SIGNIFICANCE OF THE LUNAR WEEK

"A student of creation will find the turn of the lunar week to be hugely significant."

James Dwyer
Sherry Goodwin

PREFACE

As a computer programmer, I worked for sometime in a division of the U.S. Geological Survey. While employed there, I was taught that the mission of the USGS was to never “interpret” any of the data collected. The role of the agency was rather to “compile and publish” Earth's resource data.

This mention about a differentiation between “compiling” and “interpreting” is made because a reader of the current publication will quickly notice that more than a single interpretation of the spin and orbital phenomena is subsequently presented. It should here be mentioned, however, that the interpretations we present are not completely out of line with Survey policy.

To be more specific about “interpreting” Earth-Moon measurements, my research partner (Sherry Goodwin) has collected spin and orbital statistics taken in this 21st century, and we have turned to the pages of history to try and find a possible reason or explanation for them. We have found—using current

computational means—that certain of the cosmological interpretations taught among the ancients do quite clearly reflect advanced knowledge of a lunisolar system. For this reason, we have elected to time model the Earth-Moon phenomena in line with modern data and in accord with interpretations penned by a segment of early astronomers. It is then a mirror to a systems view held in the past that we have looked to learn of an interrelated lunisolar system.

The desire of both of us (Sherry and I) in preparing this publication is that our research of the Earth-Moon system will be of benefit in furthering a readers own study of a created solar system.

James D. Dwyer
December 14, 2008

For more information concerning time design, refer to our website: ***www.creation-anwers.com***.

CONTENTS

1

THE LUNAR WEEK . . .

Lunar-quarter days are marked on many, if not most, of the calendars and almanacs that are published throughout the Western world. Even so, the turn of the lunar quarter does generally go unnoticed by most.

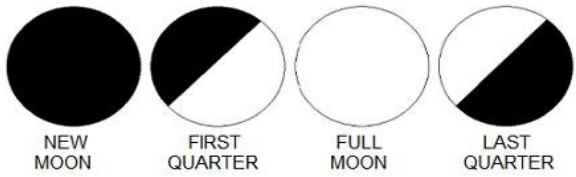
Whether ignored or not, the Moon routinely generates four easy to identify phases throughout its monthly transit of the Earth.

The four times each month when the Moon can be recognized to stand at a specific quarter phase are as follows:

1. The new phase is when the Moon appears dark.
2. The first phase is when the Moon is half illuminated.
3. The full phase is when the Moon is wholly illuminated.
4. The last phase is when the Moon is half illuminated.

Take note here that the quarter-phase of the Moon (the cycle of the lunar week) happens to revolve in pace with a rate that is about equal to seven and one-third days. The turn over of the lunar

week (the lunar quarter) is consequently a bit slower or longer than an ordinary week cycle of 7 days.



But why should anyone be concerned with the peculiar turn of the lunar week . . . or why give notice to a time unit that is inherently defined by the Moon?

One of the best of the possible answers to this kind of question is that the time span occupied by the lunar week points to a time-tracking system that is rational in its design. Essentially, the lunar-week cycle does rather clearly indicate that the Earth and Moon are spinning/orbiting objects BOTH working together for a purpose. Subsequently presented chapters then have a primary focus upon the lunar week in the context of a lunisolar system that is functional in its design. Of special significance here is that a time unit equal to the lunar week can be recognized to conjoin (exactly) with the turn of the solar day. The lunar week can likewise be recognized to cycle (eternally) in perfect interface with the annual transit of the Sun. More amazing about the Earth and Moon interface is a clear indication of '7-set' design—where 7 sets of weeks, 7 sets of months, and 7 sets of years are all inherently defined from out of the spin and orbital phenomenon.

In addition to its role in defining a lunisolar system that is functional in its design, the lunar week can be recognized to have

additional significance in defining a religious itinerary that now is followed by adherents numbering millions in regions of the East. To be more specific, "the Uposatha is the Buddhist sabbath day, in existence from the Buddha's time (500 BCE), and still being kept today in Theravada Buddhists countries" (Wikipedia). Among the precepts that define this 'day of observance' is the holding of a fast and the keeping of an all night vigil. "In general, Uposatha is observed about once a week in accordance with the four phases of the moon: the new moon, the full moon, and the two quarter moons in between. In some communities, only the new moon and full moon are observed as uposatha days." (ibid.). The cited set of evening liturgy that is practiced in parts of Asia today is strikingly similar to lunar liturgy that was subscribed to by more primal priest-kings (especially those who were resident in the Middle East). This custom of fasting and of holding a night vigil in pace with certain of the Moon's phases can be recited from numerous passages of early literature. The current presentation thus also has a focus upon the lunar week and its roll in the scheduling of religious liturgy (past and modern).

Of special significance about a schedule of weeks is that Hebrew writings produced in and prior to the first century are graphic in showing that the priesthood held knowledge of a harvest cycle straddling 7 lunar weeks. Texts that were circulated among primal Christians do likewise show that a segment of 1st-century astronomers would have understood the turn of the 7th lunar week in the context of both a sacred and a secular calendar. Among both Babylonians and Hebrews, the cited fast and vigil appears to have routinely been held for the primary purpose of renewing a post-

flood covenant. Adherence to this respective ordinance (the keeping of an Asartha) can also be recognized from among the tenets that were taught by the early Christians.

What is unique about the Middle Eastern tradition of holding an Asartha (or Atsereth) is that the priests appear to have tracked or accounted for the unit of the lunar week in multiples of seven (or by sevens). Essentially, a tally, or a count of 7 lunar weeks (a pentecontad cycle) was perceived to have been succeeded by a subsequent cycle of 7 lunar weeks (the next pentecontad cycle). Subsequently presented sections will then explore in depth the lunar-week schedule by which liturgy was performed under the old Jerusalem Temple.

The topic material presented will lead the reader to ultimately conclude that the Temple priesthood did almost surely hold unusual, even advanced, knowledge of a lunisolar system. More significantly, the reader will be presented with a systems view of the spin rate of the Earth and of the two apparent orbits (Moon and Sun). A given conclusion that can be arrived at from a systems perspective of the Earth and Moon is that the spin and orbital configuration has resulted from special creation.

2

SETS OF SEVENS. . .

A rational system for tracking time can be recognized from out of the spin and orbital phenomenon. Of special significance here is that the length of the tropical year can closely be cross-referenced to a time grid comprised of lunar quarters, or lunar weeks.

What is remarkable about tracking the annual cycle in units of the lunar week is an inherent correspondence with certain number sets. To be more specific, the annual return can be cross-referenced to lunar-week cycles that are numbered by sevens (and by multiples of sevens).

Of significance here is that each lunar quarter (on the average) revolves in pace with a time span that precisely is equal to a quarter of the lunar period (which is 29.53059 days on the average). Each quarter phase of the Moon thus inherently defines a lunar week that is equal to 7.38265 days (as an average definition). This then means that a '7 set of lunar weeks' (or 7 lunar

weeks) can be predicted to turn in exact average pace with a span of time occupied by 51.67853 days. (Note here that—when rounded from expanded precision—7 times the length of one lunar week is equal to 51.67853 days).

The span of time defined by the revolution of 7 lunar weeks is significant in the regard that this cycle can be stated to conjoin with the spin of the Earth at the epoch of every 49th synodic period. This respective conjunction is easy to recognize in the regard that a 7 set of lunar weeks if repeated for 28 times becomes exactly equal to the length of 49 lunar months.

The conjunction cycle (28 times 51.67853 days) is then equal to 1447 days (or also is equal to the length of 49 months). Thus, it would be a true axiom to state that when 7 sets of 7 lunar months, or 49 lunar months have elapsed, the same rotational phase of the Earth does inherently come into conjunction with the same orbital phase of the Moon.

THE INTERFACE OF 49 SYNODIC MONTHS *							Number of Earth's Rotations
1	2	3	4	5	6	7	206.714
8	9	10	11	12	13	14	413.428
15	16	17	18	19	20	21	620.143
22	23	24	25	26	27	28	826.856
29	30	31	32	33	34	35	1033.571
36	37	38	39	40	41	42	1240.285
43	44	45	46	47	48	49	1446.999

*** - Earth's rotation aligns with 49 lunar months.**

Take note here that 1447 days—when divided into synodic periods of 29.53059 days each—is perfectly equal to 49.0000 lunar months.

The cited synchronization of Earth's spin with 49 lunar months is very close (almost exact). Of significance is that the stated interface can be recognized as fully perfect if only the lunar period elapsed in 29.53061 days (a tiny bit different from the modern rate of 29.53059 days). The possibility then is that—due to tiny variations in the rate of Earth's spin—the conjunction of Earth's spin with the lunar period may have once been fully perfect. (For more information about the changing spin of the Earth, refer to the subsequently presented Chapter 17).

Because there are 4 cycles of 7 lunar weeks in each cycle of 7 lunar months then the cited conjunction cycle of 49 months can also be stated to contain 28 sets of 7 lunar weeks (or also 196 lunar weeks).

But then why should the cited conjunction between the spin of the Earth and the orbit of the Moon be expressed in units of lunar quarters—196 lunar weeks? (After all, the conjunction of Earth's spin could be stated to occur in units of the whole lunar month—49 months).

A good reason for defining the stated conjunction at the resolution of the lunar quarter (or the lunar week) concerns the definition of the year cycle. Of significance here is that an accounting of days and lunar quarters is required to effectively measure and meter the rate of each passing tropical year.

To be more specific about counting the year cycle, each tropical year does inherently occupy a time span equal to 365.24219 days . . . while each set of 7 lunar weeks does

inherently occupy 51.67853 days (on the average). For more detail about the length of 7 lunar quarters, refer to the introductory paragraphs.

Based upon the stated rate of the occurrence of a cycle of 7 lunar quarters—a cycle that revolves every 51.67853 days—it becomes almost obvious that each passing tropical year can be cross-referenced to a fixed count of day units. The cited annual count (a tally of days) becomes easy to recognize when the rate of a day each 7 lunar weeks is always skipped over . . . or is accounted differently from all of the other days. In essence, the year cycle can effectively be measured and metered (on the average) by eternally leaping the count of a day every 7 lunar weeks.

Thus, it is a given conclusion that—by NOT counting those days that reoccur in the position of each 7th lunar week—each passing tropical year can be correlated to a day count that does never vary.

> *Hint: If the count of one day in each cycle of 7 lunar weeks is eternally accounted for (as separate from the other days) then this respective count is inherently equal to 7.0676 days per year (as an average rate). In addition, if the count of one day in each month of 30 days is forever accounted for (as separate from other days) then this respective count is inherently equal to 12.17474 days per year (as an average rate). These two rates of set-apart days are then equal to an average rate of 19.24232 days per year. Thus, if 19.24232 days per year (on the average) are tracked apart from all other days*

that comprise the time stream then the length of each passing solar year can effectively be measured and metered out in correspondence with a number count that is always equal to 346 of the other days. Note that the rate of the solar year of 365.24219 days minus the cited rate of set-apart days (19.24232 days) is equal to 346 days.

The following diagram is then illustrative of the above stated requirement to eternally time track a day unit at a frequency of 7 lunar quarters:

```
_____________________________________

  ENDLESS CYCLE OF 7 LUNAR WEEKS
_____________________________________

  Lunar quarter 1 (lunar week 1)
  Lunar quarter 2 (lunar week 2)
  Lunar quarter 3 (lunar week 3)
  Lunar quarter 4 (lunar week 4)
  Lunar quarter 5 (lunar week 5)
  Lunar quarter 6 (lunar week 6)
  Lunar quarter 7 (lunar week 7)

_____________________________________

The count of 1 day is skipped, or
leaped over, in each 7-week cycle.
```

Clearly, the turn of each tropical year can exactly be defined (as an average definition) in the context of nothing more than forever tracking a day every 7th lunar week. (For additional information about 'day counting' the year cycle, refer to subsequently presented chapters).

It is not widely known that the spin and orbital rates (Earth, Moon, and Sun) all point to an interface that cycles throughout a time span equal to 43,410 days. Of significance here is that each cycle (43,410 days) does inherently contain 1,470 synodic periods of the Moon (or also 840 sets of 7 lunar weeks). The cited cycle of 43,410 days does also inherently contain 30 cycles of "49 lunar months". [Note that the rate of Earth's spin inherently conjoins with a cycle equal to 49 lunar months—as previously shown.] Of additional significance is that the average length of the tropical year can also be measured and metered within the context of this endless cycle (43,410 days). To be more specific, the average length of the tropical year can exactly be correlated to a fixed count of 346 days as long as 2,287 days in every cycle of 43,410 days are leaped over, or not counted. [Note here that the essential rate of leap days—or 2,287 days per 43,410 days—is equal to the combined rates of 1 day every 7 lunar weeks and 1 day every 30 days.] The average length of each passing tropical year (of 365.24219 days) as well of the average length of each synodic Moon (29.53059 days) can thus exactly be determined through a method of counting a fixed cycle of days.

3

A JUBILEE CALENDAR . . .

Of yet further significance about the Earth and Moon interface is that each year cycle can also be modeled into, or represented by, a calendar of lunar weeks. In fact, a rather amazing time interface can be recognized from modeling the annual return into 7 sets of lunar weeks.

The following diagram is consequently presented in an attempt to more clearly illustrate that a time grid of solar years (in 7 sets) can closely be correlated, or cross-referenced, to a calendar count of lunar weeks (in 7 sets).

> *The shown grid of lunar weeks represents a calendar that can very closely pace the annual return. This respective calendar only requires the endless addition of 1/3 week per year—as a perpetual rate of intercalation.*

7-Year Segment	Number of Years	Number of Lunar Weeks	At Each 7th Year
1.	7	7 x 7 x 7	+ 1 week
2.	7	7 x 7 x 7	+ 1 week
3.	7	7 x 7 x 7	+ 1 week
4.	7	7 x 7 x 7	+ 1 week
5.	7	7 x 7 x 7	+ 1 week
6.	7	7 x 7 x 7	+ 1 week
7.	7	7 x 7 x 7	+ 1 week
50th yr	1	7 x 7	

For more comprehensive information about the diagrammed calendar—as well a thumbnail sketch of the historical relevance of this particular calendar —refer to Chapter 13.

Of significance about the shown time grid is that a somewhat synonymous description of a year count of '7 sets' is shown in a certain passage of the Bible. The early celebration of '7 sets of 7 years' is clearly depicted in a chapter from the book of Leviticus—as follows:

> *"And the Lord said . . . When you come into the land which I will give you, let the land keep a Sabbath to the Lord. For six years put seed into your land, and for six years give care to your vines and get in the produce of them; But let the seventh year be a Sabbath of rest for the land, a Sabbath to the Lord; do not put seed into your land or have your vines cut. That which comes to growth of itself may not be cut, and the grapes of your uncared-for*

vines may not be taken off; let it be a year of rest for the land. And the Sabbath of the land will give food for you and your man-servant and your woman-servant and those working for payment, and for those of another country who are living among you; And for your cattle and the beasts on the land; all the natural increase of the land will be for food. And let seven Sabbaths of years be numbered to you, seven times seven years; even the days of seven Sabbaths of years, that is forty-nine years; Then let the loud horn be sounded far and wide . . . on the day of taking away sin let the horn be sounded through all your land. And let this fiftieth year be kept holy, and say publicly that everyone in the land is free from debt: it is the Jubilee, and every man may go back to his heritage and to his family. Let this fiftieth year be the Jubilee: no seed may be planted, and that which comes to growth of itself may not be cut, and the grapes may not be taken from the uncared-for vines. For it is the Jubilee, and it is holy to you; your food will be the natural increase of the field. In this year of Jubilee, let every man go back to his heritage." (BBE text of Chapter 25:1-12).

Remarkable here is that the Leviticus definition of a 50-year count closely parallels the calendar count shown above—where each 7-year segment of the calendar grid can be metered by a lunar-weeks count. Assigning a number to each calendar week is

all that is required; and this means that EACH AND EVERY calendar year can be defined within the context of an identical count of the lunar week (a 7-times-7 count):

A JUBILEE CALENDAR OF LUNAR WEEKS

Note that a leap week each 3rd year is not shown in the following calendar chart.

```
Seven Years:   49 49 49 49 49 49 49  + 1
Seven Years:   49 49 49 49 49 49 49  + 1
Seven Years:   49 49 49 49 49 49 49  + 1
Seven Years:   49 49 49 49 49 49 49  + 1
Seven Years:   49 49 49 49 49 49 49  + 1
Seven Years:   49 49 49 49 49 49 49  + 1
Seven Years:   49 49 49 49 49 49 49  + 1
Fiftieth Year: 49
```

49—Denotes a year count of 49 lunar weeks.

50-year average = 2473.66667 lunar weeks.
Length of lunar weeks = 18262.21 days.
Length of 50 years = 18262.11 days.

A given conclusion from the rates shown above in the calendar diagram then is that each passing year can very effectively be metered by simply counting out lunar weeks.

A calendar of lunar weeks is thus automatic or inherent when a lunar week is leaped each 3rd year as a perpetual rate. (Note that the shown grid of lunar weeks does almost perfectly pace the

rate of the solar year through the intercalation of 0.33333 weeks per solar year—as an average rate).

A plausible model (or interpretation) of a lunisolar system is thus easy to formulate from counting out a Moon Cycle (equal to 7 lunar weeks):

AN ESSENTIAL MOON CYCLE
(7 Lunar Weeks)

Lunar quarter 1 (lunar week 1)
Lunar quarter 2 (lunar week 2)
Lunar quarter 3 (lunar week 3)
Lunar quarter 4 (lunar week 4)
Lunar quarter 5 (lunar week 5)
Lunar quarter 6 (lunar week 6)
Lunar quarter 7 (lunar week 7)

4

WEEKS OF HARVEST . . .

Historical records, including biblical, tend to indicate that certain astronomers who flourished in an era well prior to the 1st century would have been familiar with the cited time track of lunar weeks. To be specific, some of the Jewish texts written in the era of the Temple do clearly mirror the Temple priesthood followed a liturgical schedule that was defined by a cycle of 7 lunar weeks.

Of significance here is that writings produced by Flavius Josephus (a Jewish historian of the 1st century) show that Temple priests of that time period did track a 7-week cycle. When describing a harvest calendar that was then followed, Josephus made mention of a 50-day count traversing 7 lunar weeks—as follows:

> *" . . . when the Sun is in Aries . . . on the 16th day of the [lunar] month . . . they offer the first fruits of their barley . . . When a week of weeks has passed*

*over after this sacrifice . . . on the 50th day, which is Pentecost . . . they bring to God [sacrifices] nor is there anyone of the [subsequent] festivals, but in it [= the 50th] they offer . . . " (Based upon Whiston's translation of '**Antiquities of the Jews**', Book 3, Chapter 10, 5-7).*

The Josephus record shows that the priests counted out a cycle of 7 weeks AFTER a barley offering was presented (on the 16th day of a specific lunar month). The cited 50-day count did therefore begin on a day that came after the full phase of the Moon.

One of the conclusions that can be arrived at from the detail provided by Josephus is that the end of the 50-day count would inherently have coincided with a quarter phase of the Moon. Furthermore, each of the intervening weeks of the 50-day count can be recognized to have passed in line with a lunar quarter. In essence, the priests can be recognized to have tracked a full cycle of 7 lunar weeks between the first fruits presentation and the feast of Pentecost.

Note that because each lunar week spans a unit of time that is a bit longer than an ordinary week of 7 days then a number of 50 days can ALWAYS be counted between the end of the 1st day of any given lunar week and the beginning of the 7th day of the 7th lunar week. In essence, 7 lunar weeks is inherently LONGER, or a FULLER, when

compared with a day count of 7 regular weeks.

LEVITICAL HARVEST COUNT
(from the record of Josephus)

---

first fruits offered after full Moon
1st week counted
2nd week counted
3rd week counted
4th week counted
5th week counted
6th week counted
7th week counted
grain celebrated at quarter Moon

The indicated priestly adherence to a harvest schedule that was defined by the lunar week can further be recited from a treatise penned by another 1st-century Jewish writer:

> *"Don't the fruits of cultivated crops and trees grow and come to maturity through the orbits of the Moon . . . ?" ('**The Special Laws, Part 2**', Philo Judaeus, based upon Yonge's translation).*

Here, the annual harvest is again shown to have been conducted in coincidence with a span of time that was uniquely tracked. This passage of early-written text does minimally indicate that the annual harvest was NOT scheduled in the context of an ordinary week cycle (of 7 running days).

Other passages from Jewish literature written in the era of the late Temple do likewise show that contemporary priests did then conduct the annual harvest around a lunar-quarter schedule. In

example, a passage from '***The Special Laws, Part 1***' indicates that members of the priesthood would have been familiar with a harvest itinerary that was predicated upon the phases of the Moon:

> *"[The Moon] receives the perfect shapes in periods of 7 days—the half-Moon in the first 7 day period after its conjunction with the Sun, full Moon in the second; and when it makes its return again [= after the full Moon], the first is to half-Moon, then it ceases at its conjunction with the Sun . . . the finest grain flour mixed with oil . . . and wine in stipulated amounts [are periodically offered] . . . The reason is that even these are brought to maturity by the orbits of the Moon in the annual seasons, especially as the Moon helps to ripen fruits; grain and wine and oil . . . " (authored by the Jewish writer: Philo Judaeus at about the turn of the Common Era, translation based upon Yonge).*

The quoted text from '***The Special Laws***' reflects that the author understood the Moon to have some kind of a role in the production of grain, wine, and oil.

It here seems of related significance that quite a number of passages in the Bible do indicate that the beginning of the harvest was specially commemorated; and that the harvest was subsequently commemorated in weekly stages.

> *"[God] . . . giveth rain, both the former and the latter, in his season: he reserveth unto us the appointed weeks of the harvest". (AV text of Jeremiah Chapter 5:24).*

SIGNIFICANCE OF THE LUNAR WEEK

As is further shown below, the weeks that were appointed for the harvest (or harvests) were understood to encompass not just a single cycle of 7 lunar weeks—but multiple cycles. To be more specific, the first cycle of 7 weeks was apparently reserved for the production of grain. A subsequent cycle of 7 weeks is additionally indicated from the historical record. (This respective cycle was allocated for the production of wine). Yet a third cycle of 7 weeks is manifested from the ancient texts. (This time span was reserved for the production of oil). Thus, certain of the texts that were produced (and reproduced) in the era of the Temple do show that grain, wine, and oil were sequentially processed right in line with a time cycle of 7 weeks.

