius that actually discovered and first published the 532-year lunar cycle. We will pick up with the Victorius table after we finish with St. Cyril's

**Table 7.1 19-Year Cycle 2 of St. Cyril's Revised  
*Laterculum Pashale* of St. Theophilus —456 to 474 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era
CY <sup>1</sup>	H <sup>2</sup>	
1	17	456
2	18	457
3	19	458
4	1	459
5	2	460
6	3	461
7	4	462
8	5	463
9	6	464
10	7	465
11	8	466
12	9	467
13	10	468
14	11	469
15	12	470
16	13	471
17	14	472
18	15	473
19	16	474

St. Cyril's table replaced by that of Victorius

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.



**Table 7.2 19-Year Cycle 3 of St. Cyril's Revised  
*Laterculum Pashale* of St. Theophilus —475 to 493 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era
CY <sup>1</sup>	H <sup>2</sup>	
1	17	475
2	18	476
3	19	477
4	1	478
5	2	479
6	3	480
7	4	481
8	5	482
9	6	483
10	7	484
11	8	485
12	9	486
13	10	487
14	11	488
15	12	489
16	13	490
17	14	491
18	15	492
19	16	493

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

**Table 7.3 19-Year Cycle 4 of St. Cyril's Revised  
*Laterculum Pashale* of St. Theophilus —494 to 512 AD**

Cycle Year	Julian Year AD	Year of Diocletian Era
CY <sup>1</sup>	H <sup>2</sup>	
1	17	494
2	18	495
3	19	496
4	1	497
5	2	498
6	3	499
7	4	500
8	5	501
9	6	502
10	7	503
11	8	504
12	9	505
13	10	506
14	11	507
15	12	508
16	13	509
17	14	510
18	15	511
19	16	512

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

The last nineteen years of St. Cyril's Paschal Table given below is the only remaining portion of his entire Paschal Canon. All else has been lost. Only a few columns need be explained. The Latin of column 1 which reads "ANNI DIOCLETIANI" is the year of the Diocletian Era. Dionysius dropped this method of reckoning when he published his Paschal Canon because he did not want his Canon and thus his tables associated with an emperor who had martyred so many Christians. The Roman numerals "CCXXVIII" of column 1 correspond to Julian year 513 AD and year 1 of the 19-year cycle. The Roman numerals "CCXLVII" correspond to Julian year 532 AD and year 19 of the 19-year cycle.

The Latin of column 6 which reads "quae sit Luna XIII paschalis" is the date of the 14<sup>th</sup> moon given in ancient Roman Calendar format. The Latin of column 7 which reads "dies Dominicae festivitatis diei dominici" is the date of Easter Sunday given in ancient Roman Calendar format. The Latin of column 8 which reads "quota sit luna ipsius" is the age of the moon on Easter Sunday.

Columns 6, 7 and 8 allow us to synchronize Nisan dates of the Hebrew Calendar with Easter Sunday dates of the Julian Calendar, thus confirming the historical accuracy of the Hebrew Calendar. For example, the *ecclesiastical equinox* for this calendar was March 21. When we check the value of column 6 for 513 AD (19-year cycle 1) we see that it is non.apr or April 5, thus placing the 14<sup>th</sup> moon on April 5. Column 7 tells us that Easter Sunday was calculated for vii id.apr or April 7. And column 8 informs us that the lunar value at Easter was xvi or 16. Easter Sunday, April 7, 513 AD thus has a lunar value of 16.

Checking the Hebrew Calendar we find a perfect match for these dates! We thus have an historical synchronization between the Julian Calendar and the Hebrew Calendar for year 513 AD. We will leave the full analysis of St. Cyril's revised table of the *Laterculum Pashale* of St. Theophilus until Chapter Twenty-One. In the meantime, it must be understood that not all dates on this table synchronize with the Hebrew Calendar. Even though both are based on a 19-year lunar cycle, there are major computational differences between the two which make full synchronizations impossible. This fact by no means invalidates those dates that do synchronize, however.

**Table 7.4 19-Year Cycle 5 of St. Cyril’s Revised Table of the *Laterculum Pashale* of St. Theophilus —513 to 531 AD**

ANNI DIOCLETIANI	quæ sint indic- tiones	epac- tæ, id est adjec- tiones lunæ	concur- rentes dies	quotus sit lunæ circu- lus	quæ sit luna XIII paschalis	dies Domi- nicæ festivitatis diei dominici	quota sit luna ipsius
CCXXVIII	vi	nulla	i	xvii	non.Apr.	vii id.Apr.	xvi
CCXXX	vii	xi	ii	xviii	viii k.Apr.	iii k.Apr.	xviii
CCXXXI	viii	xxii	iii	xviiii	id. Apr.	xiii k.Maii	xx
CCXXXII	viiii	iii	v	i	iiii non.Apr.	iii non.Apr.	xv
CCXXXIII	x	xiiii	vi	ii	xi k.Apr.	vii k.Apr.	xviii
CCXXXIII	xi	xxv	vii	iii	iiii id.Apr.	xvii k.Maii	xviii
CCXXXV	xii	vi	i	iiii	iii k.Apr.	ii k.Apr.	xv
CCXXXVI	xiii	xvii	iii	v	xiiii k.Maii	xiii k.Maii	xv ogd.
CCXXXVII	xiiii	xxviii	iiii	vi	vii id.Apr.	iii id.Apr.	xviii
CCXXXVIII	xv	viiii	v	vii	vi k.Apr.	iii non.Apr.	xxi
CCXXXVIII	i	xx	vi	viii	xvii k.Maii	xvi k.Maii	xv
CCXL	ii	i	i	viiii	ii non.Apr.	vii id.Apr.	xvii
CCXLI	iii	xii	ii	x	viiii k.Apr.	iii k.Apr.	xx
CCXLII	iiii	xxiii	iii	xi	ii id.Apr.	xiii k.Maii	xxi
CCXLIII	v	iiii	iiii	xii	k.Apr.	ii non.Apr.	xvii
CCXLIII	vi	xv	vi	xiii	xii k.Apr.	vii k.Apr.	xviii
CCXLV	vii	xxvi	vii	xiiii	v id.Apr.	xvii k.Maii	xx
CCXLVI	viii	vii	i	xv	iiii k.Apr.	ii k.Apr.	xvi
CCXLVII	viiii	xviii	ii	xvi	xv k.Maii	xii k.Maii	xvii hend.

## Chapter Eight

### A Short History of the 19-Year Lunar Cycle of Dionysius Exiguus—the *Liber de Paschate*

The Dionysian canon was introduced in 532 AD. The computational methods of this canon were utilized by the Roman church for the next 1050 years through 1581 AD.

One of the early Easter tables made up following the Council of Nicea was a 95-year table (that is, five Metonic cycles) supplied by Cyril, a bishop of Alexandria. His table ended on the year we now call 531 A.D., and the task of extending the table was assigned to a monk named Dionysius Exiguus, that is, Dennis the Short.

Dionysius realized that, to get the to-and-fro pattern of Easter dates to repeat, he had to **multiply together three different cycles: 19 for the Metonic cycle, 7 for the days of the week, and 4 for the leap year repeat of Julian calendar**, yielding the number 532, known as the paschal or Dionysian cycle. Dionysius discovered that, if he matched his cycle to start just where Cyril's table left off, and if he went 532 years earlier, the new moon coincided with the vernal equinox, which seemed especially propitious (as pointed out by E. G. Richards in his book, *Mapping Time: The Calendar and its History*).

<http://cfa-www.harvard.edu/previous/123199.html>

The following material details the life and work of Dionysius. A copy of the Latin version of the *Liber de Paschate* drawn up by Dionysius may be found at the following address:

<http://hermes.ulaval.ca/~sitrau/calgreg/denys.html>

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went **532 years earlier, the new moon coincided with the vernal equinox**, which seemed especially propitious (as pointed out by E. G. Richards in his book, *Mapping Time: The Calendar and its History*).

<http://cfa-www.harvard.edu/previous/123199.html>

In one of these periodic reexaminations of the issue, the problem was handed over to one Dionysius Exiguus (Denis the Little, or as I like to call him, Denis the Scrawny). Dionysius reported back reaffirming the Alexandrian method of calculation, and since the tables currently in use were about to expire, he also took the opportunity to calculate the dates of Easter for the next 532 years. The tables he produced and the introductory letter have survived. To the beginning of his tables he prefaced the last 19 years of the old tables. Those tables identified the year in the year of Diocletian (sometimes called the Era of the Martyrs, for the great persecutions of Christians that took place under that emperor), years 228-247 to be precise. When Dionysius continues his table, however, he dates the years in the cycle from the incarnation of Christ, as he believed them to be. In his letter, he explains that he preferred that Jesus, not a persecutor of Christians, be remembered in his tables. The first year in his continuation is 532, which is thus equated with the year of Diocletian 248. To provide another correlation to a known count of years, Dionysius also indicates the year of the indiction, a 15-year cycle used in the late Roman empire for purposes of taxation. Year AD 532 was the 10th year of the indiction, according to Dionysius.

<http://www.polysyllabic.com/Easter.html>

*Dionysius Exiguus* ("Dennis the Small") (c. 470 - c. 540) was a 6th century Dacian monk born in Scythia Minor, in what is now the Dobruja, Romania.

From 500 he lived as monk and friend of Cassiodorus (who wrote about him in *Institutiones*) in Rome where, as an abbot and learned member of the Vatican's Curia, he translated from Greek into Latin 401 ecclesiastical canons, including the apostolical canons and the decrees of the councils of Nicaea, Constantinople, Chalcedon and Sardis, and also a collection of the decretals of the popes from Siricius (385) to Anastasius II. (498). These collections had great authority in the West and still guide church administrations. He was known for his mathematical skill and for being versed in astronomy, as well.

Pope John I requested that Dionysius compute a table for future dates of Easter. In 525, Dionysius produced his *Liber de Paschate*. It starts with a letter to a bishop Petronius introducing the work. Then follow the tables and an explanation on how to use and compute them. As appendix there is a letter by the Alexandrian bishops to pope Leo, and another letter by Dionysius.

The previous tables had been based on a method by the Alexandrian bishops Theophilus and St. Cyrillus, which covered a period of 95 years. **The first part of Dionysius tables covered the last 19 years of the running 95-year period, and**

**had the years labeled according to the era of the accession of Roman Emperor Diocletian** (August 28, September 29, or November 17, 284 - sources disagree on the exact date), as had been the custom since the council of Nicea (325); this table continued up to the year 247. As Dionysius explained to Petronius, he did not wish to continue the memory of a tyrant who persecuted Christians, and instead he proposed to number years from the incarnation of Jesus Christ, starting his new 95-year table with the year 532.

Since the 2nd century some bishoprics in the East of the Roman Empire counted years from the birth of Christ, but there was no agreement on the correct epoch; Clement of Alexandria (*ca.* 190 AD) and Eusebius of Caesarea (*ca.* 320 AD) wrote about these attempts. It is not clear how Dionysius fixed the begin of the Christian era. Before him, Victorius of Aquitania devised a method to compute Easter which had a cycle of 532 years. However, Dionysius used a modified version of the Alexandrian method, and does not mention Victorius nor the 532-year cycle. In any case, the previous 532-year period would have started in 1 BC (Dionysius count). The text as it has been handed down to us mentions the date for Christ's conception as Sunday March 25, and his birth as Tuesday December 25, presumably in the year preceding the beginning of Dionysius' era. He equates these and other events with the dates of equinoxes and solstices in Jesus' time. However it is not clear where Dionysius puts the begin of a year: besides January 1, also March 1, Christmas day (December 25), Easter day, and the date of the vernal equinox (March 21 or even March 25) are "styles" that have been used at one time. From what we know of the historical context, Jesus was born some years before the date that Dionysius gives him.

Promoted by the Venerable Bede, the year numbering system of Dionysius spread during the Middle Ages. Bede himself seems to have instituted "BC" and "AD" year naming.

DE's definition of Easter date (per Council of Nicea): Easter is the Sunday following the first Luna XIV (the 14th day of the moon) that occurs on or after XII Kalendas Aprilis (21 March) (kalendas means the first day of the month, and the date given counts days backward starting with 1 on the first day of the given month, which is according to the Roman custom). The change from 15 Nisan of the jewish Pesach to Luna 14 probably has to do with the fact that on the Hebrew calendar days start at sunset, while in the Christian A.D. calendar (which was also introduced by Dionysius) days start at midnight. DE's method of computing Easter is called the Julian method.

#### *External sources*

The Latin text of Dionysius' *Liber de Paschate* is online at:

A provisional annotated translation of the tables and "Argumenta" is on-line at:  
<http://the-light.com/cal/DionysiusArgumenta.txt>><http://hermes.ulaval.ca/~sitrau/calgreg/denys.html>

[A provisional annotated translation of the tables and "Argumenta" is on-line at:  
http://the-light.com/cal/DionysiusArgumenta.txt](http://the-light.com/cal/DionysiusArgumenta.txt)

<http://www.nationmaster.com/encyclopedia/Dionysius-Exiguus>

The last 19 years of St. Cyril's Paschal Table you see below form the first portion of Dionysius' Paschal Table. As with previous Paschal Tables only a few columns need be explained. The Latin of column 1 which reads "ANNI DIOCLETIANI" begins with year 532 AD or B DXXXII. Dionysius dropped the Diocletian Era method of reckoning when he published his Pascal Canon because he did not want his Canon and thus his tables associated with an emperor who had martyred so many Christians. The first year in column 1 also corresponds to year 1 of the Dionysian 19-year cycle. Each 19-year cycle is broken down by four year leap year cycles.

The Latin of column 7 which reads "dies Dominicae festivitatis diei dominici" is the date of Easter Sunday given in ancient Roman Calendar format. The Latin of column 8 which reads "quota sit luna ipsius" is the age of the moon on Easter Sunday.

Columns 7 and 8 allow us to synchronize Nisan dates of the Hebrew Calendar with Easter Sunday dates of the Julian Calendar, thus confirming the historical accuracy of the Hebrew Calendar. For example, the *ecclesiastical equinox* for this calendar was March 21. When we check the value of column 7 for 532 AD (19-year cycle 1) we see that Easter Sunday was calculated for iii id.apr or April 11. And column 8 informs us that the lunar value at Easter was xx or 20. Easter Sunday, April 11, 532 AD thus has a lunar value of 20.

Checking the Hebrew Calendar we find a perfect match for these dates! We thus have a historical synchronization between the Julian Calendar and the Hebrew Calendar for year 532 AD. We will leave the full analysis of the Dionysian Table of the *Liber de Paschate* until Chapter Twenty. In the meantime, it must be understood that not all dates on this table synchronize with the Hebrew Calendar. Even though both are based on a 19-year lunar cycle, there are major computational differences between the two which make full synchronizations impossible. This fact by no means invalidates those dates that do synchronize, however.



## CYCLUS DECENNOVENNALIS DIONYSII

Incipit cyclus decemnovennalis, quem Græci Enneacaidecaeterida vocant, constitutus a sanctis Patribus, in quo quartas decimas paschales omni tempore sine ulla reperies falsitate; tantum memineris annis singulis, qui cyclus lunæ et qui decemnovennalis existat. In præsentī namque tertia indictio est, consulatu Probi junioris, tertius decimus circulus decemnovennalis, decimus lunaris est.

**Table 8.0 19-Year Cycle of the *Liber de Paschate* of Dionysius Exiguus—513-531 AD. This cycle is the last 19 years of St. Cyrillus’ Paschal Table (437-531 AD). Years AD are the era of the accession of Roman Emperor**

ANNI DIOCLETIANI	quæ sint indic- tiones	epac- tæ, id est adjec- tiones lunæ	concur- rentes dies	quotus sit lunæ circu- lus	quæ sit luna XIII paschalis	dies Domi- nicæ festivitatis diei dominici	quota sit luna ipsius
CCXXVIII	vi	nulla	i	xvii	non.Apr.	vii id.Apr.	xvi
CCXXX	vii	xi	ii	xviii	viii k.Apr.	iii k.Apr.	xviii
CCXXXI	viii	xxii	iii	xviiii	id. Apr.	xiii k.Maii	xx
CCXXXII	viiii	iii	v	i	iiii non.Apr.	iii non.Apr.	xv
CCXXXIII	x	xiiii	vi	ii	xi k.Apr.	vii k.Apr.	xviii
CCXXXIII	xi	xxv	vii	iii	iiii id.Apr.	xvii k.Maii	xviii
CCXXXV	xii	vi	i	iiii	iii k.Apr.	ii k.Apr.	xv
CCXXXVI	xiii	xvii	iii	v	xiiii k.Maii	xiii k.Maii	xv ogd.
CCXXXVII	xiiii	xxviii	iiii	vi	vii id.Apr.	iii id.Apr.	xviii
CCXXXVIII	xv	viii	v	vii	vi k.Apr.	iii non.Apr.	xxi
CCXXXVIII	i	xx	vi	viii	xvii k.Maii	xvi k.Maii	xv
CCXL	ii	i	i	viiii	ii non.Apr.	vii id.Apr.	xvii
CCXLI	iii	xii	ii	x	viiii k.Apr.	iii k.Apr.	xx
CCXLII	iiii	xxiii	iii	xi	ii id.Apr.	xiii k.Maii	xxi
CCXLIII	v	iiii	iiii	xii	k.Apr.	ii non.Apr.	xvii
CCXLIII	vi	xv	vi	xiii	xii k.Apr.	vii k.Apr.	xviii
CCXLV	vii	xxvi	vii	xiiii	v id.Apr.	xvii k.Maii	xx
CCXLVI	viii	vii	i	xv	iiii k.Apr.	ii k.Apr.	xvi
CCXLVII	viiii	xviii	ii	xvi	xv k.Maii	xii k.Maii	xvii hend.

**Table 8.1 19-Year Cycle of the *Liber de Paschate* of Dionysius Exiguus—532-550 AD**

ANNI DIOCLETIANI	quæ sint indic- tiones	epac- tæ, id est adjec- tiones lunæ	concur- rentes dies	quotus sit lunæ circu- lus	quæ sit luna XIII paschalis	dies Domi- nicæ festivitatis diei dominici	quota sit luna ipsius
B DXXXII	x	nulla	iiii	xvii	non.Apr.	iii id.Apr.	xx
DXXXIII	xi	xi	v	xviii	viii k.Apr.	vi k.Apr.	xvi
DXXXIII	xii	xxii	vi	xviii	id.Apr.	xvi k.Maii	xvii
DXXXV	xiii	iii	vii	i	iiii non.Apr.	vi id.Apr.	xx
B DXXXVI	xiiii	xiiii	ii	ii	xi k.Apr.	x k.Apr.	xv
DXXXVII	xv	xxv	iii	iii	iiii id.Apr.	ii id.Apr.	xvi
DXXXVIII	i	vi	iiii	iiii	iii k.Apr.	ii non.Apr.	xviii
DXXXVIII	ii	xvii	v	v	xiiii k.Maii	viii k.Maii	xx ogd.
B DXL	iii	xxviii	vii	vi	vii id.Apr.	vi id.Apr.	xv
DXLI	iiii	viii	i	vii	vi k.Apr.	ii k.Apr.	xviii
DXLII	v	xx	ii	viii	xvii k.Maii	xii k.Maii	xviii
DXLIII	vi	i	iii	viii	ii non.Apr.	non.Apr.	xv
B DXLIII	vii	xii	v	x	viii k.Apr.	vi k.Apr.	xvii
DXLV	viii	xxiii	vi	xi	ii id.Apr.	xvi k.Maii	xviii
DXLVI	viiii	iiii	vii	xii	k.Apr.	vi id.Apr.	xxi
DXLVII	x	xv	i	xiii	xii k.Apr.	viii k.Apr.	xvii
B DXLVIII	xi	xxvi	iii	xiiii	v id.Apr.	ii id.Apr.	xvii
DXLVIII	xii	vii	iiii	xv	iiii k.Apr.	ii non.Apr.	xx
DL	xiii	xviii	v	xvi	xv k.Maii	viii k.Maii	xxi hend.

**Table 8.2 19-Year Cycle of the *Liber de Paschate* of Dionysius Exiguus—551-569 AD**

ANNI DIOCLETIANI	quæ sint indic- tiones	epac- tæ, id est adjec- tiones lunæ	concur- rentes dies	quotus sit lunæ circu- lus	quæ sit luna XIII paschalis	dies Domi- nicæ festivitatis diei dominici	quota sit luna ipsius
DLI	xiiii	nulla	vi	xvii	non.Apr.	v id.Apr.	xviii
B DLII	xv	xi	i	xviii	viii k.Apr.	ii k.Apr.	xx
DLIII	i	xxii	ii	xviii	id.Apr.	xii k.Maii	xxi
DLIIII	ii	iii	iii	i	iiii non.Apr.	non.Apr.	xvii
DLV	iii	xiiii	iiii	ii	xi k.Apr.	v k.Apr.	xx
B DLVI	iiii	xxv	vi	iii	iiii id.Apr.	xvi k.Maii	xx
DLVII	v	vi	vii	iiii	iii k.Apr.	k.Apr.	xvi
DLVIII	vi	xvii	i	v	xiiii k.Maii	xi k.Maii	xvii ogd.
DLVIII	vii	xxviii	ii	vi	vii id.Apr.	id.Apr.	xx
B DLX	viii	viiii	iiii	vii	vi k.Apr.	v k.Apr.	xv
DLXI	viiii	xx	v	viii	xvii k.Maii	xv k.Maii	xvi
DLXII	x	i	vi	viiii	ii non.Apr.	v id.Apr.	xviii
DLXIII	xi	xii	vii	x	viiii k.Apr.	viii k.Apr.	xv
B DLXIIII	xii	xxiii	ii	xi	ii id.Apr.	id.Apr.	xv
DLXV	xiii	iiii	iii	xii	k.Apr.	non.Apr.	xviii
DLXVI	xiiii	xv	iiii	xiii	xii k.Apr.	v k.Apr.	xxi
DLXVII	xv	xxvi	v	xiiii	v id.Apr.	iiii id.Apr.	xv
B DLXVIII	i	vii	vii	xv	iiii k.Apr.	k.Apr.	xvii
DLXVIII	ii	xviii	i	xvi	xv k.Maii	xi k.Maii	xviii hend.