Perhaps the best example of this cyclical count of 7 weeks can be recited from a portion of 11QTemple Scroll. The following passage is very clear in showing how that the priests would have supervised the production of grain, wine, and oil in concert with multiple cycles of 7 weeks:

> *"You must count . . . 7 COMPLETE Sabbaths from the day of presenting the sheaf . . . to the morrow of the 7th Sabbath . . . count [50] days . . . [Then] bring a new grain-offering . . . it is the feast of Weeks and the feast of Firstfruits, an everlasting memorial . . . From the day when you bring the new grain-offering . . . 7 FULL Sabbaths . . . count 50 days to the morrow of the 7th Sabbath. [Then present] new wine for a drink-offering . . . Count from that day . . . 7 FULL Sabbaths; until the*

morrow of the 7th Sabbath count 50 days . . . then offer new oil . . . " (my paraphrase).

The content of the 11QTemple Scroll can be stated to be rare or unique in comparison with most other Hebrew documents (even among those that have been rediscovered). Nonetheless, some rather detailed instructions are given for conducting the harvest. According to the author (or authors) of this scroll, the processing of grain, wine, and oil required adherence to always a COMPLETE or a FULL count of 7 Sabbaths. For each one of the three harvests, a special day was invariably celebrated right on "the morrow of the 7th Sabbath".

SCHEDULING OF HARVEST RESTS

---

1. 7 Sabbaths for grain
2. 7 Sabbaths for wine
3. 7 Sabbaths for oil

An offering of grain, then wine, and then oil was presented in the predawn hours on each one of the 7th Sabbaths.

The cited description of a FULL Sabbath count [Hebrew: tamiym] that ended at the break of day on the 7th Sabbath is just about identical to the intervening 50-day count shown in the Bible book of Leviticus (refer to the 23rd chapter). The sacrificial rates

given in the Leviticus passage tend to reveal that the shown count of 7 Sabbaths pertained to the first harvest celebration of the year. However, a comparison of the sacrificial rates for the festival of weeks that is listed in Leviticus, Numbers, and in the writings of Josephus tends to confirm that the first fruits type of the feast of weeks was primally celebrated with an additional rate of sacrifice. Of related interest here is that the 11QTemple Scroll and also '***The Book of Jubilees***' do both show that the harvest day celebrations were understood to have a dual or a double significance. The respective festival day (of the 7th Sabbath) was understood to pertain to both the feast of weeks and the feast of the harvest.

When the content of the 11QTemple Scroll is compared with the content of the Bible, it becomes manifest that the production of grain, wine and oil are also listed in that same order in a number of the Bible passages. The order of grain, wine, and oil can be recited from the following Bible verses: Deuteronomy 7:13; 11:14; 12:17; 14:23; 18:4; 28:51; 1 Chronicles 9:29; 2 Chronicles 2:15; 31:5; 32:28; Ezra 6:9; Nehemiah 10:37; 10:39; 13:5; 13:12; Jeremiah 31:12; Hosea 2:8; 2:22; and there are other verses.

A sequence of 3 festivals, each spaced 7 weeks apart, can also be identified from the following scrolls recovered at Qumran: 4Q325, 4Q326, 4Q327, 4Q394; where English translations can be found in: '***Dead Sea Scrolls A New Translation***', by Michael Wise, Martin Abegg, Jr., and Edward Cook. Of significance here is that some of the Qumran scrolls—while they do indicate the track and celebration of 7 weeks in a three-fold sequence—do not indicate that a 50th day was separately counted out. Essentially, the 7-week cycle that was counted at Qumran was predicated upon

nothing more than an ordinary week cycle of 7 running days. This then means that the harvest itinerary that was followed by contemporary Temple priests could not have quite been the same as the 7-weeks count that was followed at Qumran. In fact, liturgical interpretations held at Qumran—when compared with interpretations subscribed to by the more traditional priests—point to quite a number of differences. (Most of the indicated differences concern the Temple's adherence to a lunar calendar).

The priestly reckoning of a cycle of 7 weeks (in association with a celebrated 50th day) is shown in the Hagigah Tractate (section 17a) of the Babylonian Talmud. In a note to that section, the translator (Rabbi Abrahams) wrote that the Sadducees understood each 7th day of the Leviticus count of 50 days to be a literal Sabbath. This respective note seems significant for coming to better understand certain opinions and interpretations held by members of the primal Temple priesthood.

In summary to the above, 1st century writings make it abundantly clear that the priests understood the weeks of harvest right in concert with a lunar cycle (of 7 weeks). Because the time in-between 7 lunar Sabbaths was always GREATER than the length of 7 regular weeks then the added "50 count" notation would almost surely have been understood as pertaining to a FULL Sabbath count (or a count that straddled 7 lunar weeks).

5

AN ENDLESS CYCLE . . .

To make it perfectly clear that the Levitical priests would have tracked a unique cycle of 7 full weeks (or lunar weeks), a collection of Hebrew axioms and formulas for resolving the courses of the Earth and Moon are available for modern analysis. This ancient collection is represented in passages of a rediscovered manuscript attributed to Enoch (one of the Bible patriarchs). In fact, an entire section of the Enoch literature (from chapter 71 to chapter 82) has a focus upon "the revolutions of the heavenly luminaries". (The cited portion of text that attempts to mathematically quantify the spin and orbital phenomenon is known as Enoch's astronomical book).

The content of the collection attributed to Enoch is rather unique in that a rather comprehensive description of tracking time stations is embedded in the astronomical section.

Early-held knowledge of the location of time stations for both the Sun and the Moon seems very apparent from the following selected portions of '***The Ethiopian Enoch***', by Laurence:

> *[Chapter 71:] "The book of the revolutions of the luminaries of heaven, according to . . . their respective periods . . . and their respective months . . . [Skipping to Chapter 73:] . . . I beheld their stations . . . according to the fixed order of the months the Sun rises and sets . . .* ***thirty days belonging to the Sun*** *. . . The Moon brings on all the years exactly, that their stations may come neither too forwards nor too backwards a single day; but that the years may be changed with correct precision . . .* ***The year then becomes truly complete according to the station of the Moon*** *. . . ".*

From the Enoch literature, it is apparent that the ancients did once time track a "station" of the Sun—probably in association with a cycle of 30 days. Portions of text from the astronomical book also make it clear that a "station to the Moon" was time tracked inside of the year cycle. In essence, in addition to a station of the Sun, Enoch's astronomical book also describes an associated station of the Moon.

> *"The year then becomes truly complete according to the station of the Moon, and the station of the Sun" (ibid.).*

SIGNIFICANCE OF THE LUNAR WEEK

According to the astronomical book, in addition to a station of the Sun, a station of the Moon also belongs among (pertains to) the revolutions of the heavenly luminaries.

Thus, the detail given for time stations indicates that some among the ancients held knowledge of an effective method for tracking each annual return (the year cycle). Of significance here is that Enoch's axiom for metering the year cycle was stated only in terms of the revolution of two time stations:

1. A day or station defined by the Moon.
2. A day or station defined by the Sun.

Of additional significance is that other portions of the Enoch literature indicate the cited station or day of the Moon might have been tracked in place, or in position, with a sequence of the lunar quarters. This positioning of a station or day of the Moon in correspondence with a cycle of the lunar-quarter phases is easy to interpret from the following portions of the cited astronomical book:

> *"(Chapter 72: verse 3) . . . [the Moon's] light is a seventh portion from the light of the Sun . . . . (verse 6) Half of it is in extent seven portions . . . its light is by sevens . . . (verse 8-10) On that night, when it commences its period . . . it is dark in its fourteen portions . . . During the remainder of its period its light increases to fourteen portions [or the Moon's light increases to fourteen portions] . . . (Chapter 73: verse 4) In each of its two seven portions it completes all its light [or the Moon reaches the phase of full illumination in two seven portions] ." (ibid.).*

A more in depth research of Enoch's astronomical book leads to the ultimate conclusion that the cited station or day of the Moon was probably tracked in association with a cycle of 7 lunar quarters or 7 lunar weeks. The clue to coming up with a more explicit definition of the station of the Moon from the astronomical book can seemingly be found in Chapter 73 in the portion of text that provides detail of the Moon and its lag of 50 days. (*"To the Moon alone . . . it has fifty days . . . "*).

It can thus ultimately be interpreted that primal priest-astronomers did once reckon lunar weeks and were knowledgeable of a station or day of the Moon (in addition to the cited station of the Sun). The station of the Moon appears to have been tracked in correspondence with a time-span of 7 lunar quarters or 7 lunar weeks.

TIME STATION MAP OF ENOCH

Lunar quarter 1 (lunar week 1)
Lunar quarter 2 (lunar week 2)
Lunar quarter 3 (lunar week 3)
Lunar quarter 4 (lunar week 4)
Lunar quarter 5 (lunar week 5)
Lunar quarter 6 (lunar week 6)
Lunar quarter 7 (lunar week 7)

---

1 day is accounted to be separate in each 7-week cycle (a lunar station).

The description of a station or a day of the Moon from the Enoch texts is then significant and tends to indicate the early use of the following axiom or time formula:

The revolutions of the heavenly luminaries define a station or day that pertains to the Moon. This station or day reoccurs in a cycle of 7 lunar weeks (an endless rate).

Of significance here is that each year cycle (year . . . after year . . . after year . . .) can be correlated to a day count that does never vary as long as those days that reoccur in the position of each 7th lunar week are leaped over (or are not counted).

Note that if the count of one day in each pentecontad cycle of 7 lunar weeks is eternally accounted for (as separate from the other days) then this respective count is inherently equal to 7.0676 days per year (as previously has been shown). In addition, if the count of one day in each month of 30 days is forever accounted for (as separate from other days) then this respective count is inherently equal to 12.17474 days per year (as an average rate). These two rates of set-apart days (or time stations) are then equal to an average rate of 19.24232 days per year. Thus, if 19.24232 days per year (on the average) are tracked apart from all other days that comprise the time stream then the length of each passing solar year can effectively be measured and metered out in correspondence with a number count that is always equal to 346.000 of the other days.

It is then clear that the turn of each tropical year can exactly be defined (as an average definition) in the context of nothing more

than forever tracking a station of the Sun (each 30th day) and also eternally tracking a station of the Moon (at every 7th lunar week). In essence, within the context of both monthly and weekly renewals, each passing tropical year (which is 365.24 days in length) does always revolve and turn in perfect pace with an identical number count of day units (346 days). To be completely specific, an accounting of 346 days with the addition of renewal days (19.24 days) inherently results in an average day count that is exactly equivalent to the length of the annual circle or year.

Thus, in summary to tracking time stations, certain among the axioms and time formulas written down in Enoch's astronomical book are remarkably accurate. The solar circle (365.24219 days) inherently does contain a station or day of the Sun (a perpetual rate of one in a 30-day cycle) and also a station or day of the Moon (a perpetual rate of one in a cycle of 7 lunar weeks).

A given conclusion from the indicated annual interface is that the lunar week was counted out for a primary purpose of determining months, seasons, and years. Likewise, the lunar week appears to have been accounted for in the determination of long cycles of years in 7 sets (as previously diagrammed).

> *The Enoch literature appears to remarkably describe that the rate of each passing tropical year can effectively be measured and metered out within the context of only two eternal time cycles (of the Moon, and of the Sun). For more information about the historical track of time stations, refer also to the subsequently presented Chapters 14 and 15.*

6

A SABBATH COUNT . . .

A number of passages of ancient Hebrew literature tend to further indicate that the Levitical priesthood would have celebrated liturgy in pace with the turn of the lunar week.

Of significance here is the historical record rather clearly reflects that the priests understood the lunar week within the context of defining a series of harvest rests—where 7 full Sabbaths were accounted for to memorialize the production of grain, wine, and oil. (For pertinent information of the 7-weeks count, refer to the previous chapter).

The production of grain, wine, and oil in pace with the turn of the lunar week is perhaps most graphically shown in the following passage of '***The Special Laws***':

> *"[The Moon] receives the perfect shapes in periods of 7 days . . . [and] helps to ripen fruits; grain and*

wine and oil . . . " . (This passage from Part 1 was written at about the beginning of the Common Era by Philo Judaeus, translation based upon Yonge).

As far as the scribe (or count) of 7 harvest rests, or 7 Sabbaths, perhaps the best example can be recited from passages of Leviticus—where in Chapter 23 of the Hebrew version, a 7-weeks count was described to begin or to commence with 'mochorath h+shabbath' (which is presumed to mean the morrow of the Sabbath):

"Your scribe or number ('caphar') must extend from the morrow ('mochorath') to the Sabbath (h+shabbath) . . . " (Leviticus 23:15).

From this beginning or origin, it was essential that a number count encompass a time span equal to 7 whole Sabbaths:

" . . . 7 Sabbaths shall be whole or entire . . . ". (Note here that the Hebrew Bible includes the word 'tamiym' to designate a Sabbath that is wholly or fully counted).

A new ('chadesh') offering was ultimately presented on the next 'mochorath' after 50 numbered days. (Only after a full or a complete count of 7 weeks had been accomplished was a special renewal day celebrated).

Then, in consideration that celestial time stations were once time tracked, the time interval between each span of 50 numbered days (as shown in Leviticus) appears to have been predicated upon a count of 7 lunar weeks.

SIGNIFICANCE OF THE LUNAR WEEK

The previously cited record of Flavius Josephus is more graphic than Leviticus in showing when the harvest count would have began:

> *" . . . on the 16th day [of the 1st lunar month] . . . they offer the firstfruits of their barley . . . and after this it is that they may publicly or privately reap their harvest . . . When a week of weeks has passed over after this sacrifice, (which weeks contain forty-nine days,) on the fiftieth day, which is Pentecost, but is called by the Hebrews ASARTHA, WHICH SIGNIFIES PENTECOST, they bring to God a loaf, made of wheat flour, of two tenth deals, WITH LEAVEN; and for sacrifices they bring two lambs; and when they have only presented them to God, they are made ready for supper for the priests; nor is it permitted to leave anything of them till the day following. They also . . . [present] a burnt offering . . . for sins; nor is there anyone of the festivals, but in it [= 'Number 50'] they offer burnt offerings; they also allow themselves to rest [hold Sabbath] on everyone of them. Accordingly, the law prescribes in them all what kinds they are to sacrifice, and how they are to rest entirely, and must slay sacrifices, in order to feast upon them. However, out of the common charges, baked bread [was set on the table of showbread], WITHOUT LEAVEN . . . they were baked the day before the Sabbath, but were brought into the holy place on*

*the MORNING OF THE SABBATH, and set upon the holy table, six on a heap, one loaf still standing opposite one another . . . and there they remained till another Sabbath, and then other loaves were brought in their stead, while the loaves were given to the priests for their food, and the frankincense was burnt in that sacred fire wherein all their offerings were burnt also; and so other frankincense was set upon the loaves instead of what was there before . . . " ('**Antiquities of the Jews**', Whiston, Book 3, Chapter 10, 5-7)..*

Clear from the writings of Josephus is that the harvest count would have began on a day AFTER a full phase of the Moon. The 1st-century record thus points right to the day when Pentecost would have then been observed. (A given conclusion from the counts shown is that Pentecost would have been celebrated at the turn of a lunar quarter or lunar week).

Unlike the record of Leviticus which shows a specific count of "Sabbaths" relative to time of observing Pentecost, the above quoted portion from Josephus does not spell out that an accounting of Sabbaths was performed by the priests. Instead, the Josephus record shows that Pentecost was "called by the Hebrews ASARTHA, which signifies Pentecost".

This passage is significant in the regard that other portions of the Hebrew record do clearly show that the occasion of an Asartha would have been understood to correspond with the time of a quarter phase of the Moon. The historical usage of the term "asartha" (or "atsereth") thus tends to prove that the harvest

schedule of the Temple would have been predicated upon an accounting of lunar-quarter weeks (and not a count of the regular week).

To here be more specific, the observance of Asartha (or Atsereth) can be recited several times from passages of the Hebrew Bible.

An example, of the holding of a fasting assembly (Atsereth) is shown within a passage of the book of Joel—as follows:

> *"Sanctify ye a fast, call a solemn assembly [or Atsereth] " (refer to Joel 1:14 and 2:15). [Note here that for the duration of Atsereth—an all-night vigil would have also been observed—as is shown in the subsequently presented chapter.]*

Further examples of the holding of an Asartha (or Atsereth) can be recited from certain chapters of the Bible. In example, an Hebrew festival that from year-to-year was celebrated on the 15th day of the 7th lunar month is shown to have mandated the celebration of an Atsereth—as follows:

1. *"Also day by day, from the first day unto the last day, he read in the book of the law of God. And they kept the feast 7 days; and on the 8th day was an ATSERETH, according unto the manner." (refer to Nehemiah 8:18).*
2. *"7 days ye shall offer an offering . . . on the 8th day shall be an holy convocation unto you . . . it is an ATSERETH; and ye shall do no servile work therein." (refer to Leviticus 23:36).*

3. *"On the 8th day ye shall hold an ATSERETH: ye shall do no servile work therein" (refer to Numbers 29:35).*
4. *"And in the 8th day they held an ATSERETH: for they kept the dedication of the altar 7 days, and the feast 7 days." (refer to 2nd Chronicles 7:9).*
5. *In the last day, that great day of the feast, Jesus stood and cried, saying, If any man thirst, let him come unto me, and drink.*

Of significance here is that the celebration of a 7-day festival is noted to have commenced on the 15th day of the lunar month, and an Atsereth is subsequently shown to have been held on the 8th day [= the 8th day of a count that began on the 15th day of the Moon]. This then has to mean a 'sacred assembly' (Atzereth) would inherently have been held at the turn of a quarter phase of the Moon.

An Atsereth can also be recited to have routinely been held in the 1st lunar month. This respective instance is likewise shown to have been held at the turn of a quarter phase of the Moon:

6. *" . . . On the 7th day shall be an ATSERETH to the LORD thy God: thou shalt do no work therein." (Deuteronomy 16:8)*

Note that because this respective day count is shown to have began just after the middle of the lunar month then the subsequent holding of an Atsereth would have also paced a lunar quarter.

The given evidence then is that the term: Asartha, or Atsereth, was primally understood to pertain to the celebration of a solemn Sabbath. A fast is shown to have been observed in association

with the keeping of Atsereth. In addition, the holding of an Atsereth is invariably shown in line with the turn of the lunar quarter.

Thus, from those historic records that pertain to the observance of Asartha, and from the associated calendar counts given for the time of the Feast of Weeks, it can rather firmly be established that the Sabbath count leading to Pentecost was predicated upon a count of the lunar week (and not a count of the 7-day week).

7

A SACRED ASSEMBLY . . .

The current chapter has a focus upon the routine convening of a sacred assembly among adherents of the Temple system. Of significance here is that each of the Sabbaths that pertained to the 'count-50-cycle' appear to have been understood to stand in the rank of a minor, or a lesser, Sabbath.

The cited tradition of celebrating an Asartha Sabbath can be recited from passages of literature that were circulated in the Temple era—as follows:

> *"He created the sun and the moon and the stars . . . to rule over the day and the night . . . the sun [was appointed] to be a great sign on the earth for days and for sabbaths and for months . . . the 7th day [was made] holy . . . that day is more holy and blessed than any jubilee day of the*

*jubilees . . ." ('**The Book of Jubilees'**, Chapter 2, translation by R.H. Charles).*

It is here significant that an unmistakable reference to the celebration of 'count-50-days' or 'jubilee days' was made by the author. A given conclusion from this historic passage of text is that even though the 7th day was interpreted as "more holy . . . than any jubilee day of the jubilees", some certain significance surrounding the Atsereth appears to have well been understood.

Of related significance here is that a passage from '***The Decalogue***' (by Philo Judaeus) pertains to information and knowledge of Sabbath time that was held from prior to the turn of the Common Era. The more holy of the Sabbath rests; according to the respective Jewish author; appears to have been defined by the lunar week:

"The fourth commandment [= of the Ten Commandments] has reference to the sacred 7th day, that it may be observed in a sacred and holy manner. Now some regions keep a HOLY FESTIVAL once in the month cycle [and then] count from the new Moon each SACRED DAY to God; but the region of Judea keeps every 7th day regularly, after each interval of 6 days . . . " (my paraphrase).

The record of history thus tends to indicate that some among the primal Hebrews would have interpreted a resting period (or a Sabbath) right in pace with each passing lunar quarter (on the 7th day of every lunar week).

This early-held understanding about the annual harvest being conducted in line with a series of Sabbath rests is also mirrored from writings attributed to a Hebrew philosopher named Aristobulus (3rd century BCE):

> *". . . the whole world of living creatures, and of all plants that grow, revolves in sevens. And its name 'Sabbath' is interpreted as meaning 'rest'". (Quote borrowed from Gifford's translation of '**Praeparatio Evangelica**', Book 13)*

Of significance here is the rest (or the Sabbath) of the lunar week appears to have mainly been celebrated throughout the evening hours. In addition, the celebration of the lunar Sabbath mandated an all night vigil (as is further shown below). (During the vigil of the lunar Sabbath, certain foods were avoided; and in particular, meat and intoxicating beverages were refrained from).

The celebration of a vigil in association with '50 count' can especially be recited from passages of '***de Vita Contemplativa***' or '***The Contemplative Life***'. (This treatise was written by Philo Judaeus at about the beginning of the Common Era). The respective report has a large focus upon the liturgical practices of a communal group known as the Therapeutae or the Healers. This movement was described to have abandoned commercial enterprise in a fuller pursuit of religious study and prayer—as follows:

> *" . . . [Therapeutae] may be met with in many places . . . [in] both Greece and the country of the barbarians . . . and there is the greatest number of such men in Egypt. And in every house there is a*

sacred shrine which is called the holy place, and the monastery in which they retire by themselves and perform all the mysteries of a holy life, bringing in nothing, neither meat, nor drink, nor anything else which is indispensable towards supplying the necessities of the body, but studying in that place the laws and the sacred oracles of God enunciated by the holy prophets . . . these men assemble at the end of 7 weeks, venerating NOT ONLY the simple week of seven days . . . it is a prelude and a kind of forefeast of the greatest feast, which is assigned to the number 50 . . . they come together clothed in white garments . . . they sit down to meat standing in order in a row, and raising their eyes and their hands to heaven . . . they pray to God that the entertainment may be acceptable, and welcome, and pleasing; and after having offered up these prayers the elders sit down to meat, still observing the order in which they were previously arranged . . . And the women also share in this feast . . . And the order in which they sit down to meat is a divided one, the men sitting on the right hand and the women apart from them on the left . . . [They sit on] rugs of the coarsest materials, cheap mats of the most ordinary kind of the papyrus of the land . . . And in those days wine is not introduced, but only the clearest water; cold water for the generality, and hot water for those old

men who are accustomed to a luxurious life. And the table, too, bears NOTHING WHICH HAS BLOOD, but there is placed upon it bread for food and salt for seasoning, to which also hyssop is sometimes added as an extra sauce for the sake of those who are delicate in their eating . . . [A sermon is delivered, and when] the president appears to have spoken at sufficient length . . . applause arises from them all as of men rejoicing together at what they have seen and heard; and then some one rising up sings a hymn . . . then they all, both men and women, join in the hymn . . . then the young men bring in the table which was mentioned a little while ago, on which was placed that MOST HOLY food, the leavened bread, with a seasoning of salt, with which hyssop is mingled, out of reverence for the sacred table, which lies thus in the holy outer temple; for on this table are placed loaves and salt without seasoning, and the bread is unleavened, and the salt unmixed with anything else, for it was becoming that the simplest and purest things should be allotted to the most excellent portion of the priests, as a reward for their ministrations, and that the others should admire similar things, but should abstain from the loaves, in order that those who are the more excellent person may have the precedence. And after the feast they celebrate the SACRED FESTIVAL

during the whole night; and this NOCTURNAL FESTIVAL is celebrated in the following manner: they all stand up together, and in the middle of the entertainment two choruses are formed at first, the one of men and the other of women, and for each chorus there is a leader and chief selected, who is the most honourable and most excellent of the band. Then they sing hymns which have been composed in honour of God in many metres and tunes, at one time all singing together, and at another moving their hands and dancing in corresponding harmony, and uttering in an inspired manner songs of thanksgiving, and at another time regular odes, and performing all necessary strophes and antistrophes. Then, when each chorus of the men and each chorus of the women has feasted separately by itself, like persons in the bacchanalian revels, drinking the pure wine of the love of God, they join together, and the two become one chorus, an imitation of that one which, in old time, was established by the Red Sea, on account of the wondrous works which were displayed there; for, by the commandment of God, the sea became to one party the cause of safety, and to the other that of utter destruction . . . When the Israelites saw and experienced this great miracle, which was an event beyond all description, beyond all imagination, and beyond all hope, both

men and women together, under the influence of divine inspiration, becoming all one chorus, sang hymns of thanksgiving to God the Saviour, Moses the prophet leading the men, and Miriam the prophetess leading the women. Now the chorus of male and female worshippers being formed, as far as possible on this model, makes a most humorous concert, and a truly musical symphony, the shrill voices of the women mingling with the deep-toned voices of the men. The ideas were beautiful, the expressions beautiful, and the chorus-singers were beautiful . . . [staying] till morning, when they saw the sun rising they raised their hands to heaven, imploring tranquillity and truth, and acuteness of understanding. And after their prayers they each retired to their own separate abodes . . . This then is what I have to say of those who are called Therapeutae, who have devoted themselves to the contemplation of nature, and who have lived in it and in the soul alone, being citizens of heaven and of the world, and very acceptable to the Father and Creator of the universe because of their virtue, which has procured them his love as their most appropriate reward, which far surpasses all the gifts of fortune, and conducts them to the very summit and perfection of happiness" (translation borrowed from Yonge).

Of significance about this religious movement is that adherents (before the turn of the Common Era) were described to have assembled "in many places". At the 7th week, an all night vigil appears to have routinely been held. The bread and water that was served during the evening banquet was understood to represent "most holy food", and the bread that was eaten is shown to have been mingled with hyssop out of reverence for the sacred table in the vestibule of the Temple.

In reference to the set of religious liturgy subscribed to among the Therapeutae, the holding of a vigil in association with '50 count' can also be recited from the almost contemporary record of Acts:

> *"And in the day of the Pentecost [50 count] being fulfilled, they were all with one accord at the same place . . . " (Acts, Chapter 2).*

The Pentecost event recorded in the book of Acts shows that festival keepers were gathered before "the third hour"—or before 9 o'clock in the morning. The chronology that is given thus implies either a very early morning assembly, or more probably, an evening vigil. In either case, a rather large assemblage of festival keepers is indicated to have been up and about and assembled before 9 o'clock on the Sabbath morning.

Josephus likewise noted that Temple priests who were contemporary with the era of the late 2nd Temple followed a prescribed set of religious liturgy. Of significance here is that the commemoration of the 'number-50 feast' is shown to have required the enactment of predawn ceremony:

> *" . . . at that feast which we call 'Pentecost' as the priests were going by night into the inner temple as*

their custom was, to perform their sacred ministrations . . . ". (Quote borrowed from Whiston's translation of Wars, Bk.6:5:3).

The ancient custom of routinely celebrating an all night vigil at the distance of 7 weeks—even in modern times—continues to be celebrated among priests of the Falasha or Ethiopian Jews. For additional information of this priestly vigil, refer to 'The Liturgy of the Seventh Sabbath: a Beta Israel (Falasha) text', by Monica Davis. (Note: The Beta Israel custom is celebrated in association with the traditional 7-day week—not in association with the lunar week).

The indicated assembly for the all night banquet (Asartha) appears to mirror a rather similar all night assembly that is described in the following portion of the New Testament:

"And upon the One-to-the-Sabbaths [or Greek: Mia twn Sabbatwn], when the disciples came together to break bread, Paul preached unto them, IN EXPECTATION (observance) of the coming of morning; and continued his speech until midnight . . . When he . . . had broken bread, and eaten, and talked a long while, even till break of light had come, they brought the young man . . . " (refer to the Greek language version of Acts, Chapter 20: verses 7-12).

Note that because this assembly was held on the One-to-the-Sabbaths then it is somewhat probable that this event was celebrated in association with the renewal of lunar weeks (or the renewal of months). Of related significance is that several

instances of this peculiar date 'Mia twn Sabbatwn' [= the One-to-the-Sabbaths] can be recited from New Testament accounts that have detail of the resurrection of Jesus.

In the context of the Temple Era, the cited 'One-to-the-Sabbaths' can be recognized to represent a festival that paced the Moon's synodic orbit. As an example, this lunar feast [= echd b+shbt] can be recited from passages of the sea-scroll literature. The Christian celebration of a feast in line with a lunar schedule (One-to-the-Sabbaths) can additionally be recited from ***'The Stromata'****, by* Clement of Alexandria (c. 2nd century CE).

> *[Peter] inferred thus: "Neither worship as in Judea . . . for in not viewing the Moon, they do not hold the Sabbath, which is called the ONE; nor do they hold the new Moon, nor the feast of unleavened bread, nor the feast, nor the great day." (my paraphrase of the fifth chapter).*

An early Christian bishop who presided at Jerusalem (Nazianzen) wrote of early Hebrews and Christians tracking and celebrating Sabbath time in the context of a 50 count—as follows:

> *"The Hebdomads of days give birth to Pentecost, a day called HOLY . . . and those of years to . . . the Jubilee . . . For seven being multiplied by seven generates fifty all but one day, which we [Christians] borrow from the world to come, at once the Eighth and the first, or rather one and indestructible. For the present sabbatism of our souls can find its cessation there, that a portion [of*

> *Sabbath time] may be given to seven and also to eight . . . " ('**Oration XLI: On Pentecost**', II).*

The Christian celebration of an evening rest can, in fact, be recited from Christian literature written as late as the 4th century CE. As an example, Eusebius of Caesarea described how mainstream Christians of his day observed a night vigil in correspondence with a great festival—as follows:

> *"[Christians observe] a mode of life which has been preserved to the present time by us alone [or by the Christians alone] . . . especially the vigils kept in connection with the great festival, and the exercises performed during those vigils . . . [The customs demand] no wine at all, nor any flesh, but water is their only drink, and the relish with their bread is salt and hyssop". ('**Church History, Book II**').*

The peculiar vigil held by Christians at the occasion of a "great festival" was also noted by Eusebius to have been a very ancient custom—and THE SAME custom as was adhered to by the Therapeutae.

In the centuries that ensued the destruction of the Temple, the several descriptions of Christians celebrating an EVENING Sabbath (or Asartha) then surely do indicate a continuation of the traditions of former priests.

The cited custom of holding an evening banquet where "most holy food" was served is mirrored from a certain passage of the Colossian's letter—as follows:

> *"Therefore do not let anyone condemn you in matters of food and drink or of observing festivals, new moons, or sabbaths" (refer to chapter 2:16).*

Of significance here is that primal Christians are no where shown to have assembled for religious services by any schedule other than was subscribed to by priests who flourished in the era of the Temple. This then means that the cited set of liturgy that pertained to a Sabbath night of rest (and the eating of holy food) would surely have been followed by the earliest of the Christian converts.

The ancient tradition of having restricted diet during holy evenings is also rather well mirrored from 2nd-century writings attributed to Justin Martyr. Of significance here is that adherence to a Sabbath ritual with unleavened bread can be deduced from a certain passage of '***Dialogue with Trypho***':

> *"The new law requires you to keep perpetual Sabbath, and you, because you are idle for one day, suppose you are pious, not discerning why this has been commanded you: and if you eat unleavened bread, you say the will of God has been fulfilled."*

The indication that a Sabbath commandment to abstain from foods of flesh (meat) was followed among the ancients is also mirrored from passages of '***The Shepherd of Hermas***'. This 1st century publication is unusual in showing the enactment of liturgy in pace with a 'time station':

> *"[Parable 5:] As I was fasting . . . in the early morning . . . keeping a station . . . [A shepherd*

told me] "You know not . . . how to fast unto the Lord . . . I will teach you what is a complete fast and acceptable to the Lord . . . If then, while you keep the commandments of God, add these services likewise . . . First of all, keep yourself from every evil word and every evil desire, and purify your heart from all the vanities of this world. If you keep these things, this fast shall be perfect for you. And thus shall you do. HAVING FULFILLED WHAT IS WRITTEN ON THAT DAY ON WHICH YOU FAST YOU SHALT TASTE NOTHING BUT BREAD AND WATER; and from your meats, which you would have eaten, you shalt reckon up the amount of that day's expenditure, which you would have incurred, and shall give it to a widow, or an orphan, or to one in want, and so shall you humble your soul, that he that has received from your humiliation may satisfy his own soul, and may pray for you to the Lord. If then you shall so accomplish this fast, as I have commanded you, your sacrifice shall be acceptable in the sight of God, and this fasting shall be recorded; and the service so performed is beautiful and joyous and acceptable to the Lord. These things you shall so observe, you and your children and your whole household; and, observing them, you shall be blessed; yes, and all those, who shall hear and observe them, shall be

blessed, and whatsoever things they shall ask of the Lord, they shall receive."

It here seems pertinent to note that by the time of the 4th century, Christian assemblies began to use the planetary week cycle. Consequently, all of the Christian holy-day festivals were eventually rescheduled to follow a hebdomad itinerary. More original converts would likely have minimally observed a 'station day' in pace with each of the quarters per lunar month (as cited). This perhaps explains the later Christian tradition of holding a fasting station on each quarter day (4th day) amid the planetary week cycle.

The Christian adherence to "days of Stations" can further be detected from the contents of a treatise entitled: '***On Prayer***'. The authorship of this document is attributed to the 2nd century bishop: Tertullian. Of course, it is somewhat doubtful that the entirety of the text that comprises the current document could have been penned by the original author. The following notation about 'standing' before God's Altar is somewhat unusual in comparison with other Christian literature in that the author of this text explores a possible meaning for the word 'statio' [Latin]:

“Of Stations—Similarly, too, touching the days of Stations, most think that they must not be present at the sacrificial prayers, on the ground that the Station must be dissolved by reception of the Lord's Body. Does, then, the Eucharist cancel a service devoted to God, or bind it more to God? Will not your Station be more solemn if you have withal stood at God's altar? When the Lord's Body has

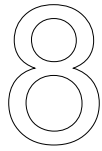
been received and reserved each point is secured, both the participation of the sacrifice and the discharge of duty. If the "Station" has received its name from the example of military life 'for we withal are God's military' of course no gladness or sadness chanting to the camp abolishes the "stations" of the soldiers: for gladness will carry out discipline more willingly, sadness more carefully . . . Prayer is the wall of faith: her arms and missiles against the foe who keeps watch over us on all sides. And, so never walk we unarmed. By day, be we mindful of Station; by night, of vigil. Under the arms of prayer guard we the standard of our General; await we in prayer the angel's trump . . . ".

Writings attributed to the same 2nd century bishop (Tertullian) do furthermore expound upon the Christian tradition of observing stations. The custom among primal Christians of periodically abstaining from certain foods is especially manifested from the contents of a treatise entitled: '***On Fasting—In Opposition to the Psychics***':

" . . . [Psychics allow repeated marriages, and they hate to fast. However, spiritual discipline requires] reins upon the appetite, through taking, sometimes no meals, or late meals, or dry meals . . . They charge us with keeping fasts of our own . . . Being, therefore, observers of "seasons" for these things, and of "days, and months, and years," we

Galaticize. Plainly we do, if we are observers of Jewish ceremonies, of legal solemnities: for those the apostle unteaches, suppressing the continuance of the Old Testament which has been buried in Christ, and establishing that of the New. But if there is a new creation in Christ,' our solemnities too will be bound to be new: else, if the apostle has erased all devotion absolutely "of seasons, and days, and months, and years," why do we celebrate the passover by an annual rotation in the first month? Why in the 50 ensuing days do we spend our time in all exultation? Why do we devote to Stations . . . of the week(s), and to fasts . . . ". (my paraphrase, translation borrowed from S. Thelwall).

Again, there are indications that texts attributed to Tertullian (c. 2nd-century) have been redacted by subsequent scribes. Even so, the cited "devotion to Stations" by the Montanist assemblies seems to have been understood in the context of liturgy subscribed to in an earlier era by the Levitical priesthood.



A LASTING COVENANT . . .

The previous chapter has cited certain historical references in substantiation of an hypothesis that Temple adherents routinely participated in a sacred vigil. The enactment of specific liturgy in pace with a lunar-week schedule raises a number of questions about the origin of the respective custom.

Clearly, the depicted period of an evening vigil was understood to represent time that was holy:

> *"[Adherents meet together] . . . the young men bring in the table . . . on which was placed that MOST HOLY food, the leavened bread, with a seasoning of salt, with which hyssop is mingled, out of reverence for the sacred table, which lies thus in the holy outer temple . . . And after the feast they celebrate the SACRED FESTIVAL during the whole*

*night . . . " ('**The Contemplative Life**', Philo Judaeus, translation borrowed from Yonge).*

But which one of the laws that are recorded throughout the books of the Bible can even come close to defining an all night gathering?

The Sabbath law that is stated to have been penned by God and given to Israel (through Moses) is rather explicit in its definition of a resting day—as follows:

"Six days may work be done; but in the seventh is the sabbath of rest, holy to the LORD . . . the children of Israel shall keep the sabbath, to observe the sabbath throughout their generations, for a perpetual covenant . . . And he gave unto Moses, when he had made an end of communing with him upon mount Sinai, two tables of testimony, tables of stone, written with the finger of God."

Thus, there is no clear evidence that shines from out of the Mosaic law that pertains to the celebration of a Holy Evening. The commandment that is recorded did only stipulate that "in the 7th is the Sabbath".

According to a passage written within '***The Book of Jubilees***', the command to work 6 days and then to keep a Sabbath on the 7th day was a tenet known only to the "Angels of the Presence" and also to the "Angels of Sanctification". Furthermore, sanctification was shown to have exclusively been granted to the nation of Israel. In essence, it was understood by the author (or authors) of '***The Book of Jubilees***' (c. 150 BCE) that the Heavenly Hosts had sanctified only Israel to celebrate the 7th day:

" . . . He gave us a great sign, the Sabbath day, that we should work six days, but keep Sabbath on the seventh day from all work. And all the Angels-of-the-Presence, and all the Angels-of-Sanctification, these two Great Classes—He hath bidden us to keep the Sabbath with Him in heaven AND ON EARTH. And He said unto us: 'Behold, I will separate unto Myself a people from among all the peoples, and these shall keep the Sabbath day, and I will sanctify them unto Myself as My people. . . And thus He created therein a sign in accordance with which they should keep Sabbath with us on the seventh day, TO eat and to drink, and to bless Him who has created all things as He has blessed and sanctified unto Himself a peculiar people above all peoples, and that they should keep Sabbath together with us . . . Wherefore do thou command the children of Israel to observe this day that they may keep it holy and not do thereon any work, and not to defile it, AS IT IS HOLIER than all other days . . . that day is more holy and blessed than any jubilee day of the jubilees . . . he did not sanctify ALL PEOPLES AND NATIONS to keep Sabbath thereon, but Israel alone: THEM ALONE he permitted to EAT and DRINK and to keep Sabbath thereon on the earth . . . " (Chapter 2, translated by Charles).

Passages from period literature do then stress the significance of keeping the 7th day as a holy Sabbath on the part of Israel. But, why did contemporary adherents of the Temple also interpret the celebration of a minor Sabbath that was "less holy" and "less blessed" than a more major Sabbath.

The most plausible explanation for the holding of a solemn assembly (Atsereth) is probably that this Temple-Era custom was understood to pertain to a covenant that predated the time of Moses. To be more specific, portions of the Genesis record can be recited to substantiate early-held knowledge of a pre-flood covenant—as follows:

> *"[Chapter 6] . . . [A flood will] destroy all flesh, wherein is the breath of life, from under heaven; and every thing that is in the earth shall die. But with thee will I [= God] establish MY COVENANT; and thou shalt come into the ark, thou, and thy sons, and thy wife, and thy sons' wives with thee. And of every living thing of all flesh . . . shalt thou bring into the ark, to keep them alive . . . ".*

This Divine covenant—given to the nations—is listed again in greater detail in the following portion of the 8th chapter:

> *"Noah builded an altar unto the LORD . . . and offered burnt offerings on the altar. And the LORD smelled a sweet savour . . . and the LORD said while the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease. And God blessed Noah and his sons, and said unto them, Be fruitful,*

and multiply, and replenish the earth . . . Every moving thing that liveth shall be meat for you . . . But flesh with the life thereof, which is the blood thereof, shall ye not eat . . . And God spake unto Noah, and to his sons with him, saying, And I, behold, I establish my covenant with you . . .

The Genesis account of cataclysm on earth is quite similar to Babylonian records that describe a flood event.

"The Babylonian account of the Deluge in many points closely resembles that of the Bible. Four cuneiform recensions of it have been discovered, of which, however, three are only short fragments. The complete story is found in the Gilgamesh epic (Tablet xi) discovered by G. Smith among the ruins of the library of Assurbanipal in 1872. Another version is given by Berosus. In the Gilgamesh poem the hero of the story is Ut-napishtim (or Sit-napishti, as some read it). surnamed Atra-basis "the very clever"; in two of the fragments he is simply styled Atra-basis, which name is also found in Berosus under the Greek form Xisuthros. The story in brief is as follows: A council of the gods having decreed to destroy men by a flood, the god Ea warns Ut-napishtim, and bids him build a ship in which to save himself and the seed of all kinds of life. Ut-napishtim builds the ship (of which, according to one version, Ea traces the plan on the ground), and places in it his family, his dependents,

*artisans, and domestic as well as wild animals, after which he shuts the door. The storm lasts six days; on the seventh the flood begins to subside. The ship steered by the helmsman Puzur-Bel lands on Mt. Nisir. After seven days Ut-napishtim sends forth a dove and a swallow, which, finding no resting-place for their feet return to the ark, and then a raven, which feeds on dead bodies and does not return. On leaving the ship, Ut-napistim offers a sacrifice to the gods, who smell the goodly odor and gather like flies over the sacrificer. He and his wife are then admitted among the gods. The story as given by Berosus comes somewhat nearer to the Biblical narrative . . . " ('**The Original Catholic Encyclopedia**').*

In the cited cuneiform record, Ut-napishtim was warned of impending destruction by a god named Ea. (Of interest here is that the Babylonian deity titled as Ea can be recognized to have a name very similar in sound to that of the Biblical God: YHWH). Upon escaping death, Ut-napishtim [= the Chaldean Noah] is shown to have sacrificed to the gods—as follows:

"I sent forth to the four winds,
I poured out a libation
I made an offering on the peak of the mountain:
SEVEN AND SEVEN I set incense-vases there,
Into their depths I poured cane, cedar, scented wood.
The gods smelled a savour,
The gods smelled a sweet savour,

The gods gathered like flies over the sacrificer."

*('**The Religion of Babylonia and Assyria**', Pinches)*

Thus, one of the oldest of all religious ceremonies in recorded history is attributed to the Bible patriarch Noah—whose name means rest. In the Babylonian record the sacrificial ceremony was carried out by Ut-napishtim—whose name means life.

Additional perspective concerning God's covenant with Noah can be gained from '***The Book of Jubilees***'—the previously cited Jewish document that was in circulation from prior to the Common Era:

> *"[Chapter 6] And on the new moon of the 3rd month he went forth from the ark, and built an altar on that mountain. And he made atonement for the earth . . . for everything that had been on it had been destroyed, save those that were in the ark with Noah. And he . . . placed a burnt sacrifice on the altar, and poured thereon an offering mingled with oil, and sprinkled wine and strewed frankincense over everything, and caused a goodly savour to arise, acceptable before the Lord. And the Lord smelt the goodly savour, and He made a covenant with him that there should not be any more a flood to destroy the earth; that all the days of the earth seed-time and harvest should never cease; cold and heat, and summer and winter, and day and night should not change their order, nor cease for ever. 'And you, increase ye and multiply upon the earth, and become many upon it, and be*

a blessing upon it. The fear of you and the dread of you I will inspire in everything that is on earth and in the sea. And behold I have given unto you all beasts, and all winged things, and everything that moves on the earth, and the fish in the waters, and all things for food; as the green herbs, I have given you all things to eat. But flesh, with the life thereof, with the blood, ye shall not eat; for the life of all flesh is in the blood, lest your blood of your lives be required. At the hand of every man, at the hand of every (beast) will I require the blood of man. Whoso sheddeth man's blood by man shall his blood be shed, for in the image of God made He man. And you, increase ye, and multiply on the earth.' And Noah and his sons swore that they would not eat any blood that was in any flesh, and he made a covenant before the Lord God for ever throughout all the generations of the earth in this month. On this account He spake to thee that thou shouldst make a covenant with the children of Israel in this month upon the mountain with an oath, and that thou shouldst sprinkle blood upon them because of all the words of the covenant, which the Lord made with them for ever. And this testimony is written concerning you that you should observe it continually, so that you should not eat on any day any blood of beasts or birds or cattle during all the days of the earth, and the man who eats the blood

of beast or of cattle or of birds during all the days of the earth, he and his seed shall be rooted out of the land. And do thou command the children of Israel to eat no blood, so that their names and their seed may be before the Lord our God continually. And for this law there is no limit of days, for it is for ever. They shall observe it throughout their generations . . . For this reason it is ordained and written on the heavenly tablets, that they should celebrate the feast of weeks . . . to renew the covenant . . . And do thou command the children of Israel to observe this festival in all their generations for a commandment unto them . . . they shall celebrate the festival. For it is the feast of weeks and the feast of first fruits: this feast is twofold and of a double nature: according to what is written and engraven concerning it, celebrate it. For I have written in the book of the first law, in that which I have written for thee, that thou shouldst celebrate it . . . and I explained to thee its sacrifices that the children of Israel should remember and should celebrate it throughout their generations . . . And all the children of Israel will forget and will not find the path of the years, and will forget the new moons, and seasons, and sabbaths and they will go wrong as to all the order of the years. For I know and from henceforth will I declare it unto thee, and it is not of my own

devising; for the book (lies) written before me, and on the heavenly tablets the division of days is ordained, lest they forget the feasts of the covenant . . . they will disturb (the order), and make an abominable (day) the day of testimony, and an unclean day a feast day, and they will confound all the days, the holy with the unclean, and the unclean day with the holy; for they will go wrong as to the months and sabbaths and feasts and jubilees. For this reason I command and testify to thee that thou mayst testify to them; for after thy death thy children will disturb (them) . . . and for this reason they will go wrong as to the new moons and seasons and sabbaths and festivals, and they will eat all kinds of blood with all kinds of flesh." (translation borrowed from Charles, my paraphrase).