**Table 8.3 19-Year Cycle of the *Liber de Paschate* of Dionysius Exiguus—570-588 AD**

ANNI DIOCLETIANI	quæ sint indic- tiones	epac- tæ, id est adjec- tiones lunæ	concur- rentes dies	quotus sit lunæ circu- lus	quæ sit luna XIII paschalis	dies Domi- nicæ festivitatis diei dominici	quota sit luna ipsius
DLXX	iii	nulla	ii	xvii	non.Apr.	viii id.Apr.	xv
DLXXI	iiii	xi	iii	xviii	viii k.Apr.	iiii k.Apr.	xviii
B DLXXII	v	xxii	v	xviiii	id.Apr.	xv k.Maii	xviii
DLXXIII	vi	iii	vi	i	iiii non.Apr.	v id.Apr.	xxi
DLXXIII	vii	xiii	vii	ii	xi k.Apr.	viii k.Apr.	xvii
DLXXV	viii	xxv	i	iii	iiii id.Apr.	xviii k.Maii	xviii
B DLXXVI	viii	vi	iii	iiii	iii k.Apr.	non.Apr.	xx
DLXXVII	x	xvii	iiii	v	xiiii k.Maii	vii k.Maii	xxi ogd.
DLXXVIII	xi	xxviii	v	vi	vii id.Apr.	iiii id.Apr.	xvii
DLXXVIII	xii	viii	vi	vii	vi k.Apr.	iiii non.Apr.	xx
B DLXXX	xiii	xx	i	viii	xvii k.Maii	xi k.Maii	xx
DLXXXI	xiiii	i	ii	viii	ii non.Apr.	viii id.Apr.	xvi
DLXXXII	xv	xii	iii	x	viii k.Apr.	iiii k.Apr.	xviii
DLXXXIII	i	xxiii	iiii	xi	ii id.Apr.	xiiii k.Maii	xx
B DLXXXIII	ii	iiii	vi	xii	k.Apr.	iiii non.Apr.	xv
DLXXXV	iii	xv	vii	xiii	xii k.Apr.	viii k.Apr.	xviii
DLXXXVI	iiii	xxvi	i	xiiii	v id.Apr.	xviii k.Maii	xviii
DLXXXVII	v	vii	ii	xv	iiii k.Apr.	iii k.Apr.	xv
B DLXXXVIII	vi	xviii	iiii	xvi	xv k.Maii	xiiii k.Maii	xv hend.

**Table 8.4 19-Year Cycle of the *Liber de Paschate* of Dionysius Exiguus—589-607 AD**

ANNI DIOCLETIANI	quæ sint indic- tiones	epac- tæ, id est adjec- tiones lunæ	concur- rentes dies	quotus sit lunæ circu- lus	quæ sit luna XIII paschalis	dies Domi- nicæ festivitatis diei dominici	quota sit luna ipsius
DLXXXVIII	vii	nulla	v	xvii	non.Apr.	iiii id.Apr.	xviii
DXC	viii	xi	vi	xviii	viii k.Apr.	vii k.Apr.	xv
DXCI	viiii	xxii	vii	xviiii	id.Apr.	xvii k.Maii	xvi
B DXCII	x	iii	ii	i	iiii non.Apr.	viii id.Apr.	xviii
DXCIII	xi	xiiii	iii	ii	xi k.Apr.	iiii k.Apr.	xxi
DXCIIII	xii	xxv	iiii	iii	iiii id.Apr.	iii id.Apr.	xv
DXCV	xiii	vi	v	iiii	iii k.Apr.	iii non.Apr.	xviii
B DXCVI	xiiii	xvii	vii	v	xiiii k.Maii	x k.Maii	xviii ogd.
DXCVII	xv	xxviii	i	vi	vii id.Apr.	xviii k.Maii	xxi
DXCVIII	i	viiii	ii	vii	vi k.Apr.	iii k.Apr.	xvii
DXCVIIII	ii	xx	iii	viii	xvii k.Maii	xiii k.Maii	xviii
B DC	iii	i	v	viiii	ii non.Apr.	iiii id.Apr.	xx
DCI	iiii	xii	vi	x	viiii k.Apr.	vii k.Apr.	xvi
DCII	v	xxiii	vii	xi	ii id.Apr.	xvii k.Maii	xvii
DCIII	vi	iiii	i	xii	k.Apr.	vii id.Apr.	xx
B DCIIII	vii	xv	iii	xiii	xii k.Apr.	xi k.Apr.	xv
DCV	viii	xxvi	iiii	xiiii	v id.Apr.	iii id.Apr.	xvi
DCVI	viiii	vii	v	xv	iiii k.Apr.	iii non.Apr.	xviiii
DCVII	x	xviii	vi	xvi	xv k.Maii	viii k.Maii	xx hend.

**Table 8.5 19-Year Cycle of the *Liber de Paschate* of Dionysius Exiguus—608-626 AD**

ANNI DIOCLETIANI	quæ sint indic- tiones	epac- tæ, id est adjec- tiones lunæ	concur- rentes dies	quotus sit lunæ circu- lus	quæ sit luna XIII paschalis	dies Domi- nicæ festivitatis diei dominici	quota sit luna ipsius
B DCVIII	xi	nulla	i	xvii	non.Apr.	vii id.Apr.	xvi
DCVIII	xii	xi	ii	xviii	viii k.Apr.	iii k.Apr.	xviii
DCX	xiii	xxii	iii	xviii	id.Apr.	xiii k.Maii	xx
DCXI	xiiii	iii	iiii	i	iiii non.Apr.	ii non.Apr.	xvi
B DCXII	xv	xiiii	vi	ii	xi k.Apr.	vii k.Apr.	xviii
DCXIII	i	xxv	vii	iii	iiii id.Apr.	xvii k.Maii	xviii
DCXIII	ii	vi	i	iiii	iii k.Apr.	ii k.Apr.	xv
DCXV	iii	xvii	ii	v	xiiii k.Maii	xii k.Maii	xvi ogd.
B DCXVI	iiii	xxviii	iiii	vi	vii id.Apr.	iii id.Apr.	xviii
DCXVII	v	viiii	v	vii	vi k.Apr.	iii non.Apr.	xxi
DCXVIII	vi	xx	vi	viii	xvii k.Maii	xvi k.Maii	xv
DCXVIII	vii	i	vii	viiii	ii non.Apr.	vi id.Apr.	xviii
B DCXX	viii	xii	ii	x	viiii k.Apr.	iii k.Apr.	xx
DCXXI	viiii	xxiii	iii	xi	ii id.Apr.	xiii k.Maii	xxi
DCXXII	x	iiii	iiii	xii	k.Apr.	ii non.Apr.	xvii
DCXXIII	xi	xv	v	xiii	xii k.Apr.	vi k.Apr.	xx
B DCXXIII	xii	xxvi	vii	xiiii	v id.Apr.	xvii k.Maii	xx
DCXXV	xiii	vii	i	xv	iiii k.Apr.	ii k.Apr.	xvi
DCXXVI	xiiii	xviii	ii	xvi	xv k.Maii	xii k.Maii	xvii hend.

# Chapter Nine

## A Short History of the 19-Year Lunar Cycle of The Venerable Bede

### *De Temporum Ratione* of the The Venerable Bede

The Venerable Bede, as he became known, was born about 673 AD—a mere nine years after the great synod of Whitby, Northumbria, England which had been held in 664 AD. At the tender age of seven, young Bede was placed under the care of Benedict Biscop, Abbot of the monastery of Wearmouth near modern day Sunderland and Durham in extreme northeastern England. The year was 680 AD. A few years later, in 685 AD, Bede was placed under the care of Abbot Ceolfrid of the foundation of Lindisfarne and the monastery of Jarrow. Here Bede would study, teach and write for the rest of his life. The Venerable Bede died May 25, 735 AD at the age of 62.

In 725 AD Bede, now in his fifty-second year, published a major work on the calendar entitled *De Temporum Ratione* or *On the Reckoning of Time*. Bede not only adopted (and thus authorized) the Dionysian lunar cycle, but added *Anno Domini* dates to the lunar tables. Astonishingly, these tables ran from 1 AD to 1253 AD and have an accuracy of right on, or one to two days at the most variance with Nisan 14. Bede thus calculated and published an additional 528 years ( $1253 - 725 = 528$ ) of the Paschal canon of Dionysius Exiguus.

Bede's works fall into three groups: grammatical and “scientific,” scriptural commentary, and historical and biographical. His earliest works include treatises on spelling, hymns, figures of speech, verse, and epigrams. His first treatise on chronology, *De temporibus* (“On Times”), with a brief chronicle attached, was written in 703. In 725 he completed a greatly amplified version, *De temporum ratione* (“On the Reckoning of Time”), with a much longer chronicle. Both these books were mainly concerned with the reckoning of Easter. His earliest biblical commentary was probably that on the Revelation to John (703?–709); in this and many similar works, his aim was to transmit and explain relevant passages from the Fathers of the Church. Although his interpretations were mainly allegorical, treating much of the biblical text as symbolic of deeper meanings, he used some critical judgment and attempted to rationalize discrepancies. Among his most notable are his verse (705–716) and prose (before 721) lives of St. Cuthbert, bishop of Lindisfarne. These works are uncritical and abound with accounts of

miracles; a more exclusively historical work is *Historia abbatum* (c. 725; “Lives of the Abbots”).

In 731/732 Bede completed his *Historia ecclesiastica*. Divided into five books, it recorded events in Britain from the raids by Julius Caesar (55–54 BC) to the arrival in Kent (AD 597) of St. Augustine. For his sources he claimed the authority of ancient letters, the “traditions of our forefathers,” and his own knowledge of contemporary events. Bede's *Historia ecclesiastica* leaves gaps tantalizing to secular historians. Although overloaded with the miraculous, it is the work of a scholar anxious to assess the accuracy of his sources and to record only what he regarded as trustworthy evidence. It remains an indispensable source for some of the facts and much of the feel of early Anglo-Saxon history.

*Encyclopaedia Britannica* 2003 electronic CD edition, s.v. “Saint Bede the Venerable.”

## Book V, Chapter 21

CHAP. XXI. How the Abbot Ceolfrid sent master-builders to the King of the Picts to build a church, and with them an epistle concerning the catholic Easter and the Tonsure. [710 A.D.]

AT that time, Naiton, King of the Picts, who inhabit the northern parts of Britain, taught by frequent meditation on the ecclesiastical writings, renounced the error whereby he and his nation had been holden till then, touching the observance of Easter, and brought himself and all his people to celebrate the catholic time of our Lord's Resurrection. To the end that he might bring this to pass with the more ease and greater authority, he sought aid from the English, whom he knew to have long since framed their religion after the example of the holy Roman Apostolic Church. Accordingly, he sent messengers to the venerable Ceolfrid, abbot of the monastery of the blessed Apostles, Peter and Paul, which stands at the mouth of the river Wear, and near the river Tyne, at the place called Ingyrium, which he gloriously governed after Benedict, of whom we have before spoken; desiring, that he would send him a letter of exhortation, by the help of which he might the better confute those that presumed to keep Easter out of the due time; as also concerning the form and manner of tonsure whereby the clergy should be distinguished, notwithstanding that he himself had no small knowledge of these things. He also prayed to have master-builders sent him to build a church of stone in his nation after the Roman manner, promising to dedicate the same in honour of the blessed chief of the Apostles. Moreover, he and all his people, he said, would always follow the custom of the holy Roman Apostolic Church, in so far as men so distant from the speech and nation of the Romans could learn it. The most reverend Abbot Ceolfrid favourably receiving his godly desires and requests, sent the builders he desired, and likewise the following letter:



"To the most excellent lord, and glorious King Naiton, Abbot Ceolfrid, greeting in the Lord. We most readily and willingly endeavour, according to your desire, to make known to you the catholic observance of holy Easter, according to what we have learned of the Apostolic see, even as you, most devout king, in your godly zeal, have requested of us. For we know, that whensoever the lords of this world labour to learn, and to teach and to guard the truth, it is a gift of God to his Holy Church. For a certain profane writer has most truly said, that the world would be most happy if either kings were philosophers, or philosophers were kings. Now if a man of this world could judge truly of the philosophy of this world, and form a right choice concerning the state of this world, how much more is it to be desired, and most earnestly to be prayed for by such as are citizens of the heavenly country, and strangers and pilgrims in this world, that the more powerful any are in the world the more they may strive to hearken to the commands of Him who is the Supreme Judge, and by their example and authority may teach those that are committed to their charge, to keep the same, together with themselves.