The text quoted from '***The Book of Jubilees***' has been passed down from a time that reaches far back in recorded history. The topic material covered in this manuscript is significant in that a large focus upon the scheduling of festivals is maintained. It is obvious that the opinion of more than a single author is reflected from the various passages that are disparate. One presented view appears to be upon a calendar of lunar months, another of solar months, and yet another of weeks. Of additional significance about the content of this publication is that the original author of this manuscript was very much concerned that the eternal covenant made with the survivors of the flood would be forgotten in Israel.

This everlasting covenant between God and the nations (or Gentiles) is also mentioned in a prophecy recorded in the book of Isaiah—c. 750 BCE—as follows:

> *"The earth also is defiled under the inhabitants thereof; because they have transgressed the laws, changed the ordinance, broken the everlasting covenant [Hebrew: olam bereeth]. Therefore hath the curse devoured the earth, and they that dwell therein are desolate: therefore the inhabitants of the earth are burned, and few men left . . . " (AV text of Isaiah 24:5-6).*

More about the significance of this "eternal covenant" with the nations can be understood from passages written in the Talmud. (The Talmud defines modern Judaism, and even though it was written down centuries into the Common Era, the writings are largely based upon what was taught by more primal rabbis).

> *"According to Judaism, as expressed in the Talmud, the Noahide Laws apply to all humanity through mankind's descent from one paternal ancestor who in Hebrew tradition is called Noah (the head of the only family to survive during The Flood). In Judaism . . . the "Descendants of Noah" . . . refers to all of mankind. The Talmud also states: "Righteous people of all nations have a share in the world to come" (Sanhedrin 105a). Any non-Jew who lives according to these laws is regarded as one of "the righteous among the Gentiles" . . . According to the Biblical narrative,*

the Deluge covered the whole world killing every surface-dwelling creature except Noah, his wife, his sons and their wives, sea creatures, and the animals taken by Noah on Noah's Ark. After the flood, God sealed a covenant with Noah . . . The Talmud states that the instruction to not eat "flesh with the life" was given to Noah, and that Adam and Eve had already received six other commandments . . . One rabbinic opinion holds that not only are non-Jews NOT OBLIGATED to adhere to all the laws of the Torah, but they are actually FORBIDDEN to observe them. Rabbinic Judaism and its modern-day descendants discourage proselytization. The Noahide Laws are regarded as the way through which non-Jews can have a direct and meaningful relationship with God or at least comply with the minimal requisites of civilization and of divine law. A non-Jew who keeps the Noahide Laws in all their details is said to attain the same spiritual and moral level as Israel's own Kohen Gadol (high priest) . . . The 18th century rabbi, Jacob Emden proposed that Jesus, and Paul after him, intended to convert the Gentiles to the Noahide laws while allowing the Jews to follow full Mosaic Law . . . " (Seven Laws of Noah, Wikipedia).

To be a bit more specific about the Hebrew record of God's plan for the Gentiles, a number of anciently delivered messianic

prophecies do clearly pertain to the salvation of Israel and also of all the nations. In example, the following passage from the book of Isaiah predicts the reign of the Messiah—as follows:

> *"Thus saith God the LORD, he that created the heavens, and stretched them out; he that spread forth the earth, and that which cometh out of it; he that giveth breath unto the people upon it, and spirit to them that walk therein: I the LORD have called thee [= the Messiah] in righteousness, and will hold thine hand, and will keep thee, and give thee FOR A COVENANT OF THE PEOPLE, for a light of the Gentiles . . . " (Chapter 42).*

This question about the salvation of the Gentiles was addressed by a 1st-century meeting of the Apostles. The minutes of this meeting can be read from a portion of text compiled into the book of Acts:

> *[Chapter 15] But certain persons who had come down from Judaea tried to convince the brethren, saying, "Unless you are circumcised in accordance with the Mosaic custom, you cannot be saved." Between these new comers and Paul and Barnabas there was no little disagreement and controversy, until at last it was decided that Paul and Barnabas and some other brethren should go up to consult the Apostles and Elders in Jerusalem on this matter. So they set out, being accompanied for a short distance by some other members of the Church; and as they passed through Phoenicia and*

Samaria, they told the whole story of the conversion of the Gentiles and inspired all the brethren with great joy. Upon their arrival in Jerusalem they were cordially received by the Church, the Apostles, and the Elders; and they reported in detail all that God, working with them, had done. But certain men who had belonged to the sect of the Pharisees but were now believers, stood up in the assembly, and said, "Yes, Gentile believers ought to be circumcised and be ordered to keep the Law of Moses."

Then the Apostles and Elders met to consider the matter; and after there had been a long discussion Peter rose to his feet. "It is within your own knowledge," he said, "that God originally made choice among you that from my lips the Gentiles were to hear the Message of the Good News, and believe. And God, who knows all hearts, gave His testimony in their favour by bestowing the Holy Spirit on them just as He did on us; and He made no difference between us and them, in that He cleansed their hearts by their faith. Now, therefore, why try an experiment upon God, by laying on the necks of these disciples a yoke which neither our forefathers nor we have been able to bear? On the contrary, we believe that it is by the grace of the

Lord Jesus that we, as well as they, shall be saved."

Then the whole assembly remained silent while they listened to the statement made by Paul and Barnabas as to all the signs and marvels that God had done among the Gentiles through their instrumentality. When they had finished speaking, James said, "Brethren, listen to me. Symeon has related how God first looked graciously on the Gentiles to take from among them a People to be called by His name. And this is in harmony with the language of the Prophets, which says: "Afterwards I will return, and will rebuild David's fallen tent. Its ruins I will rebuild, and I will set it up again; In order that the rest of mankind may earnestly seek the Lord—even all the nations which are called by My name," Says the Lord, who has been making these things known from ages long past.' "My judgement, therefore, is against inflicting unexpected annoyance on those of the Gentiles who are turning to God. Yet let us send them written instructions to abstain from things polluted by connexion with idolatry, from fornication, from meat killed by strangling, and from blood. For Moses from the earliest times has had his preachers in every town, being read, as he is, Sabbath after Sabbath, in the various synagogues."

Thereupon it was decided by the Apostles and Elders, with the approval of the whole Church, to choose suitable persons from among themselves and send them to Antioch, with Paul and Barnabas. Judas, called Bar-sabbas, and Silas, leading men among the brethren, were selected, and they took with them the following letter:

"The Apostles and the elder brethren send greeting to the Gentile brethren throughout Antioch, Syria and Cilicia. As we have been informed that certain persons who have gone out from among us have disturbed you by their teaching and have unsettled your minds, without having received any such instructions from us; we have unanimously decided to select certain men and send them to you in company with our dear friends Barnabas and Paul, who have endangered their very lives for the sake of our Lord Jesus Christ. We have therefore sent Judas and Silas, who are themselves bringing you the same message by word of mouth. For it has seemed good to the Holy Spirit and to us to lay upon you no burden heavier than these necessary requirements—You must abstain from things sacrificed to idols, from blood, from things strangled, and from fornication. Keep yourselves

clear of these things, and it will be well with you. Farewell" (Weymouth translation).

This record about Divine salvation being offered to those righteous among the nations clearly reveals that the instructions then delivered were NOT connected with the Mosaic covenant. (Instead, the guides that were delivered to the Gentile converts were obviously nothing more than a rehearsal of Noah's covenant).

This apparent differentiation between two Divine covenants (of Noah, and of Moses) then almost has to mean that the cited week-of-weeks assembly (and the associated eating of a Holy Meal) would have been taught to the Gentile converts as a tenet of Noah's covenant. In essence, the indicated keeping of an evening rest (a Sabbath) would have been understood and taught as a memorial of the salvation that was Divinely revealed in the pre-flood era.

Of significance here is that some passages of the Bible are graphic in outlining a Sabbath of rest that is expected of converts from the nations:

"Thus saith the LORD . . . my salvation is near to come, and my righteousness to be revealed. Blessed is the man that doeth this, and the son of man that layeth hold on it; that keepeth the sabbath from polluting it, and keepeth his hand from doing any evil. Neither let the son of the stranger, that hath joined himself to the LORD, speak, saying, The LORD hath utterly separated me from his people . . . the sons of the stranger, that join themselves to the LORD, to serve him, and to love

the name of the LORD, to be his servants, every one that keepeth the Sabbath from polluting it, and taketh hold of my covenant; Even them will I bring to my holy mountain, and make them joyful in my house of prayer . . . for mine house shall be called an house of prayer for all people" (Isaiah 56).

Passages from '***The Book of Jubilees***' are likewise graphic in showing that a set of Sabbaths was adhered to by the father of the nations—Noah (as previously quoted). Of significance here is that a set of 7 Sabbaths (the feast of weeks) can be recognized to have constituted a portion of Noah's perpetual covenant—as follows:

"And Noah and his sons swore that they would not eat any blood that was in any flesh, and he made a covenant before the Lord God for ever throughout all the generations of the earth in this month [= renewal]. On this account He spake to thee that thou shouldst make a covenant with the children of Israel in this month [= renewal] upon the mountain with an oath, and that thou shouldst sprinkle blood upon them because of all the words of the covenant, which the Lord made with them for ever. And this testimony is written concerning you that you should observe it continually, so that you should not eat on any day any blood of beasts or birds or cattle during all the days of the earth . . . And for this law there is no limit of days, for it is for ever. They shall observe it throughout their generations . . . FOR THIS REASON IT IS

> *ORDAINED AND WRITTEN ON THE HEAVENLY TABLETS, THAT THEY SHOULD CELEBRATE THE FEAST OF WEEKS . . . TO RENEW THE COVENANT . . . For it is the feast of weeks and the feast of first fruits: this feast is twofold and of a double nature: according to what is written and engraven concerning it, celebrate it. For I have written in the book of the first law, in that which I have written for thee, that thou shouldst celebrate it . . . and I explained to thee its sacrifices that the children of Israel should remember and should celebrate it throughout their generations . . . And all the children of Israel will forget and will not find the path of the years, and will forget the new moons, and seasons, and sabbaths and they will go wrong as to all the order of the years . . . they will go wrong as to the new moons and seasons and sabbaths and festivals, and they will eat all kinds of blood with all kinds of flesh." (Charles version, my paraphrase)*

The everlasting covenant [olam bereeth] that is shown to have been made with the descendants of Noah (the nations) then tends to explain why primal Christians were especially observant of the cited cycle of 7 lunar Sabbaths. Again, Gentile converts in the era of the Temple appear to have NOT been taught the keeping of the Mosaic covenant (at least not as a condition of receiving salvation).

9

MID-EASTERN TRADITION . . .

Mesopotamian cuneiforms that date from before the turn of the 4th century BCE tend to further indicate that astronomer-priests who flourished in the ancient Middle East would have subscribed to the celebration of a religious schedule that was predicated upon the quarter phases of the Moon.

An example of the early time track (and Sabbath celebration) of the lunar quarter (or the lunar week) can be recited from the Fifth Tablet of Semitic Story of Creation—as follows:

"Nannaru (the moon)
He caused to shine, ruling the night:
He set him then as a creature of the night,
to make known the days (i.e. the festivals).
Monthly, unfailing, he provided him with a tiara.
At the beginning of the month appearing in the land,
The horns shine forth to make known the seasons.

"On the 7th day the tiara perfecting,

A sabbath shalt thou then encounter, mid-[month?]ly."

For more information about the shown translation, refer to '***The Encyclopedia of Religion and Ethics, Part 20***', Hastings, Page 890.

The Babylonian account of the creation of the Moon and stars (shown on the Fifth Tablet) was further described by the 20th century scholar: T.G. Pinches—as follows:

> *"[Marduk, who was the chief god, created] stations for the great gods in the likeness of constellations, together with what is regarded as the Zodiac, were his next work. He then designated the year, setting three constellations for each month, and made a station for Nibiru—Merodach's own star—as the overseer of all the lights in the firmament. He then caused the new moon, Nannaru, to shine, and made him the ruler of the night, indicating his phases, one of which was on the seventh day, and the other, a /sabattu/, or day of rest, in the middle of the month. Directions with regard to the moon's movements seem to follow, but the record is mutilated, and their real nature consequently doubtful. With regard to other works which were performed we have no information, as a gap prevents their being ascertained. Something, however, seems to have been done with Merodach's net—probably it was placed in the heavens as a constellation, as was his bow, to*

> *which several names were given. Later on, the winds were bound and assigned to their places, but the account of the arrangement of other things is mutilated and obscure, though it can be recognised that the details in this place were of considerable interest." ('**The Religion of Babylon and Assyria**')*

A given conclusion from the Babylonian record then is that priest-kings who flourished in the ancient Middle East—including Israelite—would likewise have participated in a set of liturgy paced by the Moon.

A better example of the Babylonian time track and celebration of the lunar quarter can perhaps be recited from a religious calendar in which the intercalary months Elul and Marchesvan are shown. During certain evenings—those listed in correspondence with the 7th, 14th, 21st, and 28th days of the month—the Shepherd of the great people is shown to have offered special sacrifices (George A. Barton, A&B). During the cited evening ceremony, a libation offering was poured out, and the hands of the king-priest were lifted up (waved?) to please the gods. Of significance here is that in regions of Mesopotamia, this and/or additional ceremony may have been limited to certain evenings of certain months of the year . . . and only members of the Mesopotamian ruling class are indicated to have participated in the evening ceremony.

Though much of the detail of the evening liturgy that was once performed by the aristocracy of Babylon isn't shown on the recovered cuneiforms, an early-held religious regard for some kind of lunar-quarter schedule is minimally indicated.

Of related interest is that some scholars have explored the possibility that a harvest calendar (comprised of week-of-weeks segments) was widely celebrated throughout the early Middle East (Levvy, '***Origin***', pp 1-152). In a historical research of the harvest cycle, some scholars (such as Morgenstern) have concluded that a track of 7 weeks was integral in the definition of a formal calendar (a pentecontad calendar):

> *Based upon early-written references to a cycle of 7 weeks, Julius Morgenstern hypothesized that a pentecontad calendar was once popular in the ancient Middle East. (For more information, refer the research article on the 'Sabbath' appearing in the '**The Interpreter's Dictionary of the Bible**', ed. George A Buttrick, New York: Abingdon Press, 1962, 4: 135-136). According to this publication, each year of the pentecontad calendar contained 7 pentecontads, while each 50th day throughout the year cycle was celebrated as 'atsrah'.*

Of related interest here is that Hebrew texts of the 1st century do clearly indicate an established tradition of conducting the annual harvest in 7-week sequences.

To bring what has already been presented within the lens of the current focus, it was after the spring equinox of the year that a sheaf of barley was waved by the the Temple priests (on the 16th day of the first lunar month). After a time duration of 7 lunar quarters had elapsed, a 'count 50' ceremony (an Asartha) marked the beginning of the wheat harvest. Grain was thereafter allowed to be processed (throughout a duration that lasted for 7 lunar

quarters). An Asartha was held again (right at the turn of the 7th lunar quarter) and ceremony was performed to mark the beginning of the grape harvest. Wine was thereafter allowed to be processed (throughout a duration in time that spanned 7 more weeks. An Asartha was again held and ceremony was again performed on the morning of the 7th Sabbath. The harvest of olives was then allowed, and the processing of oil continued for yet 7 more weeks.

This processing of grain, wine, and oil by time segments that straddled 7 full Sabbaths is perhaps most graphically shown on the 11QTemple Scroll. This respective scroll is especially significant in showing that tithe from the old store (from a previous years harvest) was not allowed to be consumed (once a current year's harvest season had begun).

> *"On the day of the firstfruits (of grain, and of wine, and of oil) . . . the tithe may be eaten. However, it is forbidden to save any of it over to the next year . . . 1. Grain may be eaten from the day of the firstfruits until the next year (on the day of the firstfruits of grain); 2. Wine may be consumed from the day of the festival (of wine) until the next year (on the day of the festival of the wine); and 3. Oil may be used from its festival, until the next year (on the day of the new offering of oil on the Altar). Any that is left after a respective festival shall then be made holy with fire. After this, it must not be eaten for it is holy" (my paraphrase).*

Of additional significance concerning the harvest schedule (and the several regulations that attended the growing season) is

that a rule for the collection of seasonal tithes appears to have been followed by the priests. To be more specific, tithes for grain, wine, and oil are shown to have been collected in respective harvest periods of 7-weeks each. As a good example, more than a single collection per year; or 3 separate collections; is mirrored in a passage from '***The Book of Jubilees***'—as follows:

> *"[The patriarch] Levi dreamed that they had ordained and made him the priest of the Most High God . . . And Jacob rose EARLY in the morning, on the 14th of this month, and he gave a tithe of all . . . and his father clothed him in the garments of the priesthood and filled his hands. And on the 15th of this month, he brought to the altar . . . his offering, in consequence of the vow which he had vowed that he would give a tenth, with their fruit-offerings and their drink-offerings . . . And Levi discharged the priestly office at Bethel before Jacob his father . . . and he was a priest there . . . [Jacob] tithed again the [second] tithe to the Lord and SANCTIFIED it, and it became holy unto Him. And for this reason it is ordained on the heavenly tablets as a law for the TITHING AGAIN . . . and to this law there is no limit of days for ever. This ordinance is written that it may be fulfilled FROM YEAR TO YEAR . . . and nothing shall remain over from it from this year to the year following. For in its year shall the [wheat] seed be eaten UNTIL THE DAYS OF THE HARVEST OF THE SEED OF THE*

YEAR, and the wine UNTIL THE DAYS OF THE WINE, and the oil UNTIL THE DAYS OF ITS SEASON. And all that is left thereof and becomes old, let it be regarded as polluted . . . And thus . . . let them not suffer it to become old . . . " (refer to Chapter 7, by Charles).

(For more information about tithe offerings of grain, wine, and oil, refer to Deuteronomy, Chapter 14; and to 1 Corinthians, Chapter 16).

Early-written literature additionally indicates that the track of a 'count 50' cycle (and a law of tithing) was at first taught by the pre-flood patriarch Enoch. In example, a passage of text within '***The Book of Jubilees***' relates that it was the ancestor Enoch who was the first to have "recounted the weeks of the jubilees, and . . . set in order the months . . . " (refer to chapter 4, by Charles).

More about the major accomplishments of the cited astronomer (Enoch) can be understood from a historical sketch presented by Bar-Hebraeus. This medieval author's writings about the life and times of Enoch appear to represent a compendium that was drawn from a number of more ancient sources. According to this respective author, Enoch was also the first to have "discovered the knowledge of the Zodiac, and the course of the Planets".

The occupation of Enoch as a priest is only hinted at from amid the various texts attributed to Enoch's own authorship. However, some considerable degree as to the scope and effectiveness of his service in a priesthood office seems to be mirrored from certain passages of early-written literature. In example, Enoch is shown to have " . . . appointed festivals for

sacrifices to the Sun, at each of the Zodiacal Signs". Enoch is further shown to have taught men "how to worship God . . . how/when to fast . . . to pray . . . give alms, votive offerings, and tenths". Enoch "reprobated inappropriate foods and drunkenness" (Bar-Hebraeus). The set of religious liturgy attributed to Enoch is thus rather similar to liturgy followed by Temple adherents on holy evenings.

Enoch; as an astronomer of note, and as a significant religious leader; seems to also be mirrored in certain Sumerian chronicles—where in "critical scholarship, Enoch is regarded as being a character based on the . . . myth of Enmeduranki" (Wikipedia). This title or name appears in the Sumerian king list. "[Surviving] records pre-date the authorship of the torah by some 1000 years, [and tell] . . . of a great priest . . . of the sun-god Utu. He, in the myth, was subsequently taken by the gods Shamash and Adad, to heaven, and taught the secrets of heaven and of earth. Enmeduranki was extremely significant to the Sumerians, as he was the ancestor from whom all priests had to be able to trace descent, in much the same way as Aaron was to the Aaronid priesthood of ancient Judaism . . . " (ibid.).

Pages of history thus portray Enoch to have been both an accomplished astronomer, as well as a ranking cleric. It here seems of some certain significance that this respective priest-astronomer is unilaterally shown to have been the very first to interpret a lunisolar system on the basis of a set of laws pertaining to the spin and orbital rates.

Writings attributed to Enoch no longer remained in mainstream circulation by the time of the European Renaissance. However, it is

fortunate that an Ethiopian version of Enoch was rather recently discovered to still be in circulation.

The recovered writings do, in fact, contain a number of axioms and formulas that pertain to resolving the courses of the Earth and Moon (as previously shown). Of significance here is certain among the definitions and laws recorded in the astronomical book actually are correct in depicting that rates of solar days, synodic months, and tropical years can all be identified together in the context of a rational model (an intelligent lunisolar system). What is especially remarkable about a lunisolar system predicated upon an accounting of Sun and Moon stations is that a formal count of solar days can be used to so exactly define and delimit each solar year into equal divisions. For additional information, refer to subsequent Chapter 15.

> *"Blessed are . . . all those who walk in the way of righteousness . . . in the reckoning of all their days in which the Sun traverses the heaven, entering into and departing from the portals for 30 days with the heads of thousands of the order of the stars, together with the 4 which are intercalated which divide the 4 portions of the year, which lead them and enter with them 4 days. Owing to them men shall be at fault and not reckon them in the whole reckoning of the year: yea, men shall be at fault, and not recognize them accurately . . . And the account thereof is accurate and the recorded reckoning thereof exact; for the luminaries, and months and festivals, and years and days, has [the*

*Angel] Uriel shown and revealed to me, to whom the Lord of the whole creation of the world hath subjected the host of heaven. And he has power over night and day in the heaven to cause the light to give light to men Sun, Moon, and stars, and all the powers of the heaven which revolve in their circular chariots. And these are the orders of the stars, which set in their places, and in their seasons and festivals and months . . . " ('**The Ethiopian Enoch**', Chapter 82, by Charles).*

Early-held knowledge of the seasons and the tropical zodiac can also be recited from certain other manuscripts that were penned by ancient astronomers and priests. In example, among the most well known of the works by Jewish writers who flourished under the late 2nd Temple were—of course—produced by Philo Judaeus. Some of his many philosophical treatises are explicit in showing that the courses of the heavenly luminaries were then understood/interpreted as being representative of special time design:

XVI. "[On the high priest's] chest there are twelve precious stones of different colours, arranged in four rows of three stones in each row, being fashioned so as an emblem of the zodiac. For the zodiac also consists of twelve animals, and so divides the four seasons of the year, allotting three animals to each season. And the whole place is very correctly called the logeum (logeion), since every thing in heaven has been created and

> *arranged in accordance with right reason (logois) and proportion; for there is absolutely nothing there which is devoid of reason . . . And what else could exhibit to us the days and the nights, and the months and the years, and in short the divisions of time, but the harmonious and inconceivable revolutions of the Sun, and Moon, and other stars? And what could exhibit the true nature of number, except those same bodies just mentioned in accordance with the observation of the combination of the parts of time?" (Philo Judaeus, '**The Special Laws, Part I**', Yonge translation).*

For additional information confirming that a portion of the sacrificial itinerary adhered to by the Temple priesthood would have been paced by time stations of the Sun and Moon, refer to Chapter 14 of the current publication.

> *"He who sees the Sun at its turning point, the Moon in its power, the planets in their orbits, and the signs of the zodiac in their orderly progress, should say: Blessed be He who has wrought the work of creation" (Talmud, Berachoth 59B).*

In early centuries of the Common Era, a tradition of tracking and celebrating the revolution of the lunar week appears to have also been followed among the Celtic tribes (and others). While this custom is no longer widely observed in the West, the keeping of an evening Sabbath (with a fasting vigil) continues as a tradition that is practiced in Eastern countries.

Of significance here is that an early-held regard for the turn of the lunar-week; as well as a regard for the 12 divisions of the zodiac; can be recognized from both modern and ancient Eastern manuscripts. In fact, the modern tradition of celebrating a Sabbath (or Uposatha) at the turn of the lunar quarter is very clearly mirrored from texts that herald from before the beginning of the Common Era. To be specific, those Vedic Sanskrit writings that describe the celebration of a lunar Sabbath (or Uposatha) point to an historical era that predates even the time of Shakyamuni [= a Buddha who lived in the 6th century BCE]:

> *"The term uposatha comes from the Vedic Sanskrit upavasatha, a day of preparation, usually involving special observances . . . These preparation days were held on the days of the half-moon, full moon, and new moon—the eighth and (depending on the precise timing of the new and full moons) fourteenth or fifteenth days of the lunar fortnight . . . [Prior to the time of Shakyamuni, sects] used these days for observances . . . The Buddha [= Shakyamuni] adopted this practice, setting these days aside . . . to meet and teach . . . He also established a purely monastic uposatha observance, which he limited to the final day of the lunar fortnight . . . to determine the date of this observance, he relaxed the rule against their studying astrology . . . which in those days had not yet separated from astronomy, allowing them to learn as much astronomy as needed to calculate*

*whether the full and new moons fell on the fourteenth or fifteenth of a particular fortnight." ('**Buddhist Monastic Code II**', Chapter 15, Uposatha, Thanissaro Bhikkhu).*

It is obvious that the Eastern custom of celebrating liturgy in pace with the turn of the lunar quarters stemmed from out of the ancient Hindu culture. This tradition, in turn, appears to have been popular throughout the East from a time that reaches into the era of the prehistoric.

Quite a number of similarities can be recognized between the Uposatha that is observed in the East and a more primally observed fasting vigil subscribed to by primal Hebrews. (For additional information of the modern tradition, refer to Chapter 10).

Based upon the rather ample Hebrew record, as cited throughout previous chapters, the Temple priests can be recognized to have tracked and celebrated the revolution of the lunar week in 7 sets—as follows:

1. A unique day or time station at the distance of each 7th lunar quarter was routinely accounted for the purpose of determining the limits of months, seasons, and of years (in 7 sets).
2. An evening Sabbath was memorialized among the priests upon the occasion of the lunar quarter.
3. The celebration of a Sabbath rest at the turn of the lunar quarter was considered to represent Sabbath time that was less "holy and blessed" than that of the 7th day.

4. The celebration of the cited lunar Sabbath was understood to represent a tenet of a Divine covenant that was made with the sons of Noah (or with the Gentile nations).

Of significance here is that there are certain discernible similarities (and also some differences) when the cited Gentile Sabbath is compared with the Uposatha (that is now celebrated in the Orient). For example, the turn of each lunar quarter can in BOTH cases be equated to an almost identical ordinance. However, one of the main differences between the two traditions concerns an indication that the Hebrew priests would have subscribed to having a limited meal on those evenings that were considered holy. In essence, a complete fast may not have been taught among the Levitical priests. Also, the Sabbath ordinance that was taught among the Gentiles appears to have been predicated upon an itinerary that cycled throughout a 7 week schedule.

The tradition of holding a Sabbath vigil at the revolution of the lunar week is shown to have been voluntary on the part of an adherent. However, the Hebrew record does encourage participation because a practitioner of the Sabbath covenant is stated to be worthy of receiving Divine blessing:

> *"[Blessed is] the foreigner . . . EVERY ONE that keepeth the Sabbath . . . and taketh hold of my covenant; Even them will I bring to my holy mountain, and make them joyful in my house of prayer. . . for mine house shall be called an house of prayer for all people" (Isaiah 56).*

This expectation of receiving Supreme merit is likewise reflected from texts penned by the earliest among the Christians:

> *"HAVING FULFILLED WHAT IS WRITTEN on that day on which you fast . . . your sacrifice shall be acceptable in the sight of God, and this fasting SHALL BE RECORDED; and the service so performed is beautiful and joyous and acceptable to the Lord. These things you shall so observe, you and your children and your whole household; and, observing them, you shall be blessed; yes, and all those, who shall hear and observe them, shall be blessed, and whatsoever things they shall ask of the Lord, they shall receive." ('**The Shepherd of Hermas**').*

It is thus clearly manifested from the Mid-Eastern record that an age-lasting covenant was believed to have been Divinely granted to the progeny of Noah. A most major tenet of the perpetual ordinance concerned the non-eating of flesh (with blood) —as well as the associated keeping of a Sabbath. The respective Sabbath part of the covenant that was given to the Gentile nations is summarily stated in '***The Book of Jubilees***'—as follows:

> *"For this reason it is ordained and written on the Heavenly Tablets, that they should celebrate the Feast of Weeks [= an age-lasting ordinance]".*

10

THE EASTERN SABBATH . . .

The celebration of a Sabbath in pace with each passing lunar quarter (Uposatha) can additionally be recited from numerous passages of Oriental literature.

Of significance here is a link that can be established between an ancient religion (or religions) that stemmed from prehistoric times into both the East and Middle East. To better illustrate this connection, "Both Vedic Mitra and Avestan Mithra derive from an Indo-Iranian common noun mitra, generally reconstructed to have meant "covenant, treaty, agreement, promise." This meaning is preserved in Avestan mithra "covenant." In Sanskrit and modern Indo-Aryan languages, mitra means "friend," one of the aspects of binding and alliance" (Wikipedia, Mitra).

> *"The first extant record of Indo-Aryan Mitra, in the form mi-it-ra-, is in the inscribed peace treaty of c. 1400 BC between Hittites and the Hurrian kingdom*

> *of the Mitanni in the area southeast of Lake Van in Asia Minor. There Mitra appears together with four other Indo-Aryan divinities as witnesses and keepers of the pact" (ibid.).*

Thus, the indicated antiquity of a primal religious blanket that was once spread across the Indo-Iranian region points to the possibility that the modern custom of celebrating Uposatha (or Upavasatha) was a tenet of a religion much older than Buddhism.

Of further significance here is that quite a number of similarities can be recognized between the cited covenant Sabbath that was celebrated in regions of the ancient Middle East and the Sabbath that continues, in today's world, to be celebrated at the turn of each lunar quarter (Uposatha).

The 'Eight Precepts' that define the modern observance of Uposatha are described in some detail in a document on lay Buddhist practice—as follows:

> *The word [Uposatha] means "entering to stay," in the Buddhist sense, in a vihara or monastery. But it has a long history before Buddhist times as it was the custom of the brahmans who performed the Vedic rites and sacrifices to go to the sacred place away from their homes and families and purify themselves by leading a secluded life for a day and night, returning after the rites were finished. The days when they kept this seclusion were determined by the phases of the moon, the most important being the Full Moon and the New Moon*

days. Two other days, the quarter-moon days, were also observed.

Here it may be helpful to say something about the lunar month. This is a month (originally this word is cognate with "moon") of 29 1/2 days. Two months have 59 days, that is, one of thirty and one of twenty-nine. Each month is divided into fortnights: of the waxing moon and of the waning moon. Each half is therefore of 14 or 15 days and in each half the days are numbered from the first of the waxing moon (the day after new moon day) to the fourteenth (or fifteenth) of the waxing moon, and then from the first of the waning moon to the fourteenth of the waning moon. A new lunar month always begins (in Buddhist reckoning) with the waxing half-month. The eighth day (usually) of both bright and dark halves is the quartermoon day.

In the Buddha-time, various groups of ascetics and wanderers used the traditional Full and New moon days for expounding their theories and practices, while the Buddha allowed bhikkhus to assemble on these days to listen to the recitation of the Patimokkha (the fundamental rules of a bhikkhu) and to teach Dhamma to the lay people who came to their monastery.

From that time down to the present, the Uposatha days have been observed by Buddhists, both ordained and laity, in all Buddhist countries. The practice of Buddhists, as known to the writer from Siam—and there are many local variations—is along these lines: Early in the morning lay people give almsfood to the bhikkhus who may be walking on almsround, invited to a layman's house, or the lay people may take the food to the monastery. Usually lay people do not eat before serving their food to the bhikkhus and they may eat only once that day, specially where the bhikkhus practice eating a single meal. In any case, their food is finished before noon. Before the meal the laity request the Eight Precepts (see below), which they promise to undertake for a day and night. It is usual for lay people to go to the local monastery and to spend all day and night there. In different monasteries, of course, the way they spend their time will not be the same and much depends on which aspect of the Dhamma is stressed there: study or practice. Where there is more study, they will hear as many as three or four discourses on Dhamma delivered by senior bhikkhus and they will have books to read and perhaps classes on Abhidhamma to attend. But they are quite free to plan their own time with meditation, discussion of

Dhamma with the bhikkhus and so on. In a meditation monastery lay people will get less instruction and that will be about the Practice of Dhamma, while most of their time will be spent mindfully employed—walking and seated meditation with some time given to helping the bhikkhus with their daily duties. So the whole of this day and night (and enthusiastic lay people restrict their sleep) is given over to Dhamma. The Bhikkhus on these days have to meet (if they are four or more in number) and listen to one bhikkhu recite by heart the 227 rules of training contained in the Patimokkha. This meeting may take an hour or more and lay people may, or may not, attend, according to the tradition of that monastery. Apart from this regular observance, some bhikkhus may undertake an extra austere practice, such as not lying down on the Uposatha night, which means the effort to try and meditate in the three postures of walking, standing, and sitting all night.

This is the practice in brief, of "entering to stay at" (uposatha) a monastery in Asia. Obviously a Buddhist who has no facilities like these in a non-buddhist country must spend his Uposatha differently. Perhaps the first thing to consider is whether it is worth trying to keep the Uposatha days . . . .

[If the timing] of the Uposatha days in Buddhist tradition was fixed merely to coincide with the existing lunar calendar and the traditional observances connected with it, then today when most people work in countries which do not follow a lunar calendar it would seem sensible to have days for special Buddhist observance during the weekends . . . [However,] defilements and passions can best be controlled when they can be seen—when they are strongest. It is impossible to restrain defilements in oneself when they are not apparent, though they may operate underground. For instance, the person who is well-provided with wealth and comforts may not be able to see greed or aversion at work in himself; these defilements have not surfaced since the sea of satisfied desires, in which they swim, is deep enough. But place this person in a bare little hut with poor food only once a day and a strict discipline to control his actions and then see what happens! The monsters of the deep all rise to the surface and clamor for more extensive waters in which to sport. On the other hand, the attitude of good bhikkhus shows the right way to deal with defilements. Some of the strongest—sensuality and sloth—manifest themselves at night . . . An enemy that one has not seen and known cannot be defeated, but an enemy

well known and attacked with the weapons of Right Effort, Right Mindfulness and Right Collectedness, has no hope to win.

It is the same on Uposatha days. The defilements that show themselves then can be restrained and limited with the aid of the Uposatha discipline, which includes the Eight Precepts.

Let us consider it from another point of view. Renunciation is a thread which runs through all Buddhist practice. If one practices Giving then one renounces the pleasures that could be bought with that wealth. When the Five Precepts are practiced then one renounces the actions covered by them which may be pleasurable or thrilling to some and are, in any case, unwholesome. And when effort is made to meditate, the earnest practicer will soon find that certain pleasures and distractions offered by this world just do not go with a calm and mindful mind, so he renounces them.

The Eight Precepts to be discussed below are part of the same way of practice, a discipline for a lay person's temporary renunciation. In the Sutta mentioned above the Buddha speaks of a noble disciple reflecting: By undertaking the Uposatha with its eight precepts for a day and a night I

renounce the way of common men and live as the arahants do for all their lives, compassionate, pure and wise. So the Right Precepts are really a test of how far one can discipline oneself. That means really, to what extent do wholesome states of mind consonant with Dhamma-practice predominate in one's character over unwholesome desires built on greed, aversion and delusion? The practice of the Eight Precepts gives one a chance to find out about this. And this is an investigation which one can make four times a month if one wishes.

We have seen how lay people in Buddhist countries periodically withdraw for twenty-four hours to a monastery for the practice for some special Dhamma. But what is to be done where there is no monastery, no bhikkhus, and no possibility of taking time off from work?

First, on these days, or on some of them, one could . . . include reciting the Eight Precepts . . . Apart from precepts and discourses, more time should be given to meditation . . . When the Eight Precepts are backed up by the calm strong mind produced in meditation then they become easy to keep.

The Dhamma that one can practice during the day at work must be decided by each person, taking

account of his own personality and of the circumstances surrounding him. Of course, one tries to keep one's conduct within the bounds of the Eight Precepts and do only those things which are consonant with the spirit of the precepts. One may find it possible to practice Giving (dana) in some way on these days and some short periods devoted to some of the recollections might be possible—it depends on each person to find his own ways and means.

This brings us to the Eight Precepts and some remarks upon them. The precepts are as follows:

1. *I undertake the rule of training to refrain from killing living creatures.*
2. *I undertake the rule of training to refrain from taking what is not given.*
3. *I undertake the rule of training to refrain from unchaste conduct.*
4. *I undertake the rule of training to refrain from false speech.*
5. *I undertake the rule of training to refrain from distilled and fermented intoxicants which are the occasion for carelessness.*
6. *I undertake the rule of training to refrain from eating outside the time.*

7. *I undertake the rule of training to refrain from dancing, singing, music, going to see entertainments, wearing garlands, smartening with perfumes and beautifying with cosmetics.*
8. *I undertake the rule of training to refrain from a high or large sleeping-place.*

It has always been understood by Buddhist lay people that if one undertakes these Eight Precepts then great efforts should be made not to break any of them. The Five Precepts represent a general measure for ordinary life and in practice people have a flexible attitude towards minor infringements of some of them. But the Eight Precepts are a more serious commitment and should not be undertaken lightly. If one does take them on, then one should feel reasonably certain, whatever one's interior and exterior circumstances, that none of the precepts will be broken.

In the case of the first one, not only should one not kill any living being but also one should not do the sort of work which might involve one in killing unintentionally, where one has no choice in the matter (work such as digging and cultivating). Even acts which are harmful in any way to others should be avoided on an Uposatha day. Few people have

work which involves killing and fewer still of these people will be Buddhists, as such work must be repugnant to sincere Dhamma-practicers.

The second precept will need attention in such things as using for one's own purposes materials belonging to the firm (government, etc.) that one works for, or taking extra or surplus materials for oneself or others without permission to do so. Taking what is not given would also include such practices as adulteration of materials for sale and making others work without adequate remuneration.

The third precept is changed from the set of five. There "wrong conduct" means all kinds of sex which results in harm to others—breaking up for others' marriages, rape and the seduction of minors, for instance. But under this precept "unchaste conduct" means that all kinds of sexual behavior are to be avoided whether they are wrong conduct or are allowable in normal lay life, whether with others or by self-stimulation . . . And when this abstinence is to be practiced only for one, two or four days a month there should be no great difficulty.

The fourth precept requires a special watch on the

runaway tongue. This means the effort to practice Right Speech that is, speech which is true, brings harmony between people, is gentle and has meaning. Dhamma has all these qualities and one's speech should be in accordance with it. One who has taken the Uposatha precepts should try not to become involved in worldly chatter or arguments. And similarly with words on paper: news-papers and magazines which just distract the mind should be avoided for this day. If one wants to read then it should be a book on Dhamma.

It should not be too hard to keep the fifth precept strictly on these days. Under this precept one must include any kind of intoxicant taken for pleasure and escape, so drugs soft and hard find a place here as well as alcohol. At all times a Buddhist is trying to increase in the quality of heedfulness . . . But intoxicants only increase unwholesome states of mind so that a person becomes more heedless (or careless . . .).

The sixth precept . . . aims at cutting down the sloth which is experienced after a day's work and a substantial evening meal, while it ensures that the body is light and fit for meditative practice. In the precept, the words "outside the time" mean after twelve noon until dawn the following day. During

this time no food is eaten. However, some flexibility will be needed here with people going out to work. For them it would mean no food after their midday lunch until breakfast the next day. If one is troubled by tiredness after work on a day when these precepts are undertaken then tea or coffee are allowable as refreshing drinks. If hunger is the trouble then cocoa (or even plain chocolate) should cure it. None of these refreshments should contain milk, which is considered a food, though sugar, honey and butter are allowed (to bhikkhus, and therefore to lay people keeping the Eight Precepts), presumably because one can take only a little of these things. Fruit juices which have been strained (without fruit pulp) are other possible drinks.

The seventh precept is really a compound of two in the Ten Precepts of a novice and therefore falls into two parts: the first on "dancing . . . entertainments," and the second concerned with "wearing garlands . . . cosmetics." The first half is aimed at keeping mind, speech and body away from all kinds of amusements. Not of course that they are "sinful," but that they turn the mind out through the senses, arouse defilements and cause conflicts where there might be peace. So these days, under this precept must be put radio, television, theater, cinema and sporting events.

These are all ways of escape from being quiet. The second half of the precept is directed against vanity and conceit arising by way of the body. The tradition in the East is for Buddhists who undertake these precepts to clothe themselves simply in white cloth with no adornments. This will not be possible for the lay Buddhist who goes out to work, but on such days jewelry could be left at home, scents and lotions not used on the body, nor cosmetics on the face.

The last precept concerns sleep. Just as all the other luxuries have been cut out, so the luxury of a large, soft bed should be dispensed with for this night. In warm Buddhist countries a mat on the floor is enough, but where the weather is colder a hard mattress or folded blankets on the floor could be used. On a hard surface the body actually relaxes more than on a soft one, also there is less desire to sleep long. On these nights an effort should be made to restrict sleep to the minimum. A "large bed" means one in which two people sleep. The Buddhist who practices these precepts for a day and a night always sleeps by himself.

This summarizes the practice of the Uposatha day. Some people may think these precepts too difficult to carry out in the midst of an alien society. Others

may think them too easy to bother about. But before any judgment is passed on them try practicing them for a few Uposathas and then see what is the result. Effort made to practice Dhamma can never bear bad fruits.

According to tradition, one may practice the Eight Precepts on the Full Moon, New Moon and two Quarter-moon days. This is for someone who is really making an effort and whose circumstances allow him to do so. Others might undertake them on the two Uposatha days—the Full and New Moon days. Or if they are to be undertaken one day a month this will usually be on the Full Moon.

Where this had been found by experience to be quite impossible, then the Uposatha could be kept on weekends. Better this than nothing at all! But then married lay people may find that this will conflict with their family responsibilities—perhaps to others in the family who are not Buddhist. This is something for individual Buddhists to decide for themselves.

*(For more information about the keeping of Uposatha, refer to '**Lay Buddhist Practice**', by Bhikkhu Khantipalo).*

11

A FUNCTIONAL MOON . . .

The spin and orbital configuration of the Earth and Moon presents a resident of the Earth with an ever-changing pageant. Each day passes into night, and night passes back into day. The Moon's synodic period passes through phases of waxing and waning. The annual seasons cycle between summertime and wintertime. As a result of the spin and orbital phenomenon, a resident of the Earth can ultimately enjoy an average day of 24 hours, perceive a lunar period of 29.53059 days, and experience a solar circle of 365.24219 days.

Significant about the mechanical makeup of the Earth and Moon is that it is possible to interpret rates of solar days, synodic periods, and tropical years all in the context of an intelligent interface. To make this view more clear, the Earth and Moon throughout their orbits could be compared to gears positioned on

the backside of a clock face—where from the perspective of the gears, clock time would be rather difficult to interpret.

An interface defined between the lunar and solar orbits—seemingly intelligent—is easy to recognize when the day rate is accounted for in cycles of 30 days. Remarkable here is that—when this cyclical count is endlessly performed—the average lunar and solar periods can effectively be represented by simply counting day units.

To more fully expose that the completion rates of both orbits (lunar and the solar) can be interfaced to a specific number of day cycles, subsequent paragraphs will explore the huge significance of a time unit equal to 30 days. An almost given conclusion from comparing the spin rate of the Earth (the daily rate) with both the lunar and solar transits is that a time cycle of 30 days is a natural, or an inherent, definition of the combined spin-orbits.

To document a day-rate model of the Earth-Moon system, it first seems expedient to compare the rate of 30 days both with the rate of the lunar month and with the rate of the solar year.