"There are then three rules given in the Sacred Writings, whereby the time of keeping Easter has been appointed for us and may in no wise be changed by any authority of man; two whereof are divinely established in the law of Moses; the third is added in the Gospel by reason of the Passion and Resurrection of our Lord. **For the law enjoined, that the Passover should be kept in the first month of the year, and the third week of that month, that is, from the fifteenth day to the one-and-twentieth.** It is added, by Apostolic institution, from the Gospel, that we are to wait for the Lord's day in that third week, and to keep the beginning of the Paschal season on the same. Which threefold rule whosoever shall rightly observe, will never err in fixing the Paschal feast. But if you desire to be more plainly and fully informed in all these particulars, it is written in Exodus, where the people of Israel, being about to be delivered out of Egypt, are commanded to keep the first Passover, that the Lord spake unto Moses and Aaron, saying, 'This month shall be unto you the beginning of months; it shall be the first month of the year to you. Speak ye unto all the congregation of Israel, saying, In the tenth day of this month they shall take to them every man a lamb, according to the house of their fathers, a lamb for an house.'

Abbot Ceolfrid shifts the slaying of the Passover lamb to the end of Nisan 14 and re-labels the Days of Unleavened Bread "Passover." In this manner he drops Nisan 14 entirely:

And a little after, '**And ye shall keep it up until the fourteenth day of the same month; and the whole assembly of the congregation of Israel shall kill it in the evening.**' By which words it most plainly appears, that in the Paschal observance, though mention is made of the

**fourteenth day, yet it is not commanded that the Passover be kept on that day; but on the evening of the fourteenth day, that is, when the fifteenth moon, which is the beginning of the third week, appears in the sky, it is commanded that the lamb be killed; and that it was the night of the fifteenth moon, when the Egyptians were smitten and Israel was redeemed from long captivity.**

Abbot Ceolfrid now shifts the exodus of Israel from Egypt to the end of Nisan 15.

He says, 'Seven days shall ye eat unleavened bread.' By which words all the third week of that same first month is appointed to be a solemn feast. But lest we should think that those same seven days were to be reckoned from the fourteenth to the twentieth, He forthwith adds, 'Even the first day ye shall put away leaven out of your houses; for whosoever eateth leavened bread, from the first day until the seventh day, that soul shall be cut off from Israel;' and so on, till he says, 'For in this selfsame day I will bring your army out of the land of Egypt.'

"Thus he calls that the first day of unleavened bread, in which he was to bring their army out of Egypt. Now it is evident, that they were not brought out of Egypt on the fourteenth day, in the evening whereof the lamb was killed, and which is properly called the Passover or Phase, but on the fifteenth day, as is most plainly written in the book of Numbers: 'and they departed from Rameses on the fifteenth day of the first month, on the morrow after the Passover the Israelites went out with an high hand.'

Thus the seven days of unleavened bread, on the first whereof the people of the Lord were brought out of Egypt, are to be reckoned from the 'beginning of the third week, as has been said, that is, from the fifteenth day of the first month, till the end of the one-and-twentieth of the same month. But the fourteenth day is named apart from this number, by the title of the Passover, as is plainly shown by that which follows in Exodus:" where, after it is said, 'For in this self-same day I will bring your army out of the land of Egypt;' it is forthwith added, 'And ye shall observe this day in your generations by an ordinance for ever. In the first month, on the fourteenth day of the month, ye shall eat unleavened bread, until the one-and-twentieth day of the month at even. Seven days shall there be no leaven, found in your houses.' Now, who is there that does not perceive, that there are not only seven days, but rather eight, from the fourteenth to the one-and-twentieth, if the fourteenth be also reckoned in the number? But if, as appears by diligent study of the truth of the Scriptures, we reckon from the evening of the fourteenth day to the evening of the one-and-twentieth, we shall certainly find that, while the Paschal feast begins on the evening of the fourteenth day, yet the whole sacred solemnity

contains no more than only seven nights and as many days. Wherefore the rule which we laid down is proved to be true, when we said that the Paschal season is to be celebrated in the first month of the year, and the third week of the same. For it is in truth the third week, because it begins on the evening of the fourteenth day, and ends on the evening of the one-and-twentieth.

"But since Christ our Passover is sacrificed,' and has made the Lord's day, which among the ancients was called the first day of the week, a solemn day to us for the joy of His Resurrection, the Apostolic tradition has included it in the Paschal festival; yet has decreed that the time of the legal Passover be in no wise anticipated or diminished; but rather ordains, that according to the precept of the law, that same first month of the year, and the fourteenth day of the same, and the evening thereof be awaited. And when this day should chance to fall on a Saturday, every man should take to him a lamb, according to the house of his fathers, a lamb for an house, and he should kill it in the evening, that is, that all the Churches throughout the world, making one Catholic Church, should provide Bread and Wine for the Mystery of the Flesh and Blood of the spotless Lamb 'that hath taken away the sins of the world; and after a fitting solemn service of lessons and prayers and Paschal ceremonies, they should offer up these to the Lord, in hope of redemption to come. For this is that same night in which the people of Israel were delivered out of Egypt by the blood of the lamb; this is the same in which all the people of God were, by Christ's Resurrection, set free from eternal death. Then, in the morning, when the Lord's day dawns, they should celebrate the first day of the Paschal festival; for that is the day on which our Lord made known the glory of His Resurrection to His disciples, to their manifold joy at the merciful revelation.

The same is the first clay of unleavened bread, concerning which it is plainly written in Leviticus, 'In the fourteenth day of the first month, at even, is the Lord's Passover. And on the fifteenth day of the same month is the feast of unleavened bread unto the Lord; seven days ye must eat unleavened bread. In the first day ye shall have an holy convocation.'

"If therefore it could be that the Lord's day should always happen on the fifteenth day of the first month, that is, on the fifteenth moon, we might always celebrate the Passover at one and the same time with the ancient people of God, though the nature of the mystery be different, as we do it with one and the same faith. But inasmuch as the day of the week does not keep pace exactly with the moon, the Apostolic tradition, which was preached at Rome by the blessed Peter, and confirmed at Alexandria by Mark the Evangelist, his interpreter, appointed that when the first month was come, and in it the evening of the fourteenth day, we should also wait for the Lord's day, between the fifteenth and the one-and-twentieth day of

the same month. For on whichever of those days it shall fall, Easter will be rightly kept on the same; seeing that it is one of those seven days on which the feast of unleavened bread is commanded to be kept. Thus it comes to pass that our Easter never falls either before or after the third week of the first month, but has for its observance either the whole of it, to wit, the seven days of unleavened bread appointed by the law, or at least some of them. For though it comprises but one of them, that is, the seventh, which the Scripture so highly commends, saying, 'But the seventh day shall be a more holy convocation, ye shall do no servile work therein,' none can lay it to our charge, that we do not rightly keep Easter Sunday, which we received from the Gospel, in the third week of the first month, as the Law prescribes.

"The catholic reason of this observance being thus explained, the unreasonable error, on the other hand, of those who, without any necessity, presume either to anticipate, or to go beyond the term appointed in the Law, is manifest. For they that think Easter Sunday is to be observed from the fourteenth day of the first month till the twentieth moon, anticipate the time prescribed in the law, without any necessary reason; for when they begin to celebrate the vigil of the holy night from **the evening of the thirteenth day**, it is plain that they make that day the beginning of their Easter, whereof they find no mention in the commandment of the Law; and when they avoid celebrating our Lord's Easter on the one-and-twentieth day of the month, it is surely manifest that they wholly exclude that day from their solemnity, which the Law many times commends to be observed as a greater festival than the rest; and thus, perverting the proper order, they sometimes keep Easter Day entirely in the second week, and never place it on the seventh day of the third week. And again, they who think that Easter is to be kept from the sixteenth day of the said month till the two-and-twentieth no less erroneously, though on the other side, deviate from the right way of truth, and as it were avoiding shipwreck on Scylla, they fall into the whirlpool of Charybdis to be drowned. For when they teach that Easter is to be begun at the rising of the sixteenth moon of the first month, that is, from the evening of the fifteenth day, it is certain that they altogether exclude from their solemnity the fourteenth day of the same month, which the Law first and chiefly commends; so that they scarce touch the evening of the fifteenth day, on which the people of God were redeemed from Egyptian bondage, and on which our Lord, by His Blood, rescued the world from the darkness of sin, and on which being also buried, He gave us the hope of a blessed rest after death.

"And these men, receiving in themselves the recompense of their error, when they place Easter Sunday on the twenty-second day of the month, openly transgress and do violence to the term of Easter appointed by the Law, seeing that they begin Easter on the evening of that day in which the

Law commanded it to be completed and brought to an end; and appoint that to be the first day of Easter, whereof no mention is any where found in the Law, to wit, the first of the fourth week. And both sorts are mistaken, not only in fixing and computing the moon's age, but also sometimes in finding the first month [i.e., before the vernal equinox]; but this controversy is longer than can be or ought to be contained in this letter. I will only say thus much, that by the vernal equinox, it may always be found, without the chance of an error, which must be the first month of the year, according to the lunar computation, and which the last. But the equinox, according to the opinion of all the Eastern nations, and particularly of the Egyptians, who surpass all other learned men in calculation, falls on the twenty-first day of March, as we also prove by horological observation. Whatsoever moon therefore is at the full before the equinox, being on the fourteenth or fifteenth day, the same belongs to the last month of the foregoing year, and consequently is not meet for the celebration of Easter; but that moon which is full after the equinox, or at the very time of the equinox, belongs to the first month, and on that day, without a doubt, we must understand that the ancients were wont to celebrate the Passover; and that we also ought to keep Easter when the Sunday comes. And that this must be so, there is this cogent reason. It is written in Genesis, 'And God made two great lights; the greater light to rule the day, and the lesser light to rule the night.' Or, as another edition has it, 'The greater light to begin the day, and the lesser to begin the night.' As, therefore, the sun, coming forth from the midst of the east, fixed the vernal equinox by his rising, and afterwards the moon at the full, when the sun set in the evening, followed from the midst of the east; so every year the same first lunar month must be observed in the like order, so that its full moon must not be before the equinox.; but either on the very day of the equinox, as it was in the beginning, or after it is past. But if the full moon shall happen to be but one day before the time of the equinox, the aforesaid reason proves that such moon is not to be assigned to the first month of the new year, but rather to the last of the preceding, and that it is therefore not meet for the celebration of the Paschal festival.

"Now if it please you likewise to hear the mystical reason in this matter, we are commanded to keep Easter in the first month of the year, which is also called the month of new things, because we ought to celebrate the mysteries of our Lord's Resurrection and our deliverance, with the spirit of our minds renewed to the love of heavenly things. We are commanded to keep it in the third week of the same month, because Christ Himself, who had been promised before the Law, and under the Law, came with grace, in the third age of the world, to be sacrificed as our Passover ; and because rising from the dead the third day after the offering of His Passion, He wished this to be called the Lord's day, and the Paschal feast of His Resurrection to be yearly celebrated on the same; because, also, we do then only truly celebrate His solemn festival, if we endeavour with Him

to keep the Passover, that is, the passing from this world to the Father, by faith, hope, and charity. We are commanded to observe the full moon of the Paschal month after the vernal equinox, to the end, that the sun may first make the day longer than the night, and then the moon may show to the world her full orb of light; inasmuch as first 'the Sun of Righteousness, with healing in His wings,' that is, our Lord Jesus, by the triumph of His Resurrection, dispelled all the darkness of death, and so ascending into Heaven, filled His Church, which is often signified by the name of the moon, with the light of inward grace, by sending down upon her His Spirit. Which order of our salvation the prophet had in his mind, when he said 'The sun was exalted and the moon stood in her order.'

What follows is another clear statement, proving that the calculations of the Jews often placed Passover before the equinox in the early centuries AD.

"He, therefore, who shall contend that **the full Paschal moon can happen before the equinox**, disagrees with the doctrine of the Holy Scriptures, in the celebration of the greatest mysteries, and **agrees with those who trust that they may be saved without the grace of Christ** preventing them, and who presume to teach that they might have attained to perfect righteousness, though the true Light had never by death and resurrection vanquished the darkness of the world. Thus, after the rising of the sun at the equinox, and after the full moon of the first month following in her order, that is, after the end of the fourteenth day of the same month, all which we have received by the Law to be observed, we still, as we are taught in the Gospel, wait in the third week for the Lord's day; and so, at length, we celebrate the offering of our Easter solemnity, to show that we are not, with the ancients, doing honour to the casting off of the yoke of Egyptian bondage; but that, with devout faith and love, we worship the Redemption of the whole world, which having been prefigured in the deliverance of the ancient people of God, was fulfilled in Christ's Resurrection, and that we may signify that we rejoice in the sure and certain hope of our own resurrection, which we believe will likewise happen on the Lord's day.

"Now this computation of Easter, which we set forth to you to be followed, is contained in a cycle of nineteen years, which began long since to be observed in the Church, to wit, even in the time of the Apostles, especially at Rome and in Egypt, as has been said above. But by the industry of Eusebius, who took his surname from the blessed martyr Pamphilus, it was reduced to a plainer system; insomuch that what till then used to be enjoined every year throughout all the Churches by the Bishop of Alexandria, might, from that time forward, be most easily known by all men, the occurrence of the fourteenth moon being regularly set forth in its course. This Paschal computation, Theophilus, Bishop of Alexandria,

made for the Emperor Theodosius, for a hundred years to come. Cyril also, his successor, comprised a series of ninety-five years in five cycles of nineteen years. After whom, Dionysius Exiguus added as many more, in order, after the same manner, reaching down to our own time. The expiration of these is now drawing near, but there is at the present day so great a number of calculators, that even in our Churches throughout Britain, there are many who, having learned the ancient rules of the Egyptians, can with great ease carry on the Paschal cycles for any length of time, even to five hundred and thirty-two years, if they will; after the expiration of which, all that appertains to the succession of sun and moon, month and week, returns in the same order as before. We therefore forbear to send you these same cycles of the times to come, because, desiring only to be instructed respecting the reason for the Paschal time, you show that you have enough of those catholic cycles concerning Easter.

<http://www.ccel.org/b/bede/history/htm/v.v.xx.htm>

**Table 9.0 19-Year Cycle 4 of the *Liber de Paschate* of Dionysius Exiguus—722 to 740 AD. Celtic Church of the British Isles.**

=====			
Cycle	Julian		
Year	Year AD		
=====			
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	
1	17	61	722 Year 1 of Dionysian Cycle at Iona.
2	18	62	723
3	19	63	724
4	1	64	725 Bede publishes <i>De Temporum Ratione</i>
5	2	65	726
6	3	66	727
7	4	67	728
8	5	68	729
9	6	69	730
10	7	70	731
11	8	71	732
12	9	72	733
13	10	73	734
14	11	74	735
15	12	75	736
16	13	76	737
17	14	77	738
18	15	78	739
19	16	79	740
=====			

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Canon.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year *Latercus* lunar cycle. Abandoned after Synod of Whitby 664 AD.

Only a few columns need be explained. The Latin of column 1 which reads “ANNI DIOCLETIANI” is the year of the Dionysian Era. Dionysius dropped the Diocletian method of reckoning when he published his Pascal Canon because he did not want his Canon and thus his tables associated with an emperor who had martyred so many Christians. The Roman numerals “DCCCC LXXXIII” of column 1 correspond to Julian year 988 AD and



year 1 of the 19-year cycle. The Roman numerals “M VI” correspond to Julian year 1006 AD and year 19 of the 19-year cycle.

The Latin of column 7 which reads “dies Pasch” is the date of Easter Sunday given in ancient Roman Calendar format. The Latin of column 8 is the age of the moon on Easter Sunday.

Columns 7 and 8 allow us to synchronize Nisan dates of the Hebrew Calendar with Easter Sunday dates of the Julian Calendar, thus confirming the historical accuracy of the Hebrew Calendar. For example, the *ecclesiastical equinox* for this calendar was March 21. When we check the date of Easter in column 7 we see that it is vi id.apr thus Easter Sunday was calculated for v id.apr or April 8. And column 8 informs us that the lunar value at Easter is xvii or 17. Easter Sunday, April 8, 988 AD thus has a lunar age of 17. Please remember that by the time of the Venerable Bede the age of the moon was given for the moon ending a day, not beginning a day. Thus the 14<sup>th</sup> moon was actually the moon at the end of the 14<sup>th</sup> day, thus that of Nisan 15 and the 17<sup>th</sup> moon was the moon at the end of the 17<sup>th</sup> day, thus that of Nisan 18.

Checking the Hebrew Calendar we find a perfect match for these dates! We thus have a historical synchronization between the Julian Calendar and the Hebrew Calendar for year 988 AD. We will leave the full analysis of the Venerable Bede’s Paschal Table of the *De Temporum Ratione* until Chapter Twenty. In the meantime, it must be understood that not all dates on this table synchronize with the Hebrew Calendar. Even though both are based on a 19-year lunar cycle, there are major computational differences between the two which make full synchronizations impossible. This fact by no means invalidates those dates that do synchronize, however.

Ann <sup>o</sup> d <sup>ni</sup>	Ind <sup>o</sup>	Spica	Eccl <sup>o</sup>	coll <sup>o</sup>	xiiii <sup>o</sup> Lon <sup>o</sup>	Dies pasche	L <sup>o</sup> ip <sup>o</sup>
Deccc lxxviii	i	Mull <sup>o</sup>	vi	xxvii	Hon <sup>o</sup> A P <sup>o</sup> LES	vi 18 <sup>o</sup> aprilis	xxvii
Deccc lxxix	ii	xi	i	xxviii	viii k <sup>o</sup> aprilis	ii k <sup>o</sup> april <sup>o</sup>	xxviii
Deccc lxxx	iii	xxii	ii	xxix	Idus aprilis	iii k <sup>o</sup> mai	lxxx
Deccc lxxxi	iiii	iii	iii	x	viii n <sup>o</sup> aprilis	Hon <sup>o</sup> april <sup>o</sup>	lxxxi
Deccc lxxxii	v	xiiii	iiii	xi	vi k <sup>o</sup> aprilis	vi k <sup>o</sup> april <sup>o</sup>	lxxxii
Deccc lxxxiii	vi	xv	v	xii	viii id <sup>o</sup> aprilis	xi k <sup>o</sup> mai	lxxxiii
Deccc lxxxiiii	vii	vi	vi	xiii	vii k <sup>o</sup> aprilis	kl <sup>o</sup> april <sup>o</sup>	lxxxiiii
Deccc lxxxv	viii	xvii	vii	xiiii	v k <sup>o</sup> mai	vi k <sup>o</sup> mai	lxxxv
Deccc lxxxvi	iiiiii	xviii	viii	xv	viii id <sup>o</sup> aprilis	ii 18 <sup>o</sup> april <sup>o</sup>	lxxxvi
Deccc lxxxvii	x	iiii	iiiiii	xvi	vi k <sup>o</sup> aprilis	v k <sup>o</sup> april <sup>o</sup>	lxxxvii
Deccc lxxxviii	xi	xx	v	xvii	viii k <sup>o</sup> mai	ix k <sup>o</sup> mai	lxxxviii
Deccc lxxxix	xii	i	vi	xviii	ii n <sup>o</sup> aprilis	v 18 <sup>o</sup> april <sup>o</sup>	lxxxix
M <sup>o</sup> ll <sup>o</sup>	xiii	xi	vii	xix	viiii k <sup>o</sup> aprilis	ii k <sup>o</sup> april <sup>o</sup>	lxxx
M <sup>o</sup> ll <sup>o</sup> i	xiiii	xxii	viii	xx	ii id <sup>o</sup> aprilis	Idus april <sup>o</sup>	lxxx
M <sup>o</sup> ll <sup>o</sup> ii	xv	iii	iiiiii	xxi	kl <sup>o</sup> aprilis	Hon <sup>o</sup> april <sup>o</sup>	lxxxii
M <sup>o</sup> ll <sup>o</sup> iii	i	xv	iiiiii	xxii	vi k <sup>o</sup> aprilis	v k <sup>o</sup> april <sup>o</sup>	lxxxii
M <sup>o</sup> ll <sup>o</sup> iiii	ii	xxvi	v	xxiii	v id <sup>o</sup> aprilis	vi k <sup>o</sup> mai	lxxxiii
M <sup>o</sup> ll <sup>o</sup> v	iii	vii	iiiiii	xxiiii	viii k <sup>o</sup> aprilis	kl <sup>o</sup> aprilis	lxxxiii
M <sup>o</sup> ll <sup>o</sup> vi	iiii	xviii	i	xxv	ix k <sup>o</sup> mai	vi k <sup>o</sup> mai	lxxxiiii

Dunstan archiepiscopus etc. can. linc.  
 Eboracensis.  
 Alfredus rex mortuus. Tunc collat.  
 Dunstanus episcopus linc. ap.  
 ecclesie. . . . . an.  
 Onlaf rex norwagiarum sua  
 et ipse danay. angliam adhaerere  
 nauit.  
 Aldhun episcopus S. ecclesie archidiaconus  
 Dunelmie. Can. linc. archidiaconus.  
 obiit. anno d<sup>ni</sup> . . . . .  
 plene fuerat i. archidiaconus.

Onlaf rex obiit. Henricus  
 imperator an. . . . .  
 Richerus rex iussit et dand  
 anulu in eolencis scach.  
 Sum. m<sup>o</sup> . . . . .

Linc.  
 diei n<sup>o</sup> . . . . .  
 an. . . . .  
 . . . . .  
 . . . . .

folio 24r: 19 year cycles, including chronicle entry for 1001

<http://special.lib.gla.ac.uk/exhibns/month/jan2001.html>

# Chapter Ten

## The 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus Utilized by the Celtic Churches of the British Isles—438 to 768 AD

The Celtic Churches of the British Isles adopted the 84-year lunar cycle in 438 AD, a mere 19 years before the Roman Church abandoned the same cycle. Both Roman and Celtic cycles were based on the combination of three 28-year solar cycles. But the similarity between the cycles ends there. The Celtic cycle was based on principles adopted from the 19-year lunar cycle of Anatolius of Laodicea, Syria, but obviously did not adopt the Anatolian 19-year lunar cycle.

We know of only four 84-year lunar cycles having been utilized in ancient Ireland and Britain:

Padua *latercus*  
Munich *latercus*  
St. Columbanus  
Bede--*De Temporum Ratione*

A rich lawyer of southern Gaul composed the Padua *Latercus* probably shortly after 406 AD. His lunar cycle utilized the *Liber Anatolii* of Bishop Anatolius of Laodicea, Syria published in 276 AD.