When the rate of one day in 30 days is considered to be unique and consequently is accounted as apart from all the days that occupy the time stream, it becomes demonstrable that the limits of each passing solar year (or the tropical year of 365.24219 days) returns in pace with the same spin phase of the rotating Earth. In essence, the rate of the solar year (365.24219 days) can be proven to return (on average) with the same hour and minute of the solar day.

For the purpose of presenting a clear analysis, a set-apart day each 30 days—an average rate equivalent to 12.17474 days per year—will hereafter be referred to as MC.

> *Of significance here is that the rate of 1 day in 30 days is the same rate as 12.17474 days in each tropical year of 365.24219 days.*

As is further shown below, when the rate of 1 day in 30 days (the rate of MC) is always leaped, or accounted apart, from other days that occupy the time stream, the annual transit can be expressed always in terms of an identical number count of days.

A fixed day count of the tropical year however requires that a secondary rate of days be likewise accounted as separate and as apart from those days that are numbered annually. This additional rate is easy to recognize in the context of a span of time equal to 7 lunar weeks.

> *Note that the Moon's synodic period completes every 29.53059 days (on the average). Consequently, the length of the tropical year is inherently equal to 12.36827 synodic revolutions. A synonymous cross-reference would be in terms of lunar quarters, or lunar weeks—where the length of the tropical year (365.24219 days) is inherently equal to 49.47306 lunar-quarter cycles (or 49.47306 lunar weeks).*

The length of each tropical year can thus be correlated to a time span defined by spins of the Earth when a unique day at the frequency of each 7th lunar week is also accounted for.

ENDLESS CYCLE OF 7 LUNAR WEEKS

Lunar quarter 1 (lunar week 1)
Lunar quarter 2 (lunar week 2)
Lunar quarter 3 (lunar week 3)
Lunar quarter 4 (lunar week 4)
Lunar quarter 5 (lunar week 5)
Lunar quarter 6 (lunar week 6)
Lunar quarter 7 (lunar week 7)

The count of 1 day is skipped, or leaped over, in each 7-week cycle.

For the purpose of presenting the clearest analysis, a set-apart day each 7 lunar weeks—an average rate of 7.06758 days per year—will hereafter be referred to as SW.

> *Note here that the rate of 1 day in 7 lunar weeks is the same rate as 7.06758 days in each tropical year of 365.24219 days.*

The rate of 1 day (or Earth spin) in each cycle of 7 lunar weeks is hugely significant to a study of related time design—as is further shown throughout the current document.

When the cited occurrences of MC and SW are routinely accounted as apart from other days that occupy the stream of time, each passing tropical year can then be recognized to rotate in pace with a fixed number of the other days.

To be more specific about this fixed count of the year cycle, it is manifest from the first of the previously stated axioms for MC that this rate is inherently equal to 12.17474 days per year. It is

also manifest from the second of the previously stated axioms for SW that this secondary rate is inherently equal to 7.06758 days per year. This means that occurrences of MC and SW are (together) equal to a rate of 19.24232 days per year—in average time.

> *A rate that averages 12.17474 days per year and also a rate that averages 7.06758 days per year is equal to a composite rate that averages 19.24232 days per year.*

Because 19.24232 days per tropical year are equal to the combined rates of MC and SW it becomes a given conclusion that each passing tropical year (of 365.24219 days) can effectively be measured and metered out by simply counting all of the other days as annual days. An identical number of annual days is easy to recognize in the regard that 346 annual days plus the day rates of MC and SW are inherently equal to 365.24232 days.

The cited count (always 346 days per year) is then significant in the regard that each tropical year can effectively be measured and metered out in the context of accounting for solar days.

```
          346.00000 days
  plus     19.24232 days   (= MC and SW)
          --------------
equals    365.24232 days   (= year cycle)
```

In summary to the above, occurrences of MC and SW inherently yield 19.24232 renewal days per solar year (on the average). Then when the occurrences of MC and SW are set apart (or leaped) from out of the time stream then the reoccurrence of the solar year is proven to just about exactly coincide with a whole-

number count of all the other days (a number count of no more or less than 346 solar days). Thus, each annual transit of the Sun is inherently subdivided into renewal days located at MC and SW and 346 days in addition.

It then seems to be significant that an interface can be interpreted between the spin of the Earth, the synodic return of the Moon, and each revolution of the tropical year. This interface between the orbital returns and cycles of days can be proven to be almost exact in average time). Essentially, a metered count of 346 solar days—when counted in association with the renewals of MC and SW—is equal to 365.24232 days or is equal to the same number of days, hours, and minutes as are contained in each passing tropical year.

To be completely specific about the cited interface, each passing solar year of 365.24219 days can be cross-referenced to a count of 346 days . . . as long as MC and SW days are also counted. (The fixed count of days is perfect to within an annual difference of only 11.2 seconds!)

Most remarkable is that the cited annual count (346 days) can be recognized to have been fully or absolutely perfect only several centuries before in that modern astronomers have determined that the current spin rate of the Earth is slowing down as a trend definition. (Estimates indicate that—throughout the previous four thousand years—the spin rate of the Earth has slowed down at a rate of between 0.0036 and 0.0073 spin-seconds per year). Thus, based upon the slowing spin rate of the Earth, it can be predicted that at no more than about 3000 years ago the length of each

passing tropical year was then exactly definable within the context of accounting for MC and SW.

The cited day-cycle interface is now, in modern times, almost fully perfect. However, the modern interface differs by only 11.2 seconds on an annual basis—as cited. The time when a perfect interface once existed is easy to predict by simply dividing the modern difference of 11.2 seconds by the indicated number of spin-seconds of annual change, minimally 0.0036 spin-seconds per year. The result of this division predicts that a maximum span of 3111 years has elapsed from the time of perfect interface. The time when a fully perfect interface existed then would have been in a time range somewhere less than 32 centuries ago (as a prediction).

For pertinent information concerning the slowing spin of the Earth, refer to the subsequently presented Chapter 17.

The following summary points can ultimately be drawn from an evaluation of MC and SW:

1. The modern solar-year cycle of 365.24219 days can be defined within the limits of 11.2 seconds by reckoning simple ongoing cycles of lunar weeks and 30 days.
2. The solar year of 3 millennia ago could probably have been absolutely or perfectly defined by reckoning the cited ongoing cycles of weeks and months.
3. It is significant that the cycle of the tropical year can be cross-referenced to an identical, or same, tally of annual days.

4. The present (and past) precision gained by reckoning annual days in correspondence with MC and SW is so very tight that the reckoning of additional days is not required.
5. An interpretation of annual time design seems straightforward and can clearly be documented within the context of solar months and lunar weeks.
6. The annual-count requirement to reckon a solar-day rate (30 days) and also a lunar-week rate points to a time-tracking system that is inherently functional. (Note that a fixed cycle of 30 days can be used to augment the definition of an effective annual calendar. In addition, the lunar-week unit can be used to augment the definition of a jubilee calendar).
7. Additionally significant is that a systems interpretation based upon short time cycles is possible. (Note that a systems interpretation based upon long time cycles would comprise less convincing evidence of a designed configuration for the spin-orbits).

12

REALITY OF TIME DESIGN . . .

A mindless formation of the Earth and Moon pair seems improbable in the regard that the spin and orbital cycles appear to be remarkably interrelated. Essentially, it is possible to interpret that the spin and orbital cycles do all interface together to divide the time stream into a functional arrangement.

Interrelated time design can be interpreted because the rate of the solar year can so perfectly be represented in time segments of the 24-hour day (the solar-day cycle). Likewise, the rate of the solar year can exactly be represented in time segments defined by the orbit of the Moon (the synodic-orbit cycle).

Of significance here is that as a consequence of the interaction of the spin-orbital cycles, a resident of the Earth perceives time differently than time would be perceived somewhere else—as in space. It is then easy to recognize from the vantage point of the spinning Earth that the apparent orbital cycles

inherently divide the time stream into equally metered divisions. For example, the Earth rotates once every 24 hours, the Moon passes through one synodic revolution every 29.53059 days (on the average), and the Earth passes through one Tropical Year every 365.24219 days.

While these respective cycles might superficially appear to be very unrelated, a degree of interrelatedness can be interpreted from out of these seemingly disjointed time cycles. Subsequent paragraphs will then attempt to show that time cycles generated by the Earth and Moon can be correlated to a time grid that appears to be intelligently arranged.

An interpretation of interrelated time design seems satisfactory based upon the phase rate of the Moon. For the purposes of presenting a clear analysis, the quarter-phase cycle of the Moon will hereafter be referred to as the lunar-week cycle. Likewise, the time span of any specific quarter phase of the Moon will hereafter be referred to as the span of a lunar week. (Note that each lunar week averages out to be about equal to seven and one-third days. The cycle of the lunar week is consequently a bit slower or longer than an ordinary week cycle of 7 days.)

Based upon the spin and orbital phenomenon, the rate of the lunar-week cycle is easy to illustrate in cross-reference with the rate of the tropical year. (The indicated interface of the tropical year with the lunar week is quite precise—to within the average limits of 0.00198 days/year).

The following diagram is presented in an attempt to more specifically show that a time cycle of 50 tropical years can very

closely be correlated or cross-referenced to a time grid comprised of lunar-week segments.

7-Year Segment	Number of Years	Number of Lunar Weeks	At Each 7th Year
1.	7	7 x 7 x 7	+ 1 week
2.	7	7 x 7 x 7	+ 1 week
3.	7	7 x 7 x 7	+ 1 week
4.	7	7 x 7 x 7	+ 1 week
5.	7	7 x 7 x 7	+ 1 week
6.	7	7 x 7 x 7	+ 1 week
7.	7	7 x 7 x 7	+ 1 week
50th yr	1	7 x 7	

Take note that the calendar (as diagrammed) requires the intercalation (or addition) of a lunar week each 3rd year—as a perpetual rate. (The leap of an additional week is necessary so as to keep the shown calendar in pace with the turn of the tropical year).

Then in summary to the cited jubilee calendar, it seems to be significant that a time grid comprised of 7-year cycles (in 7 sets) can be correlated to a time grid comprised of 7 lunar weeks (in 7 sets).

The jubilee calendar (as diagrammed) is quite precise (as cited) and achieves a calendar year of 365.2442 days (on the average). Thus, the average annual length of the tropical year (which is 365.2422 days) can closely be represented by a calendar comprised of lunar weeks.

It is here most remarkable that the track of a jubilee cycle of 7 sets of 7 years (and sometimes a 50th year) can be recited from ancient Israelite literature (including biblical). Some texts produced in the Second-Temple Era explicitly describe the rotation of the priestly courses in association with a jubilee schedule. When detailing the priestly rotation in association with a 49-year cycle, Scroll 4QOtot becomes rather explicit in describing the appearance of a lunar-cycle 'sign' (the 'ot', or plural 'otot') at the unending frequency of each third year. The source information that relates the early adherence to 7 sets of 7 years (and associated lunar-cycle reckoning) seems to mirror the possibility that Israel's priesthood possessed knowledge of the above cited jubilee interface. For additional information concerning the once adhered to count of 50 years, refer to the subsequently presented Chapter 13.

Of additional significance concerning an interpretation of interrelated time design is that Earth's rotational rate (the day rate) can be recited to inherently interface or conjoin with the synodic period of the Moon. The moment of the stated Earth and Moon conjunction reoccurs in association with a span of 49 lunar months. Essentially, when 7 sets of 7 lunar months (or 49 lunar months) have elapsed, the same rotational phase of the Earth inherently comes into conjunction with the same orbital phase of the Moon.

The following diagram attempts to more fully illustrate that a cycle of 7 lunar months (cycled 7 times) reoccurs in very close interface with the rate of the rotation of the Earth. In essence, the cited synchronization of Earth's rotation with 49 lunar periods can be stated to represent an almost perfect interface.

Please take note that 1447 days—when divided into synodic months of 29.53059 days—is equal to 49.0000 lunar months.

THE INTERFACE OF 49 SYNODIC MONTHS *							Number of Earth's Rotations
1	2	3	4	5	6	7	206.714
8	9	10	11	12	13	14	413.428
15	16	17	18	19	20	21	620.143
22	23	24	25	26	27	28	826.856
29	30	31	32	33	34	35	1033.571
36	37	38	39	40	41	42	1240.285
43	44	45	46	47	48	49	1446.999

*** - Earth's rotation aligns with 49 lunar months.**

The two previously cited examples have attempted to show that the Moon cycle does seem to intelligently interface with both the annual transit of the Sun (the solar-year rate) and also with the spin of the Earth (the solar-day rate).

Interrelated time design can additionally be interpreted from the peculiar rate by which the synodic month of 29.53059 days does exceed a whole day rate of 29 days.

An amount of difference is inherent between the rate of the synodic month (29.53059 days on the average) and a whole-day count of 29 days. The cited difference between the two rates averages out to be a little over half a day—or 0.53059 days. (Note here that 29.53059 days minus 29 days is equal to 0.53059 days).

Based upon the indicated half-day count difference by which the synodic month exceeds 29 days, it follows that if the count of the synodic month is assigned to a whole-day rate (of 29 days) then the difference of the stated half-day rate (0.53059 days per lunar month) would tally to the sum of exactly 105 half days in every cycle of 8 solar years.

The indicated correspondence between cycles of the Earth, Moon, and Sun is then remarkable in the regard that 105 half days in 8 years is all but perfectly equal to the rate of 0.53059 days per lunar month.

A PRECISE DAY-TO-YEAR CORRESPONDENCE BASED UPON THE RATE OF THE SYNODIC MONTH

Year	Number of Synodic Months	Number of Half Days as 29-Day Cycles	Number of Half Days that are Residual
1	12.36827	717.35942	13.12496
2	12.36827	717.35942	13.12496
3	12.36827	717.35942	13.12496
4	12.36827	717.35942	13.12496
5	12.36827	717.35942	13.12496
6	12.36827	717.35942	13.12496
7	12.36827	717.35942	13.12496
8	12.36827	717.35942	13.12496
Totals:	98.94613	5738.87539	104.99965

Note that 0.53059 days per lunar month—if extended for the number of months in 8 years or for 98.94613 lunar months—is just about exactly equal to the length of 105 half days.

The cited half-day difference (0.53059 days per synodic month) is of seeming significance in the regard that the number of days in each synodic revolution can systematically be scribed relative to always 29 days (as a rate of whole days). The residual rate of fractional days (0.53059 days per lunar month) can then routinely be intercalated according to a separate or a secondary rate of days. Because the stated secondary rate of days is inherently equal to 105 half days every 8 solar years then the occurrence of a periodic 30th day in the lunar-month cycle can be accounted for around a schedule that is formal and fixed.

Thus, the number of days in each synodic revolution of the Moon can be used to precisely scribe the limits of a cycle of 8 solar years (in average time).

A scribe of 29 days per lunar month and the additional scribe of 105 half days has an 8-year average that equals 2921.93769 days. (This 8-year average quite perfectly corresponds with the limits of 8 solar years—which is equivalent to 2921.93752 days).

> *The cited correspondence between the lunar period and the day cycle can be used to very precisely determine the limits of 8 solar years (on the average). In this modern era, the cited half day bounds with the epoch of each 8th year to within a difference of only 15 seconds (which is a difference of less than 2 seconds per year). The average annual result of the cited scribe is almost perfect. (Due to the tiny rate by which the spin of the Earth appears to be slowing down, the cited lunisolar correspondence can be predicted to have at one time been absolutely perfect. The time when a perfect alignment did exist can be predicted at only a few centuries ago.) For additional information concerning the stated spin and orbital interface, refer to the subsequently presented Chapter 15.*

In a quest to discover more about interrelated time design, the ancient astronomer: Enoch left record of the year becoming "complete according to the station of the Moon, and the station of the Sun . . . ".

This notation of 'time stations' seems significant in the regard that the length of each passing solar year can very effectively (almost perfectly) be measured and metered by simply counting solar days. In essence, the length of the solar year (365.24219 days) can almost EXACTLY be correlated to a fixed number of annual days.

This axiom is valid within the context of additionally counting the days in position with, or in line with, Sun and Moon stations.

To be more specific about the definition of time stations, a day count of the tropical year is possible within the context of tracking a cycle defined by the Moon and a cycle defined by the Sun.

As is more fully shown in Chapter 15, the first of the two cited time cycles that must always be accounted for is equal to 7 lunar weeks. The second of cycles that must always be tracked is equal to the span of time occupied by 30 solar days.

MOON CYCLE
(7 Lunar Weeks)

Lunar quarter 1 (lunar week 1)
Lunar quarter 2 (lunar week 2)
Lunar quarter 3 (lunar week 3)
Lunar quarter 4 (lunar week 4)
Lunar quarter 5 (lunar week 5)
Lunar quarter 6 (lunar week 6)
Lunar quarter 7 (lunar week 7)

As the following diagram illustrates, one of the best possible day-count models that can account for each passing tropical year only requires an accounting of the stated Moon and Sun cycles:

EARTH'S ROTATION CAN BE CORRELATED TO THE ANNUAL QUARTERS

Annual Division	Corresponding Day Counts
Quarter 1	1 + 28 + 29 + 28
Quarter 2	1 + 29 + 28 + 29
Quarter 3	1 + 28 + 29 + 28
Quarter 4	1 + 29 + 28 + 29

The cited calendar count of 346 days does inherently pace each year cycle as long as specific days are added--as follows:

1. **Every Sun Cycle: + 1 day**
2. **Every Moon Cycle: + 1 day**

It should be clear from the day rates shown in the diagram that—in pace with additionally counted days or time stations—each passing annual-quarter division can easily and effectively be metered.

Please take note here that an intercalation rate equal to 1 day per Sun Cycle and 1 day per Moon Cycle is equal to 19.24232 days per year. This then means that from year to year the seasonal turns can effectively be metered out in correspondence with a fixed count of days. Note that a calendar

count of 346 days with intercalated days achieves an average solar-year rate of 365.24232 days.

Thus the average result of tracking days within the context of Sun and Moon cycles (in this modern era) is proven to be perfect from year-to-year within a difference of only 11.2 seconds! (The annual result of tracking celestial time stations can be recognized as fully or absolutely perfect only centuries before—as is shown in Chapter 11).

Certain other interpretations seem plausible in their indication of interrelated time design. One of these interpretations concerns the rate by which Earth's spin returns in interface with the annual transit of the Sun. The indicated day-to-year interface makes it possible to ultimately conclude that the solar-day unit is an element or a component of a time-tracking system that of intelligent design.

The essence of the stated interpretation of the solar day in interface with the solar year is that when Earth's spin (the solar-day rate) is accounted for in specific units of 10 days then certain arrangements of the 10-day cycles can quite exactly be correlated or cross-referenced to the epoch of each passing solar-year cycle. To be more specific, it is demonstrable that when the track of a specific cycle of 20 days is routinely performed then the rate of each passing solar year can effectively be cross-referenced or correlated to a fixed number of day cycles. Oddly enough, this is also true concerning the track of a specific cycle of 30 days, and this is also true concerning the track of a specific cycle of 40 days!

In summary to the current chapter, it seems of considerable significance that the spin rate of the Earth (every 86,400 seconds), the transit of the Sun (365.24219 days), and the return of the Moon

(29.53059 days) do all interface together within the context of a perfect time model.

For additional information concerning a time track of 10-day cycles, follow the Internet links:

1. ***www.creation-anwers.com/cref.htm***
2. ***www.creation-answers.com/thirty.htm***
3. ***www.creation-answers.com/forty.htm***

13

SCROLL 4QOTOT . . .

In early Israel, a span of 7 years was used to compute various long time cycles. One of these long time cycles was a span of 7 sets of 7 years (or 49 years). After 49 years were counted-out, a special jubilee celebration was held to announce the commencement of the jubilee year (or the 50th year).

The content of certain early-written manuscripts reveals that the jubilee year may have been celebrated in association with a system of lunar reckoning. As an example, Scroll 4QOtot is explicit in showing the routine occurrence of a lunar-cycle 'sign' in association with a count of the jubilee cycle. (The priests when revolving their courses throughout the jubilee time cycle appear to have reckoned a lunar-cycle 'sign' at a continuous frequency of each 3 years). Of significance here is that by skipping the count of a lunar week each 3rd year, a jubilee calendar is the inherent, or automatic result:

A JUBILEE CALENDAR OF LUNAR WEEKS

Year 1 = 49 lunar weeks	Year 8 = 49 lunar weeks
Year 2 = 49 lunar weeks	Year 9 = 49 lunar weeks
Year 3 = 49 lunar weeks	Year 10 = 49 lunar weeks
Year 4 = 49 lunar weeks	Year 11 = 49 lunar weeks
Year 5 = 49 lunar weeks	Year 12 = 49 lunar weeks
Year 6 = 49 lunar weeks	Year 13 = 49 lunar weeks
Year 7 = 49 lunar weeks	Year 14 = 49 lunar weeks
At 7th Year: + 1 week	At 7th Year: + 1 week
Year 15 = 49 lunar weeks	Year 22 = 49 lunar weeks
Year 16 = 49 lunar weeks	Year 23 = 49 lunar weeks
Year 17 = 49 lunar weeks	Year 24 = 49 lunar weeks
Year 18 = 49 lunar weeks	Year 25 = 49 lunar weeks
Year 19 = 49 lunar weeks	Year 26 = 49 lunar weeks
Year 20 = 49 lunar weeks	Year 27 = 49 lunar weeks
Year 21 = 49 lunar weeks	Year 28 = 49 lunar weeks
At 7th Year: + 1 week	At 7th Year: + 1 week
Year 29 = 49 lunar weeks	Year 36 = 49 lunar weeks
Year 30 = 49 lunar weeks	Year 37 = 49 lunar weeks
Year 31 = 49 lunar weeks	Year 38 = 49 lunar weeks
Year 32 = 49 lunar weeks	Year 39 = 49 lunar weeks
Year 33 = 49 lunar weeks	Year 40 = 49 lunar weeks
Year 34 = 49 lunar weeks	Year 41 = 49 lunar weeks
Year 35 = 49 lunar weeks	Year 42 = 49 lunar weeks
At 7th Year: + 1 week	At 7th Year: + 1 week

Year 43 = 49 lunar weeks
Year 44 = 49 lunar weeks
Year 45 = 49 lunar weeks
Year 46 = 49 lunar weeks
Year 47 = 49 lunar weeks
Year 48 = 49 lunar weeks
Year 49 = 49 lunar weeks
At 7th Year: + 1 week

Year 50 = 49 lunar weeks

Take note here that in order to keep pace with the turn of each tropical year, the diagrammed calendar requires the addition of a lunar week each 3rd year (a perpetual rate).