Both the *Liber Anatolii* and the Padua *Latercus* are based on the teaching that the original Passover was observed on the evening of Nisan 13, a night of trial followed and then the crucifixion of Nisan 14 with a burial just before sunset on the 14<sup>th</sup>. Both claim a genealogy through John of Asia Minor and not Peter of Rome.

Consequently, both commonly celebrated the “Christian Passover” before the Equinox, which set every Roman Catholic and Alexandrian Catholic’s teeth on edge.

The *Liber Anatolii* utilized a 19-year cycle with the same intercalary

cycle as the Hebrew Calendar but for year 8—year 9 of the Anatolian cycle was utilized instead.

In 402 AD Sulpicius Severus wrote to Paulinus of Nola in Gaul seeking chronological information. A year later in 403 AD Paulinus of Nola forwarded Sulpicius' request to Rufinus. All this, one year after Paulinus had published his *Church History*. Sulpicius Severus finally obtained a copy of the *Liber Anatolii* from Rufinus in *circa* 404 AD. By 406 AD Sulpicius Severus (using the *Liber Anatolii* published by St. Anatolia of Laodicea Syria in 276 AD) begins the construction of the Padua *Latercus* in southern Gaul.

The Pelagians of southern Gaul adopt Sulpicius' Padua *Latercus* in 413 AD. Pelagians and Sulpicius Severus travel from southern Gaul to the British Isles *circa* 429 AD with Sulpicius' Padua *Latercus* lunar tables and then travel to Northern Ireland.

The Padua *Latercus* lunar cycle adopted by Irish Celts in 437 AD as recorded in Annals of Inisfallen. Utilized from the fifth to the eighth centuries, primarily in areas of Celtic population. Imported from southern Gaul, the Padua cycle employed an 84-year lunar cycle, celebrated Easter between the 14<sup>th</sup> and 20<sup>th</sup> moons but only from March 26 through April 23. This calendar was based on the belief that the Passover, the agony in the garden, Jesus' trial before the High Priest and the crucifixion itself all fell on Nisan 14. Irish missionaries transmitted the cycle back to Continental Europe.

The Padua *Latercus* cycle was adopted by Irish Celts as recorded in the Annals of Ulster. Evidence suggests that the Padua cycle may have originated in Wales as monastic Christianity is believed to have come to Ireland by way of Wales. This then suggests that the cycle migrated from southern Gaul to Ireland and then to back to Continental Europe.

The Annals of Inisfallen, Ulster and Clonmacnoise all refer to an Easter which fell on *viii kl. Mai* or 24 April. Scholars speculate that this possibly occurred in 444 AD. 444 AD is not a possible date, however, as Sunday falls on April 18 and 25 but not the 24<sup>th</sup> in 444 AD. Probable date is 455 AD. The Annals of Inisfallen, Ulster and Clonmacnoise all refer to an Easter which fell on *viii kl. Mai* or 24 April. Scholars speculate that this occurred in 451 AD. 451 AD is not a possible date, however, as Sunday

falls on April 13 and 20 but not the 24<sup>th</sup> in 451 AD. Probable date is 455 AD. The Annals of Inisfallen, Ulster and Clonmacnoise all refer to an Easter which fell on *viii kl. Mai* or 24 April. Scholars speculate that this occurred in 454 AD. 454 AD is not a possible date, however, as Sunday falls on April 18 and 25. April 24 falls on a Saturday in 454 AD. Probable date is 444 AD. The Annals of Inisfallen, Ulster and Clonmacnoise all refer to an Easter which fell on *viii kl. Mai* or 24 April. Scholars speculate that this occurred in either 444 or 451 AD. Neither are possible dates, however, as Sunday falls on April 18 and 25 but not the 24<sup>th</sup> in 444 AD. And, Sunday falls on April 13 and 20 but not the 24<sup>th</sup> in 451 AD. Probable date is 455 AD.

Founding of Iona, Ireland. Columcille introduces the Padua cycle to Iona Ireland in 565 AD. Iona celebrated Easter on *luna* 14 to 20 (the Padua 84-year cycle) from 565 to 715 AD. *Circa* 600 AD, St. Columbanus of Bangor writes Pope Gregory citing approvingly of the stern injunction in *De ratione paschali* against celebration of the Pasch on *luna xxi* and *luna xxii*.

In 603 AD, St. Augustine summoned the communities of Scotland, Wales and Ireland to submit to the ultimate authority of Rome. The Synod of Whitby does so 61 years later in 664 AD. All of the communities of Scotland, Wales and Ireland finally submit by 768 AD.

St. Columbanus of Bangor wrote to the synod of Chalons attributing his Paschal tradition to Bishop Anatolius of Laodicea Syria.

Writing in his *Historia Ecclesiastica Gentis Anglorum* ("Ecclesiastical History of the English People"), Bede complains about the obstinacy of the Celtic Church in Britain, especially in regard to the celebration of Easter (*Dies Paschae*). He relates how Augustine admonished his Celtic brethren.

Now the Britons did not keep Easter at the correct time, but between the fourteenth and twentieth days of the moon--a calculation depending on a cycle of eighty-four years. Furthermore, certain other of their customs were at variance with the universal practice of the Church. But despite protracted discussions, neither the prayers, advice, or censures of Augustine and his companions could obtain the compliance of the Britons, who stubbornly preferred their own customs to those in universal use among Christian Churches....The Britons admitted that his teaching was true and right, but said again that they could not abandon their ancient customs without the consent and approval of their own people...In reply, Augustine is said to have threatened that if they refused to unite with their

fellow-Christians, they would be attacked by their enemies the English; and if they refused to preach the Faith of Christ to them, they would eventually be punished by meeting death at their hands. And, as though by divine judgement, all these things happened as Augustine foretold.

One is struck by the hostility of feeling. Bede regards the nonconformity of the Celtic Britons not merely as sinful but heretical. They are called *perfidi*, a term he reserves for the Pelagian heretics. And, when these same monks, who had been praying for British victory at the fateful Battle of Chester in AD 610, were slaughtered by the heathen Æthelfrith, the destruction is considered just punishment for their recalcitrance.

<http://itsa.ucsf.edu/~snlrc/britannia/earlychurch/bede.html#anchor386119>

In 630 AD the Dionysian cycle began to replace the Victorian cycle used in Anglo-Saxon areas of the British Isles. The Dionysian cycle had been adopted by Rome in 532 AD.

A delegation is sent from Ireland to Rome in 631 AD to compare the Roman and Insular (Padua) Easters. The Roman Easter fell on 24 March in 631, while the Insular Easter fell on *xi k. mai* or 21 April in 631, four full weeks after the Roman Easter. 631 AD was the 26<sup>th</sup> year of the Padua cycle which began in 606 AD.

At least ten different Paschal cycles were known in Ireland at the beginning of the seventh century. The Victorian cycle was adopted in southern Ireland in 632 AD by Cumman and others. This cycle used in parts of Ireland until the end of the tenth century. Cumman in a letter to Segene, fifth abbot of Iona, seeks to persuade the northern Irish and British to adopt the Victorian cycle. The Victorian cycle celebrated Easter between the 16<sup>th</sup> and 22<sup>st</sup> moons and employed a 19-year lunar cycle.

The great synod of Whitby England is convened in 664 AD. St. Wilfrid persuades the churches of northern Britain to adopt the Roman calculation of Easter. The Romans utilized the Dionysian cycle and celebrated Easter between the 15<sup>th</sup> and 21<sup>st</sup> moons and employed a 19-year lunar cycle.

In 672 Aldhelm wrote the following to King Geraint of Cornwall regarding the Paschal table followed by the Celtic church at that time:

some celebrate the Paschal sacrament with the Jews on the fourteenth moon according to the nineteen-year computation of Anatolius or rather according to the

rules of Sulpicius Severus, who made an 84-year cycle, although the pontiffs of the Roman Church followed neither of them as a correct scheme of calculation.

Iona abandons the Sulpicius 84-year cycle in 715 AD. Egbert persuaded Iona to adopt the Dionysiac cycle. Egbert dies in 729 AD. It was he who first persuaded Iona to change to the Dionysiac cycle. By 729 AD most of the ancient churches of the British Isles adopt the Dionysiac cycle. Dionysian cycle enthusiastically supported by the Venerable Bede against the Victorian cycle. The Venerable Bede was a devout Romaniser.

**Table 10.0 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—438 to 455 AD. Celtic Church of the British Isles.**

Cycle Year			Julian Year AD	Year of Diocletian Era
CY <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>		
1	17		437	153
2	18	1	438	154
3	19	2	439	155
4	1	3	440	156
5	2	4	441	157
6	3	5	442	158
7	4	6	443	159
8	5	7	444	160
9	6	8	445	161
10	7	9	446	162
11	8	10	447	163
12	9	11	448	164
13	10	12	449	165
14	11	13	450	166
15	12	14	451	167
16	13	15	452	168
17	14	16	453	169
18	15	17	454	170
19	16	18	455	171

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.



**Table 10.1 84-Year Padua *Laterculus* Lunar Cycle of Sulpicius Severus—456 to 474 AD. Celtic Church of the British Isles.**

Cycle Year				Julian Year AD	Year of Diocletian Era
CY <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	19	1	456	172
2	18	20	2	457	173
3	19	21	3	458	174
4	1	22	4	459	175
5	2	23	5	460	176
6	3	24	6	461	177
7	4	25	7	462	178
8	5	26	8	463	179
9	6	27	9	464	180
10	7	28	10	465	181
11	8	1	11	466	182
12	9	2	12	467	183
13	10	3	13	468	184
14	11	4	14	469	185
15	12	5	15	470	186
16	13	6	16	471	187
17	14	7	17	472	188
18	15	8	18	473	189
19	16	9	19	474	190

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.2 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—475 to 493 AD. Celtic Church of the British Isles.**

Cycle Year		Julian Year AD		Year of Diocletian Era	
CY <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	10	1	475	191
2	18	11	2	476	192
3	19	12	3	477	193
4	1	13	4	478	194
5	2	14	5	479	195
6	3	15	6	480	196
7	4	16	7	481	197
8	5	17	8	482	198
9	6	18	9	483	199
10	7	19	10	484	200
11	8	20	11	485	201
12	9	21	12	486	202
13	10	22	13	487	203
14	11	23	14	488	204
15	12	24	15	489	205
16	13	25	16	490	206
17	14	26	17	491	207
18	15	27	18	492	208
19	16	28	19	493	209

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.3 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—494 to 512 AD. Celtic Church of the British Isles.**

Cycle Year				Julian Year AD	Year of Diocletian Era
CY <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	1	1	494	210
2	18	2	2	495	211
3	19	3	3	496	212
4	1	4	4	497	213
5	2	5	5	498	214
6	3	6	6	499	215
7	4	7	7	500	216
8	5	8	8	501	217
9	6	9	9	502	218
10	7	10	10	503	219
11	8	11	11	504	220
12	9	12	12	505	221
13	10	13	13	506	222
14	11	14	14	507	223
15	12	15	15	508	224
16	13	16	16	509	225
17	14	17	17	510	226
18	15	18	18	511	227
19	16	19	19	512	228

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.4 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—513 to 531 AD. Celtic Church of the British Isles.**