SIGNIFICANCE OF THE LUNAR WEEK

Of significance about the shown jubilee calendar is that with the stated rate of required intercalation applied, each calendar year —on the average—becomes equal to 365.2442 days. Each year of the cited jubilee calendar, on the average, then compares very closely with the revolution of the tropical year—which rolls over in 365.2422 days.

The jubilee calendar (as diagrammed) thus depicts a time cycle (in years) that can effectively be measured and metered out in association with a number of lunar weeks (or lunar quarters).

> *It should be clear from the week counts shown in the diagram that—when the rate of one lunar week every 3rd year is counted apart (or leaped) from out of the time stream—a grid of lunar weeks (2457 weeks) can be counted (repeated) in correspondence with a cycle of 50 years. Essentially, an effective calendar of lunar weeks is the inherent or automatic result of leaping one week each 3rd year from out of the time stream. (This respective rate of calendar intercalation is equivalent to 0.33333 weeks per solar year on the average).*

While the available source information doesn't explicitly state that a lunar week was specially accounted for at the distance of each 3rd year, it is clear that Israelite priests probably did perpetually reckon a lunar-cycle 'sign' at this respective distance (each 3 years). This leaves some latitude in interpreting how the lunar cycle was once reckoned. For example, in reckoning the

'sign', the priests may have reckoned the lunar cycle at the resolution of the half or the whole of the lunar cycle.

The main reason for believing that the lunar cycle was once reckoned at the resolution of the quarter phase is that ancient literature is explicit in describing the priestly courses as being rotated once each week. The routinely appearing 'sign' was then accounted for right when one priestly course ended (refer to Scroll 4QOtot). The combination of this rotating schedule and the time when the 'sign' was routinely observed does not seem to allow for an alternate interpretation. Essentially, if the 'sign' was observed at the end of a 7-day cycle then it is obvious that the priests were reckoning a quarter cycle of the Moon.

The indicated track of a lunar 'sign' points to the possibility that the priests recognized certain among the lunar weeks to be very special. The respective week which corresponded to the lunar 'sign' was apparently not counted the same as were other calendar weeks.

Note that a leap week (a 3-year rate) is not shown in the following diagram.

7-Year Segment	Number of Years	Number of Lunar Weeks	At Each 7th Year
1.	7	7 times 7 times 7	+ 1 week
2.	7	7 times 7 times 7	+ 1 week
3.	7	7 times 7 times 7	+ 1 week
4.	7	7 times 7 times 7	+ 1 week
5.	7	7 times 7 times 7	+ 1 week
6.	7	7 times 7 times 7	+ 1 week
7.	7	7 times 7 times 7	+ 1 week
50th yr	1	7 times 7	

The diagram shown is synonymous to the previous diagram in showing that primal priests may have tracked lunar phases to effectively track the limits of a 50-year cycle.

Clearly, a calendar of lunar weeks is automatic or inherent when a lunar week is leaped each 3rd year as a perpetual rate. (The cited grid of lunar weeks almost perfectly paces the rate of the solar year through the intercalation of 0.33333 weeks per solar year—as an average rate).

Thus, a given conclusion is that the jubilee time cycle CAN be cross-referenced to a calendar of lunar weeks. This remarkable lunisolar cross-reference is easy to recognize when a lunar week (the 'sign') is perpetually intercalated each 3rd year.

It is very probable that the indicated 'sign' does relate to an early used tithing cycle. A 'ten cycle' across 3 years was once used to support the priesthood and the Temple system (refer to Leviticus 27:30; Numbers 18:24; Deuteronomy 14:22-29; 12:17-19; 16:14).

The indicated track of a rhythmic 'sign' then points to the possibility that primal Israelite priests were knowledgeable of the cited jubilee interface (a calendar of lunar weeks).

For more comprehensive information concerning the once observed jubilee cycle, refer to the following web page: ***www.creation-answers.com/jubilee.htm***.

14

THE DAY OF THE SUN . . .

The large focus of the current chapter is those families that comprised the priesthood of Israel appear to have tracked a month-like cycle of 30 days for celebratory purposes.

Of significance here is that passages in the Bible (and miscellaneous sources) tend to indicate that the priests were cautious to celebrate and to present sacrificial offerings in association with the renewal of 30 days. The renewal of 30 days was probably officially tracked and celebrated in Judea throughout most of the Temple Era.

Other astronomer-priests who flourished in the ancient Middle East appear to have likewise revered and celebrated a continuous cycle of 30 days. The track of a 30-day cycle can be recited from Assyrian, Persian, and Egyptian sources.

A plausible reason for why early astronomers did once time track the renewal of 30 days can be deduced from portions of

early-written literature attributed to Enoch. Certain passages embedded in the Enoch literature indicate that each passing year cycle has inherent day divisions or time stations. Among the time stations detailed in the astronomical book of Enoch is that of an equally-spaced station or day attributed to the Sun. This respective time station—occurring at the uniform distance of always 30 days —is shown to have been integral in defining the year cycle. (For comprehensive information, refer to the subsequent Chapter 15).

The priestly time track and celebration of the renewal of 30 days raises an ultimate question concerning the chronology of the time station that was attributed to the Sun. (It here seems pertinent to note that early Christian records point to a possible chronology for the once celebrated Day-of-the-Sun).

In substantiation of an hypothesis that the traditional Israelite priesthood did once track and celebrate each 30th day, passages from period literature show that an offering was routinely performed in association with the "beginnings" of the month or the "renewal" of the month (refer to Numbers 28:11).

> *In the Temple Era, the beginning of the month or the renewal of the month (the Chodesh) required the performance of specific liturgy (as per 2 Chronicles 29:28). During the renewal celebration, the priestly families are indicated to have sounded loud musical instruments (refer to Numbers 10:10).*

Texts throughout the Hebrew Bible consistently use the word 'chodesh' (or 'hodesh') in reference to the once sacrificially celebrated cycle of the new beginnings or a cycle of the renewal. It here seems pertinent to note that the Hebrew word 'chodesh' (or

'hodesh') as it appears in the Hebrew Bible is interpreted by some of the translators to mean the epoch of the new Moon rather than the renewal of a different type of month cycle. The chodesh (or the renewal or the new beginning) is indeed sometimes used in reference to a lunar-month cycle. However, it is of significance that the chodesh is often used in reference to other time cycles as well. For example, YHWH commanded the Israelites to bring a renewal (chadesh) offering on the day which ended a cycle of 7 weeks—refer to Leviticus, Chapter 23. Other clear examples can be recited from the sea scrolls recovered near Qumran. (On some of the scrolls, the use of a chodesh of 30 days and a chodesh of 31 days is sometimes shown. A related example can also be recited from a certain scroll that shows the offering of the new month as being equal to 30 songs—refer to *'The Psalms Scroll'*.)

Some early Jewish literature was not written in Hebrew but in Greek. It is here significant that an analysis of the Greek texts shows that the word for Moon (or 'mhn') was likewise used in reference to a month cycle that was different from the literal lunar cycle. As an example, two passages of the book of Revelation show a time span of 1260 days spanned 42 months ('mhnav'). From these texts, it is very apparent that each of the 42 cited months was once understood to be equivalent to a month-like cycle of 30 days. (Note that a month cycle of 30 days is a month cycle different from the lunar month—which completes in 29.5 days).

Variations of the Greek word 'mhn' used in reference to a 30-day cycle can also be recited from the almost contemporary writings of Philo Judaeus as follows:

1. *"[The month cycle] is derived the number thirty" ('**On the Creation**', XIX).*
2. *"[When] we say that from morning to evening there are twelve hours, or from new month to the end of the month there are thirty days, we are including in our enumeration both the first hour and the day of the new month." ('**On Dreams, That They are God Sent**', 2.257).*
3. *"[The count of] thirty . . . makes up the cycle of the month ." ('**Questions and Answers on Genesis**').*

   (English translation of the writings of Philo are based upon the Yonge version).

It then becomes significant that the meaning of the Hebrew word 'chodesh'—as it was used and understood throughout the Temple Era—pertained to both lunar-based cycles and solar-based cycles. Also significant is that the meaning of the Greek word 'mhn'—as it was used and understood in the late 2nd Temple Era —pertained to both lunar-based cycles and solar-based cycles. This distinction in the ancient meaning of the cited Hebrew and Greek words for the month cycle is then essential for coming to ultimately understand that a cycle of 30 days may have been integral for determining when offerings were to be presented upon the Temple Altar.

The possibility that more than one type of new month was celebrated in ancient Israel can be recognized from sacrificial liturgy subscribed to under the Temple system. Based upon sacrificial itineraries followed by the Temple priests, it is very manifest that one type of renewal required the offering of 2

bullocks, 1 ram, and 7 lambs. (Another type of renewal required the diverse offering of 1 bullock, 1 ram, and 6 lambs).

The priestly track of a 'perpetual' month cycle (a month that renewed every 30 days) is pointed at in the book of Daniel—where in Chapter 12, a calendar count of "1290 days" is shown. (It is clear that this time span may have once been understood to correspond with an unbroken sequence of 30-day cycles).

Other passages from the book of Daniel have significance in indicating that a perpetual sacrifice was offered upon the Temple Altar. In example, it was prophesied or predicted by the prophet Daniel that the 'perpetual' sacrifice rate would be suspended for the duration of exactly 2300 times:

> *" . . . How long shall . . . the continual burnt-offering, and . . . the sanctuary . . . be trodden under foot? . . . Unto 2300 evenings and mornings; then shall the sanctuary be cleansed." (Daniel 8:14 —based upon the ASV).*

The respective Daniel prophecy about the ceasing of the perpetual sacrifice (a number of 2300 sacrifices) was noted by Flavius Josephus (c. 1st century) to have corresponded to a time span of exactly 3 years (refer to '***Antiquities of the Jews***', Book XII, Chapter 7:6).

The mention by Josephus about the ceasing of the sacrifices seems significant in the regard the rate of the perpetual daily sacrifice (2 lambs) and the additional rate of the perpetual monthly sacrifice (2 bullocks and a ram) appear to inherently total 2300 sacrifices in correspondence with a time span of 3 years.

Note that the number of days in 3 solar years is equal to 1096 days. It follows that if 2 lambs were offered on the Temple Altar daily (refer to Numbers 28) then a total of 2192 lambs would have been offered across a time cycle of 3 years. In addition, if 2 bullocks and 1 ram were offered once per month (12 times each year) then 108 additional sacrifices would have been offered in this respective time span (3 years). A total number of 2300 sacrifices would then have been offered in correspondence with a time cycle of 3 years. (Note that 2192 daily sacrifices plus 108 monthly sacrifices is equal to 2300 total sacrifices).

The noted number of 2300 sacrifices across 3 years of time then points to an original sacrificial (month) schedule that perpetually renewed at a frequency of at least every 30th day.

While the Daniel prophecy (6th century BCE) appears to have originally been understood in the context of a month cycle that renewed at a frequency of no less than every 30th day, it seems pertinent to here note that 1st-century publications attributed to Josephus consistently refer to a calendar of lunar months. In reference to the cited Daniel prophecy, it then may be of significance that a calendar of lunar months can closely approximate the length of 3 solar years. Equivalence to 3 solar years can be achieved with a luni-based calendar through the intercalation of 1 lunar month and 3 more days).

One of the best interpretations concerning the perpetual rate of sacrifice then is that an offering was prepared/presented at the frequency of morning and at evening on a daily basis. An additional offering (2 bullocks and 1 ram) was prepared/presented in association with a month schedule. (Note that the cited 'perpetual'

rate of sacrifice—daily and monthly—would have pertained to only a part of the overall sacrifice schedule).

Thus, it seems a clear possibility that an uninterrupted cycle of 30 days may have been integral in defining a sacrificial itinerary that was subscribed to by the priests.

It here seems pertinent to note that the Hebrew word for the literal lunar cycle or the Moon cycle is yerach (not chodesh). Throughout all passages of the Hebrew Bible there is no single instance that substantiates the epoch of the yerach was ever sacrificially celebrated. Conversely, the event of the Chodesh (the renewal) is consistently shown to have been the time for sacrificial celebration. This again tends to mean that the cited renewal (Chodesh) when sacrifices were routinely offered was not quite the same renewal as the Moon or yerach.

The additional sacrifice of 1 bullock, 1 ram, and 6 lambs may have been offered upon the Temple Altar in correspondence with the completion of certain lunar months. In example, the count of a specific lunar day and the associated offering of an additional sacrifice on that respective day is described in an 11th century Jewish manuscript known as '***The Code of Maimonides***'. According to the author of this manuscript, it was under the Temple system that an additional offering was presented at the end of those lunar months that were "full" and contained a 30th day (an extra day). An assembly was also noted on those additional lunar days—as follows:

> *"Whenever the court declared a month as full . . . it was customary [to assemble at] . . . a place held ready for that purpose, and there a meal was*

> *prepared. They went there not in the evening but in the early morning before sunrise, nor did they go to this meal if they were less than ten persons, nor did they take along anything save bread made from grain or pulse, which was all that they ate at this meal. And this is meant wherever reference is made to the religious meal for the intercalation of a month [= the ceremonious celebration of the 30th day of the Moon]." (Solomon Gandz).*

Of significance here is this special lunar day was seemingly celebrated right at the molad of the lunar month (and prior to the evening when the new crescent of the Moon was observed).

Then, to summarize the indicated priestly tradition of tracking a month cycle, it is clear from an abundance of early Hebrew literature that the renewal of the month (or months) was ceremoniously acknowledged. The Chodesh, as a time of renewal, or as a time of new beginnings, was probably tracked and recorded in association with time cycles other than (in addition to) the lunar month.

> *As is more fully shown in Chapter 15, the ancients would inherently have been capable of performing a perfectly accurate meter of the limits of the tropical year by tracking an uninterrupted cycle of 30 days.*

The cited renewal day (Chodesh) that was sacrificially celebrated under the Temple system appears to have minimally been regarded as a day of memorial among 1st-century Hebrews. This respective day—one of 30 days—appears to have likewise

been memorialized as a day of renewal among a segment of the Gentiles.

Regard among both Jews and Gentiles for the turn of the 30th day can be recognized from certain sources that herald from in and prior to the 1st century. It seems pertinent to here note that a segment of 1st-century Hebrews (and devout Gentiles alike) are indicated to have routinely participated in Temple liturgy. The considerable degree of veneration held for the Temple system among a wide body of adherents (including Gentiles) is rather clearly mirrored in 12 consecutive chapters of Acts (beginning with the tenth chapter).

A degree of religious regard for the 30th day is explicit from the writings of the satirist Horace. In his '***Sermones***', the lead character of Horace's play is shown to have carried on the following conversation with a certain Fuscus Aristius:

> *[Lead Character] " . . . you said that you wanted to tell me something in private." [Fuscus Aristius] " . . . you will be told on another occasion . . . for of the Sabbaths this is the 30th day. Would you affront the circumcised Jews?" [Lead Character] "I have no scruple [on that account]." [Fuscus Aristius] "But I have . . . I will speak with you on another occasion." [Lead Character] "And has This Sun arisen so disastrous upon me! . . . " [1, 9, 65-70. English translation based largely upon C. Smart (Harper & Brothers, 1863).]*

It seems clear from the quoted passage of '***Sermones***' that a 1st-century adherent of the Temple system would have then been

mindful of the turn of the 30th day. In fact, some contemporary followers of Temple liturgy are shown to have interpreted (at least) a portion, or period, of Sabbath time in association with the renewal of 30 days. (Perhaps the cited day of record, or renewal, was regarded as a minor Sabbath because of the hour, or hours, during which the additional sacrificial ritual was enacted by Temple priests).

The cited passage from '***Sermones***' was written rather late in the Temple Era—and only about six decades before the Temple was destroyed by the Romans. The late-Temple time frame in which '***Sermones***' was written tends to indicate that the cited day of renewal was tracked and recorded among families that comprised the priesthood—and among adherents of the Temple system—for as long as the 2nd Temple stood.

The possibility that early priests did hold to a tradition of recording the cited renewal of 30 days—a new beginnings cycle—can also be recognized from the content of writings left by primal or original Christians. In example, the following passage from the book of Revelation can be recited as evidence that a time track of 30 days was once an important liturgical cycle:

> *I was given a reed like a measuring rod and was told, "Go and measure the temple of God and the altar, and count the worshipers there. But exclude the outer court; do not measure it, because it has been given to the Gentiles. They will trample on the holy city for 42 months. And I will give power to my two witnesses, and they will prophesy for 1,260*

days, clothed in sackcloth . . . " [11:1-3, English translation based upon the NIV.]

The cited reference to a time span of 42 months across 1260 days is somewhat unusual in comparison with other calendar systems used in the 2nd-Temple Era. For example, writings left by early rabbis focus upon the reckoning of an annual calendar comprised of lunar months.

Even though the quoted reference to a time span of 42 months appears to be unusual in the historical context of the late Temple Era, this same time span (1260 days) is referenced in a subsequent passage of the book of Revelation—as follows:

"Then God's temple in heaven was opened . . . A great and wondrous sign appeared in heaven: a woman clothed with the Sun, with the Moon under her feet and a crown of twelve stars on her head. [11:19-12:1] . . . The woman fled into the desert . . . for 1,260 days . . . (12:6) . . . The beast was given . . . to exercise his authority for 42 months." (13:5). [English translation based upon the NIV.]

From these rather unusual references to a 42 month span of time (a time span that undoubtedly traversed 1260 days) it seems very clear that an ongoing 30-day cycle could have at one time been significant in performing required Temple liturgy.

Note that a time span that traversed 42 month cycles containing 30 days in each month-like cycle is exactly equal to 1260 days. Further note that a time span of 42 month-like cycles extending across 1260 days indicates that the cited cycle of 30

days was tracked continuously. Essentially, there is no evidence that the indicated priestly track of 30 days was ever broken.

Based upon the cited record of the workings of a Heavenly Temple, it is not illogical to at least suspect that the priestly courses did indeed once track and record an ongoing cycle of 30 days (a cycle of renewal or new beginnings).

It here seems of some related significance that the early Christian movement can closely be connected to one of the chief priestly families—the course of Abiah. This indicated connection to the Temple course of Abiah essentially means that writings left by the earliest of the Christian teachers (including even Jesus) not only mirror the views of certain religiously minded Israelites (those who lived in the 1st century) but these writings surely also reflect opinions and interpretations espoused by certain high-ranking members of Israel's ancient priesthood. To be more specific, Jesus —through his mother's lineage—appears to have been related (by blood or by marriage) to a ranking family of priests (the Temple course of Abiah). This connection between the original Christian movement and a family of ranking priests seems very apparent from the book of Acts (refer to the initial chapters). The book of Acts further indicates that a "great company of the priests were obedient to the Christian faith" (refer to Chapter 6:7). Of further significance is that one or more of the New Testament authors may themselves have been ranking members of the then priesthood. The possibility that some among the Apostles held this office is manifest from Polycrate's epistle to Victor (2nd century CE). In this epistle it is stated that the Apostle John "was both a witness and a teacher . . . and being a priest wore the sacerdotal plate" (refer to

Eusebius's '***Church History***'). John the Baptist—another ranking religious figure of Jesus' time, and apparently a relative of Jesus—is referred to by a number of Christian authors. The priestly John (of the course of Abiah) is shown to have first preached the coming of a Kingdom of God . . . a message that Jesus also preached.

A regard among early Christians for the renewal of the 30th day (a station or a day of the Sun) can further be recited from certain texts produced prior to the 4th century. Writings produced by some authors who flourished in this era of the Christian Church have detail of a festival celebrated in pace with the Day-of-the-Sun.

The primal Christian celebration of a festival in pace with the Day-of-the-Sun is significant in the regard that adherents of the then popular religion of Mithras appear to also have celebrated a feast on the Day-of-the-Sun.

The track and celebration of the Day-of-the-Sun among both 2nd-century Christians and adherents of Mithras can ultimately be traced to liturgy celebrated among more ancient residents of Middle East. A Middle-Eastern association between the two religions is easy to recognize from Israel's previously cited Temple tradition and also from Persia's reverence for the Sun-god (Mithras).

> *A religion devoted to the Sun-god (Mithras) became predominate in Persia (after about 1000 BCE). Worship of the god-of-light (Mithras) was eventually assimilated into the Roman Empire—where even some among the Roman emperors became devotees. Roman devotion to the Sun-god Mithras peaked in about the 3rd century CE.*

However, after this century, Mithraism faded from being a prominent religion (Wikipedia).

It is here significant that Persians well prior to the 1st century can be recited to have carefully tracked the recurrence of 30 days —as a never-ending, uninterrupted, unbroken cycle. This means that adherents of the Sun-god (Mithras) would surely have understood/interpreted the Day-of-the-Sun in the context of a cycle of 30 days.

Thus, it seems reasonably clear that—in other regions of the ancient Middle East—the reoccurrence of the Day-of-the-Sun would likewise have been tracked in pace with a cycle of 30 days. (For pertinent information of the early Persian track and celebration of the 30th day, refer to subsequently presented paragraphs).

One of the best examples of the Christian celebration of the Day-of-the-Sun—a day also then celebrated in honor of Mithras—can be recited from the following portion of '***The First Apology***' by Justin-the-Martyr (c. 115-165):

"[The Christian celebration of the Eucharist is] . . . imitated in the mysteries of Mithras . . . And on the day called the Day-of-the-Sun, all who live in cities or in the country gather together to one place . . . [and] bread and wine and water are brought, and there is a distribution to each . . . The Day-of-the-Sun is the day on which we all hold our common assembly, because . . . [Jesus appeared from the grave] on the Day-of-the-Sun . . . ".

Certain passages of text attributed to the earliest among the Christian authors then rather clearly mirror that the schedule by

which the original Church assembled would have been identical to the sacrificial itinerary followed by the Temple priests. Essentially, the indicated Christian celebration of liturgy in pace with the Day-of-the-Sun would inherently have paced the Day-of-the-Chodesh that was sanctioned for memorial under the Temple system.

The above quoted portion from *'**The First Apology**'* was originally written by Justin as an appeal on behalf of Christians to the 2nd-century rulers of Rome. The citation of the religion of Mithras was obviously made by the original Justin to win some degree of approval from the Roman magistrates. It here seems pertinent to note that not all portions of text that appear in current versions of this work appear to have been penned by the original author. The clear possibility that text was added after the time of Justin is manifest from those portions of text that have the flavor of Christianity holding status as an approved state religion. The primal version of '***The First Apology***' would surely have shown the common assembly and Eucharist celebrated in pace with the Day-of-the-Sun without the addition of any negative commentary about the religion of Mithras. In addition, it is doubtful that an apparently appended reference to the planetary week was part of the original text.

The Christian celebration of a festival in association with the Day-of-the-Sun [= the Day-of-the-Chodesh] can further be recited from passages of '***The Didache***' (a document presumed to have been written by Christians in 1st-century Syria):

"On the Lord's Day of the Lord . . . Come together.