				Julian	Year of	
Cycle				Year AD	Diocletian	
Year					Era	
CY <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>			
1	17	20	1	513	229	
2	18	21	2	514	230	
3	19	22	3	515	231	
4	1	23	4	516	232	
5	2	24	5	517	233	
6	3	25	6	518	234	
7	4	26	7	519	235	
8	5	27	8	520	236	
9	6	28	9	521	237	
10	7	1	10	522	238	522 AD is year 1 of the next. 84-year cycle
11	8	2	11	523	239	
12	9	3	12	524	240	
13	10	4	13	525	241	
14	11	5	14	526	242	
15	12	6	15	527	243	
16	13	7	16	528	244	
17	14	8	17	529	245	
18	15	9	18	530	246	
19	16	10	19	531	247	

Note:

<sup>1</sup>19-year cycle of Cyril's revised Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.5 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—532 to 550 AD. Celtic Church of the British Isles.**

Cycle Year				Julian Year AD		
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>			
1	17	11	1	532	532 AD is Year 1 of the 19-year cycle of the <i>Liber de Paschate</i> of Dionysius Exiguus—Rome	
2	18	12	2	533		
3	19	13	3	534		
4	1	14	4	535		
5	2	15	5	536		
6	3	16	6	537		
7	4	17	7	538		
8	5	18	8	539		
9	6	19	9	540		
10	7	20	10	541		
11	8	21	11	542		
12	9	22	12	543		
13	10	23	13	544		
14	11	24	14	545		
15	12	25	15	546		
16	13	26	16	547		Kingdom of Bernicia founded by King Ida
17	14	27	17	548		
18	15	28	18	549		End of 28-year cycle 1.
19	16	1	19	550		

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.6 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—551 to 569 AD. Celtic Church of the British Isles.**

Cycle				Julian	
Year				Year AD	
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	2	1	551	
2	18	3	2	552	
3	19	4	3	553	
4	1	5	4	554	
5	2	6	5	555	
6	3	7	6	556	
7	4	8	7	557	Kingdom of Deria England founded by general Aella
8	5	9	8	558	
9	6	10	9	559	
10	7	11	10	560	
11	8	12	11	561	
12	9	13	12	562	
13	10	14	13	563	563 AD Warrior/Saint Columba founds Celtic Abbey on Isle of Iona—Scotland
14	11	15	14	564	
15	12	16	15	565	
16	13	17	16	566	
17	14	18	17	567	
18	15	19	18	568	
19	16	20	19	569	

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.7 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—570 to 588 AD. Celtic Church of the British Isles.**

Cycle				Julian	
Year				Year AD	
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	21	1	570	Kingdom of East Anglia founded by King Wuffa
2	18	22	2	571	
3	19	23	3	572	
4	1	24	4	573	
5	2	25	5	574	
6	3	26	6	575	
7	4	27	7	576	
8	5	28	8	577	
9	6	1	9	578	Kingdom of Mercia founded by King Creoda
10	7	2	10	579	
11	8	3	11	580	
12	9	4	12	581	
13	10	5	13	582	
14	11	6	14	583	
15	12	7	15	584	
16	13	8	16	585	
17	14	9	17	586	
18	15	10	18	587	
19	16	11	19	588	

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.8 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—589 to 607 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	12	1	589	
2	18	13	2	590	
3	19	14	3	591	
4	1	15	4	592	
5	2	16	5	593	
6	3	17	6	594	
7	4	18	7	595	
8	5	19	8	596	
9	6	20	9	597	597 AD St. Augustine arrives in Kent
10	7	21	10	598	England. Columba, founder of Iona, dies.
11	8	22	11	599	
12	9	23	12	600	
13	10	24	13	601	
14	11	25	14	602	
15	12	26	15	603	603 AD Columbanus of Bangor writes to the Synod
16	13	27	16	604	of Chalon attributing his Paschal tradition to
					Anatolius
17	14	28	17	605	End of 28-year cycle 3.
18	15	1	18	606	606 AD begins next 84-year cycle.
19	16	2	19	607	

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.



**Table 10.9 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—608 to 626 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	3	1	608	
2	18	4	2	609	
3	19	5	3	610	
4	1	6	4	611	
5	2	7	5	612	
6	3	8	6	613	
7	4	9	7	614	Birth of Hilda. Royal house of Deria.
8	5	10	8	615	
9	6	11	9	616	
10	7	12	10	617	
11	8	13	11	618	
12	9	14	12	619	
13	10	15	13	620	
14	11	16	14	621	
15	12	17	15	622	
16	13	18	16	623	
17	14	19	17	624	King Edwin choses as his second wife, Aethelburgh, daughter of the King of Kent. She is a Roman Catholic Christian.
18	15	20	18	625	
19	16	21	19	626	Hilda and King Edwin baptized.

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.10 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—627 to 645 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	22	1	627	
2	18	23	2	628	
3	19	24	3	629	
4	1	25	4	630	
5	2	26	5	631	
6	3	27	6	632	Cummian urges Iona to change to Victorian Cycle
7	4	28	7	633	End of 28-year cycle 1 Oswold, son of Aethelfrith, returns from exile in Iona. Scotland. becomes king of Northumbria. Aidan, Celtic monk from Iona, forms Celtic Christian monastery at Lindisfarne.
					Wilfid born.
8	5	1	8	634	634 AD Year 1 of 84-year cycle of Sulpicius in
9	6	2	9	635	Northumbria. 634 AD Pope Honorius censures
10	7	3	10	636	bishops of Ulster and Iona for their unorthodoxy.
11	8	4	11	637	
12	9	5	12	638	
13	10	6	13	639	
14	11	7	14	640	640 AD Introduction of Victorian Cycle into
15	12	8	15	641	Ireland. Pope-elect John censures bishops of Ulster
16	13	9	16	642	and Iona for their unorthodoxy.
17	14	10	17	643	
18	15	11	18	644	
19	16	12	19	645	

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.11 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—646 to 664 AD. Celtic Church of the British Isles.**

Cycle Year				Julian Year AD	
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	13	1	646	
2	18	14	2	647	
3	19	15	3	648	
4	1	16	4	649	
5	2	17	5	650	
6	3	18	6	651	
7	4	19	7	652	
8	5	20	8	653	
9	6	21	9	654	Wilfrid introduces Dionysian Cycle to Northumbria
10	7	22	10	655	
11	8	23	11	656	
12	9	24	12	657	Whitby Abbey founded by Hilda
13	10	25	13	658	
14	11	26	14	659	
15	12	27	15	660	
16	13	28	16	661	End of 28-year cycle 2
17	14	1	17	662	
18	15	2	18	663	
19	16	3	19	664	Synod of Whitby. End of 84-year cycle of Sulpicius at Whitby. Dionysian 19-year cycle replaces 84-year Sulpicius cycle at Whitby, England but not at Ulster, Ireland.

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

In 672 AD Aldhelm wrote the following to King Geraint of Cornwall Concerning *De Ratione Paschali* of bishop Anatolius. The Celtic church Followed the Paschal Tables of *De Ratione Paschali*:

Some celebrate the Paschal sacrament **with the Jews on the fourteenth moon** according to the nineteen-year computation of Anatolius, or rather according to

the rules of Sulpicius Severus, who made an 84-year cycle, although the pontiffs of the Roman Church followed neither of them as a correct scheme of calculation

**Table 10.12 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—665 to 683 AD. Celtic Church of the British Isles.**

Cycle				Julian	
Year				Year AD	
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	4	1	665	Year 1 of Dionysian Cycle at Whitby
2	18	5	2	666	
3	19	6	3	667	
4	1	7	4	668	
5	2	8	5	669	
6	3	9	6	670	
7	4	10	7	671	
8	5	11	8	672	672 AD Victorian and Dionysiac Easters differ.
9	6	12	9	673	Victorian Easter falls on April 18, while the
10	7	13	10	674	Dionsiac Easter falls on April 23.
11	8	14	11	675	
12	9	15	12	676	
13	10	16	13	677	
14	11	17	14	678	
15	12	18	15	679	
16	13	19	16	680	
17	14	20	17	681	
18	15	21	18	682	
19	16	22	19	683	

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.13 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—684 to 702 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	23	1	684	
2	18	24	2	685	
3	19	25	3	686	
4	1	26	4	687	
5	2	27	5	688	
6	3	28	6	689	
7	4	29	7	690	690 AD Adamnan persuades monasteries in north
8	5	30	8	691	Ireland to abandon 84-year cycle for the Dionysian
9	6	31	9	692	19-year cycle.
10	7	32	10	693	
11	8	33	11	694	
12	9	34	12	695	
13	10	35	13	696	
14	11	36	14	697	
15	12	37	15	698	
16	13	38	16	699	
17	14	39	17	700	
18	15	40	18	701	
19	16	41	19	702	

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.14 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—703 to 721 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	42	1	703	
2	18	43	2	704	
3	19	44	3	705	
4	1	45	4	706	
5	2	46	5	707	
6	3	47	6	708	
7	4	48	7	709	
8	5	49	8	710	
9	6	50	9	711	
10	7	51	10	712	
11	8	52	11	713	
12	9	53	12	714	
13	10	54	13	715	
14	11	55	14	716	Iona, Scotland adopts Dionysian Cycle.
15	12	56	15	717	
16	13	57	16	718	
17	14	58	17	719	
18	15	59	18	720	
19	16	60	19	721	

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.15 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—722 to 740 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	61	1	722	
2	18	62	2	723	
3	19	63	3	724	
4	1	64	4	725	
5	2	65	5	726	
6	3	66	6	727	
7	4	67	7	728	
8	5	68	8	729	
9	6	69	9	730	
10	7	70	10	731	
11	8	71	11	732	
12	9	72	12	733	
13	10	73	13	734	
14	11	74	14	735	
15	12	75	15	736	
16	13	76	16	737	
17	14	77	17	738	
18	15	78	18	739	
19	16	79	19	740	Last year of the <i>Iona Chronicle</i> .

Note:

<sup>1</sup>19-year cycle of Dionysian Paschal Table.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

**Table 10.16 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—741 to 759 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	24	1	741	
2	18	25	2	742	
3	19	26	3	743	
4	1	27	4	744	
5	2	28	5	745	End of 28-year cycle 2
6	3	1	6	746	
7	4	2	7	747	Cu Chuimne, scholar-monk of Iona dies
8	5	3	8	748	
9	6	4	9	749	
10	7	5	10	750	
11	8	6	11	751	
12	9	7	12	752	
13	10	8	13	753	
14	11	9	14	754	
15	12	10	15	755	
16	13	11	16	756	
17	14	12	17	757	
18	15	13	18	758	
19	16	14	19	759	

NOTE:

<sup>1</sup>19-year cycle of Dionysian Paschal Canon.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.



**Table 10.17 84-Year Padua *Latercus* Lunar Cycle of Sulpicius Severus—760 to 778 AD. Celtic Church of the British Isles.**

				Cycle	Julian
				Year	Year AD
DI <sup>1</sup>	H <sup>2</sup>	SU <sup>3</sup>	VI <sup>4</sup>		
1	17	15	1	760	
2	18	16	2	761	
3	19	17	3	762	
4	1	18	4	763	
5	2	19	5	764	
6	3	20	6	765	
7	4	21	7	766	
8	5	22	8	767	
9	6	23	9	768	
10	7	24	10	769	
11	8	25	11	770	
12	9	26	12	771	
13	10	27	13	772	
14	11	28	14	773	End of 28-year cycle 3
15	12	1	15	774	Beginning of next 84-year cycle
16	13	2	16	775	
17	14	3	17	776	
18	15	4	18	777	
19	16	5	19	778	

NOTE:

<sup>1</sup>19-year cycle of Dionysian Paschal Canon.

<sup>2</sup>19-year cycle of the Hebrew Calendar.

<sup>3</sup>84-year cycle of the Sulpicius Paschal Table.

<sup>4</sup>19-Year Victorius Cycle--Rome.

Dr. David McCarthy explains the essence of the 84-year lunar cycle.

The ordinary year of 365 days is divided into 52 weeks of seven days plus one day, ie  $365 = 52 \times 7 + 1$ , with the result that each solar year commences one week-day later. An important consequence of this interaction between the seven-day week and the 365/366 day solar year is that every 28 years the combination of week-days and solar dates repeats itself, which cycle is known as the solar cycle.

...the fact that 84 years exactly equals three solar cycles of 28 years makes them much more convenient for any computations involving week-days, such as the Easter calculation.

As with previous Paschal Tables only a few columns need be explained. The numbers of column "C" begins with year 438 AD and run for 84 years.

The second column headed with the letter "B" lists the years in which a bissextile was added. A "*Bissextile*" is an intercalary day that was added in years 7 and 17 of the Anatolian Paschal Table to change one of the hollow lunar months of the lunar year to a full month. **This action slowed the calendar moon down so that it matched more closely the age of the real moon. In other words, a *bissextile* performs the same purpose of postponement Rules 1 & 2 of the Hebrew Calendar.** This *bissextile* day was inserted by repeating the sixth Kalends of March, i.e., March 27. In the Hebrew Calendar the hollow month of Heshvan immediately following the month of Tishri is sometimes increased from 29 days to 30 days and fills the same function as the *bissextile day*. In the following paragraph Dr. McCarthy explains the origin of the *bissextile*, as well as its purpose and application:

The role of the *bissexus* in a lunar calendar derives from the fact that the inclusion of an embolismic month approximately every third year is insufficient to extend the average calendar month to match that of the real Moon. Furthermore is no account were taken of the lengthening of the solar year then the lunar age would be found to increase by twelve rather than eleven following *bissextile* years. Therefore what was done was to change one of the hollow lunar months of the lunar year to a full month, with the joint consequence that the average lunar month was further lengthened and the pattern of lunar ages in *bissextile* years matched that in common years commencing with the same age, except for some days between the intercalated solar day ie the *bissextile* or leap day and the intercalated lunar day. Unfortunately the joint effect of the embolism and the *bissexus* is to produce a lunar month which is now longer than that of the real moon by an amount which will produce an error of about one day every

eighteen years, ie. After eighteen years the real Moon will be one day older than the calendar Moon. This is responsible for the third mechanism [the *saltus*] which was used to bring the lunar calendar into alignment with the real Moon (McCarthy, *Easter Principles and a Lunar Cycle used by Fifth Century Christian Communities in the British Isles*, pp. 4-5).

The fifth column headed by the letter “P” is the date of Easter Sunday given in ancient Roman Calendar format. The sixth column headed by the letters “L<sup>P</sup>” is the age of the moon on Easter Sunday.

Columns 5 and 6 allow us to synchronize Nisan dates of the Hebrew Calendar with Easter Sunday dates of the Julian Calendar, thus confirming the historical accuracy of the Hebrew Calendar. When we check the value of Column 5 for 438 AD (84-year cycle 1) we see that Easter Sunday was calculated for vi k.ap or March 27. And Column 6 informs us that the lunar value at Easter was xvi or 16. Easter Sunday, March 27, 438 AD thus has a lunar value of 16.

Checking the Hebrew Calendar we find a perfect match for these dates! We thus have a historical synchronization between the Julian Calendar and the Hebrew Calendar for year 438 AD. We will leave the full analysis of the Paschal Table of the *Padua Latercus* until Chapter Twenty-One. In the meantime, it must be understood that not all dates on this table synchronize with the Hebrew Calendar. Even though both are based on a 19-year lunar cycle, there are major computational differences between the two which make full synchronizations impossible. This fact by no means invalidates those dates that do synchronize, however.

**The Restored 84-Year Lunar Cycle of Sulpicius Severus—  
The *Padua* Latercus—438 AD to 521 AD**

**Table 10.16 28-Year Cycle 1—The Restored 84-Year Paschal  
Table of Sulpicius Severus—The *Padua Latercus*—438-465 AD**

<u>C</u>	<u>B</u>	<u>K1</u>	<u>E</u>	<u>P</u>	<u>L<sup>P</sup></u>	<u>Ini</u>	<u>L<sup>I</sup></u>
1		s	xviii	vi k. ap	xvi	xiiii k.m	vi
2		d	xxx	xvi k.m	xvii	viii id.m	vii
3	[B]	ii	xi	vii id.ap	xviii	[iii](prid) k.m	xiiii
4	(B)	iiii	x[x]ii	xii k.m	xiiii	iiii id.m	iiii
5		v	v	ii id.ap	xvi	iii no.m	vi
6		v[i]	v[i]	ii no.ap	xviii	vi k.m	viii
7	[B]	s	xxv	viii[i]	xx	[I id](xvi k).m	x
8		ii	vi	vi id.ap	xv	[ii](v) k.m	v
9		iii	xvi[i]	ii k.ap	xviii	[x] kl.mar	viii
10		iiii	xxviii	xii k.m	xviii	iiii id.m	(viii)[x]
11	[B]	v	viii	ii no.ap	xiiii	v[i]	iiii
12		s	xx	vi k.ap	xvii	xiiii k.m	vii
13	(B)	i	i	xvi k.m	xviii	[v](i)iii id.m	viii
14		ii	xii	kl.ap	xiiii	viii[i] k.m	iiii
15	[B]	iii	xxiiii	x[ii] k.m	xvi	iii[i] id.ap	vi
16		v	v	ii id.ap	xviii	iii no.m	viii
17	(B)	vi	xvi	v k.ap	xiiii	x(v)I[ii] k.m	iiii
18		s	xxvii	xv k.(ap)[m]	xvi	vii id.m	vi
19	[B]	d	viii	vi id.ap	xvii	[ii] k.m	vii
20		iii	xviii	ii k.ap	xx	x[k.]m	x
21	(B)	iiii	xxx	id.ap	xiiii	[iii] no.m	iiii
22		v	xi	no.ap	xv[I]	v k.mr	vii
23	[B]	v[i]	xxii	vi k.p	xviii	xiii k.m	viii[i]
24		d	ii[i]	xvi k.m	xx	viii(i) id.m	x
25	(B)	ii	xiiii	k. ap	xvi	[viii k](no). m	vi
26		iii	xxv	xi k.m	xviii	iii id.m	viii
27	[B]	iiii	vi	ii id.ap	xviii[i]	[iiii](in) no.m	viii
28		vi	xvii	v k.ap	xv	xiii k.m	v

**Table 10.17 28-Year Cycle 2—The Restored 84-Year Paschal Table of Sulpicius Severus—The Padua *Latercus*—466-493 AD**

<u>C</u>	<u>B</u>	<u>K1</u>	<u>E</u>	<u>P</u>	<u>L<sup>p</sup></u>	<u>Ini</u>	<u>L<sup>l</sup></u>
29	(B)	s	xxvii[ii]	xv k.m	xvii	vii id.m	vii
30		d	x	v(i) id.ap	xx	k.mar	x
31	B	ii	xxi	xi k.m	xiiii	ii[i] id.mar	iiii
32		iiii	ii	id.ap	xvi	[iii]no (k) mr	vi
33		v	xiii	no.ap	xviii	v k.mr	viii
34		vi	xxiiii	xiiii k.m	xiiii	vi id.mr	iiii
35	B	s	v	v id.ap	xv	[k](vi no).mr	v
36		ii	xvi	kl ap.	xviii(i)	viii[i k.]mr	viii
37		iii	xxvii	xi k.m	xx	iii(i) id.mr	x
38		iiii	viii	vii[j] id.ap	xv	iiii k.mr	v
39	B	v	xviii	v k.ap	xvii	xii k.mr	vii
40		s	xx[x]	xv k.m	xviii	vii id.mr	viii
41		d	xi	iiii no.ap	xiiii	viii k.mr	iiii
42		ii	xxii	x k.m	xvi	ii id.mr	vi
43	B	iii	iiii	id. ap	xviii	ii[I no](id).mar	viii
44		v	xv	iiii k.ap	xiiii	xii k.mr	iiii
45		vi	xxvi	xiiii k.m	xvi	vi id.mr	vi
46		s	vii	iiii id.ap	xviii	vi no.mr	viii
47	B	d	xviii	k. ap	xx	xiii k.mr	x
48		iii	xxviii[j]	xviii k.m	xiiii	ii no.mr	iiii
49		iiii	x(xi)	viii id.ap	xv[I]	iiii [k](no).mr	vii
50		v	xxi	iiii k.ap	xx	xii k.mr	x
51	B	vi	ii	xv k.m	xx	vi[i] id.mr	x
52		d	[x]iii	iiii no.ap	xvi	viii k.ma	vi
53		ii	xxiii	x k.m	xviii	[ii] id.ma	viii
54		iii	v	xviii k.m	xx	(v)[i]i no.ma	x
55	B	iiii	xvi	iiii k.ap	xv	xi k.ma	v
56		vi	xxvii	xiiii k.m	xvii	vi id.ma	vii

**Table 10.18 28-Year Cycle 3—The Restored 84-Year Paschal Table of Sulpicius Severus—The Padua *Latercus*—494-521 AD**

<u>C</u>	<u>B</u>	<u>K1</u>	<u>E</u>	<u>P</u>	<u>L<sup>p</sup></u>	<u>Ini</u>	<u>L<sup>i</sup></u>
57		s	viii	iiii id.ap	xx	vi no.ma	x
58		d	xx	vii k.ap	xvi	xv k.ma	vi
59	B	ii	I	xviii [k.m]	xvi	[ii]non.ma	vi
60		iiii	xii	viii id.ap	xviii	iiii k.m	viii
61		v	xxiii	xiii k.m	xiii[i]	v id.[m]	iiii
62		vi	iiii	iii id.ap	xvi	v non.[m]	vi
63	B	s	xv	iiii no.ap	xviii	v[ii] k.m	viii
64		ii	xxvi	x k.m	xx	ii id.m	x
65		iii	vii	vii(i) id.ap	xv	iii k.m	v
66		iiii	xviii(i)	iii k.ap	xviii	xi k.m	viii
67	B	v	xxviii	xiiii k.m	xviii	v[i] id.m	viii(i)
68		s	x	iii no.ap	xiiii	vii k.m	iiii
69		d	xxi	vii k.ap	xvii	xv k.m	vii
70		ii	ii	xvii k.m	xviii	[i no](viii) m	viii
71	B	iii	xiiii	iii(i) k.ap	xiiii	x[i] k.m	iiii
72		v	xxv	xiii k.m	xvi	v id.m	vi
73		vi	vi	iii id.ap	xviii	v no.m	viii
74		s	xv[i]	vi k.ap	xiiii	xiiii k.m	iiii
75	B	d	xxviii	xv[i] k.(ap)[m]	xiiii	[i no](viii id).m	v
76		iii	viii	vii(i) id.ap	xvii	iii k.m	vii
77		iiii	xx	iii k.ap	xx	xi k.m	x
78		v	I	ii id.ap	xiiii	iiii no.m	iiii
79	B	vi	xii	iii no.ap	xvi	vi k.m	vi
80		I	xxiii	vii k.ap	xviii	xv k.m	viii[i]
81		ii	iiii	xvii [k.m]	xx	[i no](viii) m	x
82		iii	xv	ii k.ap	xvi	x k.m	vi
83	[B]	iiii	xxvi	xiii k.m	xvii	[v](iiii) id.m	vi[i]
84		vi	vi[i]	iii id.ap	xviii	v non.m	viii

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