. . . Break bread. . . . Carry out the Eucharist "

The commemoration of the Lord's Day [= the Day-of-the-Sun] seems to also be reflected in the following passage from the 1st-century book of Revelation:

> *"I was in the Spirit on the Lord's day [= the Day-of-the-Sun], and heard behind me a great voice, as of a trumpet" (Chapter 1:10).*

It here seems to be significant that the cited Christian memorial of the Day-of-the-Sun (or the Lord's Day) was attributed to traditions held among segments of the Hebrews from very ancient times. Essentially, original Christians appear to have believed that celebrating the Lord's Day (the Day-of-the-Sun) pertained to a set of religious liturgy that was followed in ancient Israel—even prior to the time of the original Christians.

This Christian understanding of the commemoration of the day of the Lord is shown in an epistle written at the 1st part of the 2nd century CE. In his letter to the Magnesians, the Bishop of Antioch (Ignatius) was careful to send the following admonition to the early disciples:

> *Be not deceived by heretical opinions, nor by ancient fables . . . the divine prophets lived according to Christ . . . living in observance of the Lord's day, on which day also our life rose . . . even the prophets were disciples . . . " (Chapter 8-9).*

The cited reference made by the Bishop of Antioch to observing the day of the Lord (in the early era of the prophets) was thus probably comprehended by a 2nd century reader to mean that

ancient prophets routinely honored God (the Lord) on the Day-of-the-Chodesh.

In any case, the reference made to the Lord's Day by Ignatius was surely understood by early Christians to have pertained to a day that was observed as holy prior to the time of the Christians. (The indicated Christian commemoration of a day of renewal seems to explain more of why in the book of Acts so many of the priests are shown "obedient to the faith"—refer to Chapter 6:7).

The early celebration of the renewal of 30 days can also possibly be detected from what is known about ancient non-traditional and Gnostic Christians. Though, as early as the 2nd century CE, they were considered to be heretical, it seems to be of related significance that the Gnostics paid special heed to the "30 aeons". (They also highly revered "the tricontad").

Passages from certain Christian works—written in and after the 3rd century—can further be recited as evidence that early or original Christians did probably track the Day-of-the-Sun (the Lord's Day) in association with a running cycle of 30 days. In example, a portion of text attributed to the Christian astronomer Anatolius (c. 3rd century) does clearly show that the Eucharist was then celebrated—but only on a specific day:

> *" . . . 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 Day-of-the-Lord [= the Day-of-the-Sun] . . . [They] hold that it should not be lawful to celebrate the Lord's mystery of the*

> *Passover at any other time but on the Day-of-the-Lord, on which the resurrection of the Lord from death took place, and on which rose" ('**The Paschal Canon Of Anatolius**', Chapter 10).*

Christian histories written in and after the 4th century are explicit in showing that—among a segment of the ancient Christians—the Eucharist was not only celebrated in association with a solar-month cycle but the respective cycle was that of 30 days.

The commemoration of the Eucharist—celebrated in association with a month-like cycle of 30 days—can be recognized from the following portions of '***The Ecclesiastical History of Sozomen***':

> *"The ancient Hebrews . . . offered the sacrifices after the vernal equinox, when the [Day-of-the-]Sun is in the first sign of the zodiac, called by the Greeks the Ram . . . and that at old Rome the members of this sect still observe the same practice as the Romans, who have not deviated from their original usage in this particular, the custom having been handed down to them by the holy apostles Peter and Paul . . . Hence arises my astonishment that those who profess to adopt the Jewish custom in the celebration of this feast, do not conform to the ancient [sacrificial] practice of the Jews . . . The Montanists, who are called Pepuzites and Phrygians . . . affirm that it is right to attend exclusively to the cycles of the Sun. They*

> *reckon each month to consist of thirty days . . . For they compute the day of the creation of the Sun, mentioned in Sacred Writ, to have been the fourteenth day of the Moon . . . They always celebrate . . . on the day of the resurrection [= on the Day-of-the-Sun] . . . " (Book 7 Chapter XVIII).*

It can further be interpreted from the following portion of '***The Ecclesiastical History of Socrates Scholasticus***', that the Eucharist may have once been determined through the track of a solar-based month. (This would have been true concerning a segment of ancient Christians).

> *"In Asia Minor most people kept the fourteenth day of the Moon, disregarding the sabbath [month cycle]: yet they never separated from those who did otherwise . . . While therefore some in Asia Minor observed the day above-mentioned, others in the East kept that feast on the sabbath indeed . . . [and differed] as regards the month [cycle] . . . the latter kept Easter after the equinox . . . `for,' said they, `it ought to be celebrated when the [Day-of-the-]Sun is in Aries, in the month called Xanthicus by the Antiochians, and April by the Romans.' In this practice, they averred, they conformed not to the modern Jews, who are mistaken in almost everything, but to [the traditions of] the ancients . . . Thus these people were at issue among themselves. But all other Christians in the Western parts, and as far as the ocean itself, are found to*

have celebrated Easter . . . from a very ancient tradition [= the Temple tradition]." (Book 5, Chapter 22).

It is here manifest that primal Christians assembled to commemorate the Eucharist on the following diverse dates:

1. The Eucharist was commemorated upon the 14th day of the Moon while the Sabbath of the month (the Sabbath that renewed 30 days) was disregarded.
2. Some in the East celebrated the feast on the Sabbath of the month indeed.

Thus, it seems clear from certain historical sources that the recurrence of the Sabbath of the 30 days [= the Day-of-the-Sun] was integral for determining when to celebrate the Eucharist—at least among a segment of early Christians.

Of related significance is that some of the early Church Canons show that Christians celebrated the Day-of-the-Lord or the Day-of-the-Sun, and this in addition, or in over plus, to the 7th days (as days of Sabbath rest).

To further illustrate that some among the early astronomers did track a running cycle of 30 days, a calendar shown in the book of Ezekiel can be cited. (This respective calendar appears to have been the same or similar to calendars used in ancient Assyria and in early Persia).

It is here significant that the book of Ezekiel appears to herald from a very ancient source. (This respective book could have been authored by a member of Israel's early priesthood—c. 6th century BCE).

On several different occasions the cited priest is indicated to have received communication and special instruction from YHWH. (It is fortunate that on each occasion that Ezekiel came into contact with YHWH, the priest-author was cautious to record the exact date when the communication was received).

Ezekiel's dates seem to be unique in the regard that this author never uses a 'day' descriptor. Instead, relative to the renewal (or 'Chodesh'), a number is all that is used.

Of possible significance is that several of the dates listed by the author of Ezekiel are equivalent to the number 'one'. Essentially, 5 of the 13 cited dates are simply listed as 'one'. (For the 'one' date, the Greek version of Ezekiel uses the word 'mia' and the Hebrew version of Ezekiel uses 'echad'). It ultimately seems strange that the cited 'one' date is listed without a day descriptor in all 5 of the recorded instances. (The notation of a singular date—just 'one'—can frequently be recited from early-written Jewish texts). The indicated early use of the calendar term 'one' may mean that priest-astronomers were knowledgeable of the cited system of tracking Sun and Moon stations (where in scribing days, it seems probable that the ancients reckoned some of the days to be different from the other days).

Especially unique about Ezekiel's 13 dates is that almost all of the numbers (relative to the renewal cycle) are listed to be a multiple of 'five' (a five or a ten). Because many of these queer dates are almost exclusively comprised of multiplies of 'five', it seems possible to conclude that the author of Ezekiel may have possessed knowledge of a '10 count' system.

The Kultepe Calendar (used in ancient Assyria) appears to have been predicated upon a count of 10 days. This count (ten) was used to define/delineate a time cycle of 6 years. (refer to Britannica, 1972).

The cited count ('ten') was repeated across a cycle of 6 years (or for 2190 days). Each cycle of 6 years is therefore indicated to have contained 72 month cycles (of 30 days per month) and two shappatum intervals (of 15 days each). The indicated unbroken cycle of 10 days can then be recognized to have been rather essential for tracking a month cycle of 30 days.

A quite similar method of keeping track of the renewal of 30 days (also in the region of the ancient Middle East) can be recited from the writings of Biruni (a medieval astrologer/astronomer who lived in Iran).

In '***al-Athar al-baqiya***', Biruni reported upon the early Persian reckoning of a year of 360 days—as follows:

*"[The old Persians] counted the year to 360 days, and each month to 30 days without a removal, and they inserted one month in each sixth year, and two months into each 120th year . . . ". (Note that the English translation—as shown—is comparable to Sachau's edition of '**al-Athar al-baqiya**', page 11. Further note that the last of the intercalations of a month at the 120th year took place, according to Biruni, in the reign of the Sasanian king Yazdegird I, 399-420 CE—refer to Sachau's edition, pages 33, 45, 118, and 119. For additional verification of*

*this peculiar 120-year count, refer to **'Old Iranian Calendars'**, by S.H. Taqizadeh.)*

It is rather clear (as was reported by Biruni) that ancient Persians did once count an unbroken cycle of always 30 days. According to Biruni's report, early Persians did count this never interrupted cycle in annual segments of 360 days. (This 12-month count of always 30 days was undoubtedly made so as to approximate the limits of the solar year). It was further explained, by Biruni, that the calendar count of 360 days required the periodic intercalation of an additional month (where a supplementary month was intercalated every six years and a supplementary month was also intercalated each 120 years).

The early Persian calendar comprised of 30-day cycles, as was described by Biruni, would inherently have been rather precise (on the average). It appears that this respective calendar could have been continued without the application of any additional calendar rule for upwards of 4 millennia. (Essentially, the described calendar would have been valid for 32 cycles of 120 years). The calendar rules, as stated by Biruni, would thus have achieved 1461 cycles of 30 days in each cycle of 120 years—or a total count of 43830 days in each segment of 120 years. The stated calendar rules would consequently have produced a quite accurate calendar that averaged 365.2500 days per year. It is nevertheless apparent that after a time span of 3840 years or after 32 cycles of 120

years the scheduled intercalation of a supplementary month [30 days] would need to have been skipped or omitted.

The historian Herodotus can also be recited to partially substantiate that early Persians did once track a cycle of 30 days. (Unlike Biruni who wrote of historical events that preceded his time by several centuries, Herodotus—who lived in the 5th century BCE—was alive almost contemporaneously with the historical events he wrote of). In his work entitled '***The Histories***', Herodotus wrote that a rate of tribute was routinely paid to the Persian king (Darius). This respective rate happened to be 360 white horses—where a white horse was paid "for each day in the year" (refer to Book III, 90, A.D. Godley edition).

The early adhered to Persian calendar of 360 days can ultimately be traced from a more ancient source (perhaps as far distant as 1000 BCE). From this primal source, it is probable that a calendar count of 360 days (counted in 30-day segments) came to be used throughout the Middle East (and regions farther to the East and West).

Of additional significance is that the indicated track of a 30-day cycle among ancient Persians appears to mirror the cycle of the Sun (a cycle of 30 days) that is described in Enoch's astronomical book. (For pertinent information concerning an equally distant station of the Sun, refer to the subsequently presented Chapter 15).

Thus, based upon the rather clear indication that a station of the Sun (or the 30th day) was once reckoned throughout the ancient Middle East, it can be interpreted that the cited author of

the book of Ezekiel could have held knowledge of a calendar similar or the same as the cited Kultepe Calendar.

A time track of 30 days (perhaps also similar to the cited Kultepe Calendar) can seemingly be identified in the previously referred to book of Daniel.

> *In Chapter 12, reference is made to a "time, times, and the dividing of time"—a span of "1290 days". (Note that this time span does inherently correspond with a sequence of month-like cycles of 30 days and shapattum intervals). In addition, reference is made to a span of "1335 days". (This time span can likewise be interfaced to a combination of month-like cycles of 30 days and shapattum intervals).*

A study of the early use of stick calendars further indicates that some among the ancients were cautious to keep track of the renewal of 30 days. For more explicit information of the early use of stick calendars, refer to the following web pages on the Internet:

1. ***www.creation-answers.com/forty.htm***
2. ***www.creation-anwers.com/squared.htm***

Of further significance to a study of the once reckoned stations of the Sun and Moon, and of early-used calendars in the Middle East, is that certain medieval documents (Hebrew) do describe the 12 signs of zodiac in cross-reference with 12 lunar months (calendar months).

The zodiac (12 signs) appears on the floors of certain ancient synagogues (c. 200 to 600 CE). Examples of the 12 zodiac signs

(with Helios in his Sun chariot surrounded by angels) have been discovered in ancient synagogues at Beth Alpha, Hammath Tiberias, Khirbet Susiya, Yafia, Sepphoris, Beth Shean, Husifa, and Na'aran. All the pavements show a center zodiac panel.

One of the cited floor mosaics shows the zodiac (12 signs) cross-referenced to 12 lunar months (the same as is listed in certain medieval manuscripts).

Jews in even the 1st century appear to have been knowledgeable of the 12 signs of the zodiac—as the following treatise makes clear:

> *"The studiers of sublime wisdom now say that the zodiac, the greatest of all circles in heaven, is studded with twelve animals (zoμdia), from which it has derived its name. And that the Sun and the Moon are always revolving around it, and go through each of the animals, not indeed with equal rapidity, but in unequal numbers and periods; the one [= the Sun] doing so in* ***thirty days****, and the other [= the Moon] in as near as may be a twelfth part of that time . . . " (Philo Judaeus,* ***'On Dreams, That They are God Sent'****, 2.112, translation by Yonge).*

Thus, in addition to the medieval sources, a number of 1st-century texts—those written by Flavius Josephus, Philo Judaeus, and the authors of the sea scrolls—can all be recited to confirm that the zodiac circle was once reckoned in Judea (and from very ancient times). Some of the 1st-century sources see a symbolic

connection between liturgical garments worn by the Temple's highest priest and the divided circle of the zodiac:

> *"XXIV. (117) [The garment of the high priest] . . . is a copy and representation of the world; and the parts are a representation of the separate parts of the world. (118) And we must begin with the long robe reaching down to the feet of the wearer. This tunic is wholly of the colour of a hyacinth, so as to be a representation of the air; for by nature the air is black, and in a measure it reaches down from the highest parts to the feet, being stretched from the parts about the Moon, as far as the extremities of the Earth, and being diffused everywhere. On which account also, the tunic reaches from the chest to the feet, and is spread over the whole body, (119) and unto it there is attached a fringe of pomegranates round the ankles, and flowers, and bells. Now the flowers are an emblem of the Earth; for it is from the Earth that all flowers spring and bloom; but the pomegranates (rhoiskoi) are a symbol of water, since, indeed, they derive their name from the flowing (rhysis) of water, being very appropriately named; and the bells are the emblem of the concord and harmony that exist between these things; for neither is the Earth without the water, nor the water without the Earthly substance, sufficient for the production of anything; but that can only be effected by the meeting and*

combination of both. (120) And the place itself is the most distinct possible evidence of what is here meant to be expressed; for as the pomegranates, and the flowers, and the bells, are placed in the hem of the garment which reaches to the feet, so likewise the things of which they are the symbols, namely, the Earth and water, have had the lowest position in the world assigned to them, and being in strict accord with the harmony of the universe, they display their own particular powers in definite periods of time and suitable seasons. (121) Now of the three elements, out of which and in which all the different kinds of things which are perceptible by the outward senses and perishable are formed, namely, the air, the water and the Earth, the garment which reached down to the feet in conjunction with the ornaments which were attached to that part of it which was about the ankles have been plainly shown to be appropriate symbols; for as the tunic is one, and as the aforesaid three elements are all of one species, since they all have all their revolutions and changes beneath the Moon, and as to the garment are attached the pomegranates, and the flowers; so also in certain manner the Earth and the water may be said to be attached to and suspended from the air, for the air is their chariot. (122) And our argument will be able to bring forth twenty probable

reasons that the mantle over the shoulders is an emblem of heaven. For in the first place, the two emeralds on the shoulderblades, which are two round stones, are, in the opinion of some persons who have studied the subject, emblems of those stars which are the rulers of night and day, namely, the Sun and Moon; or rather, as one might argue with more correctness and a nearer approach to truth, they are the emblems of the two hemispheres; for, like those two stones, the portion below the Earth and that over the Earth are both equal, and neither of them is by nature adapted to be either increased or diminished like the Moon. (123) And the colour of the stars is an additional evidence in favour of my view; for to the glance of the eye the appearance of the heaven does resemble an emerald; and it follows necessarily that six names are engraved on each of the stones, because each of the hemispheres cuts the zodiac in two parts, and in this way comprehends within itself six animals. (124) Then the twelve stones on the breast, which are not like one another in colour, and which are divided into four rows of three stones in each, what else can they be emblems of, except of the circle of the zodiac? For that also is divided into four parts, each consisting of three animals, by which divisions it makes up the seasons of the year, spring, summer, autumn, and winter,

distinguishing the four changes, the two solstices, and the two equinoxes, each of which has its limit of three signs of this zodiac, by the revolutions of the Sun, according to that unchangeable, and most lasting, and really divine ratio which exists in numbers; (125) on which account they attached it to that which is with great propriety called the logeum. For all the changes of the year and the seasons are arranged by well-defined, and stated, and firm reason; and, though this seems a most extraordinary and incredible thing, by their seasonable changes they display their undeviating and everlasting permanence and durability. (126) And it is said with great correctness, and exceeding beauty also, that the twelve stones all differ in their colour, and that no one of them resembles the other; for also in the zodiac each animal produces that colour which is akin to and belongs to itself, both in the air, and in the Earth, and in the water; and it produces it likewise in all the affections which move them, and in all kinds of animals and of plants . . . (133) The high priest, then, being equipped in this way, is properly prepared for the performance of all sacred ceremonies, that, whenever he enters the temple to offer up the prayers and sacrifices in use among his nation, all the world may likewise enter in with him, by means of the imitations of it which he bears about him, the

*garment reaching to his feet, being the imitation of the air, the pomegranate of the water, the flowery hem of the Earth, and the scarlet dye of his robe being the emblem of fire; also, the mantle over his shoulders being a representation of heaven itself; the two hemispheres being further indicated by the round emeralds on the shoulder-blades, on each of which were engraved six characters equivalent to six signs of the zodiac; the twelve stones arranged on the breast in four rows of three stones each, namely the logeum, being also an emblem of that reason which holds together and regulates the universe . . . " (Philo Judaeus, '**On the Life of Moses, Part 2**', translation by Yonge).*

Literature produced in the Temple Era then shows that even the Temple priests possessed knowledge of the zodiac.

"XVI. (80) Now these are the laws which relate to the priests . . . the whole of the round robe [of the high priest] is of hyacinthine colour, a tunic reaching to the feet, being an emblem of the air, since the air also is by nature black, and in a manner may be said to be reaching to the feet, as it is extended from above from the regions about the Moon, to the lowest places of the Earth. (86) Next there was a woven garment in the form of a breastplate upon it, and this was a symbol of the heaven; for on the points of the shoulders are two emerald stones of most exceeding value, one on

*one side and one on the other, each perfectly round and single on each side, as emblems of the hemispheres, one of which is above the Earth and the other under the Earth. (87) Then on his chest there are twelve precious stones of different colours, arranged in four rows of three stones in each row, being fashioned so as an emblem of the zodiac. For the zodiac also consists of twelve animals, and so divides the four seasons of the year, allotting three animals to each season. (88) And the whole place is very correctly called the logeum (logeion), since every thing in heaven has been created and arranged in accordance with right reason (logois) and proportion; for there is absolutely nothing there which is devoid of reason . . . And what else could exhibit to us the days and the nights, and the months and the years, and in short the divisions of time, but the harmonious and inconceivable revolutions of the Sun, and Moon, and other stars? (91) And what could exhibit the true nature of number, except those same bodies just mentioned in accordance with the observation of the combination of the parts of time?" (Philo Judaeus, '**The Special Laws, Part I**', Yonge translation).*

In summary to the ancient time track of 30-days, it seems clear from early-written literature that primal priest-astronomers were knowledgeable of a station (or day) of the Sun. On the basis

of the available texts, the following summary points seem to be warranted:

1. A running cycle of 30 days appears to have been rather widely revered and celebrated throughout the ancient Middle East. Assyrian, Persian, and even Roman sources are explicit in indicating that a running cycle of 30 days (an unbroken cycle) was carefully time tracked.
2. The renewal of a cycle of 30 days appears to have been tracked and celebrated in ancient Israel. This possibility is manifest from those passages of the Bible that provide detail of liturgy celebrated by the Temple priests. The priests can be recited to have celebrated and presented sacrificial offerings on a particular renewal day (Chodesh). Furthermore, the books of the Pentateuch, Ezekiel, Daniel, and Revelation all have calendar counts indicating that primal priests were knowledgeable of a running cycle of 30 days.
3. The renewal of a running cycle of 30 days appears to have been revered and celebrated among early Christians. The celebration of the Day-of-the-Sun (the renewal of 30 days) among primal Christians can be confirmed from certain passages of the New Testament and from other early-written Christian sources. On the basis of Christian literature, it is possible to interpret that the renewal of a running cycle of 30 days was likewise tracked and was celebrated by the priesthood—even late in 2nd-Temple Era. It is here of significance that some of the liturgy

celebrated by early Christians appears to be synonymous with liturgy that was celebrated under the Temple system.

One of the reasons the priests tracked and ultimately celebrated the 30th day is perhaps made most clear in certain passages of the Enoch literature. In particular, portions of text embedded in Chapter 73 (in the astronomical section) show that the tropical year was understood among the ancients in correspondence with stations of the Sun and Moon:

"The year becomes truly complete according to the station of the Moon, and the station of the Sun . . . "

What is remarkable concerning the ancient track of a cycle of 30 days is that this same time track can be used—even in this modern era—to effectively measure and meter out the rate of the solar year. (For more information, refer to Chapter 11 of this publication).

Certain of the axioms recited by the author of Enoch thus appear to be fully correct in showing that the tropical year can effectively be measured out by separately tracking Sun and Moon stations.

15

PORTALS OR GATES . . .

A collection of axioms and formulas for resolving the courses of the Earth and Moon can be recited from certain passages of an early-written manuscript attributed to Enoch (one of the Bible patriarchs). In fact, an entire section of this respective book (from chapter 71 to chapter 82) has a focus upon "the revolutions of the heavenly luminaries". (The cited portion of text that attempts to mathematically quantify the spin and orbital phenomenon is known as Enoch's astronomical book).

Certain of Enoch's given adages or axioms for determining the orbital returns can ultimately be recognized to represent a quite plausible (or a rational) explanation for time cycles that are generated by the Earth and Moon. In essence, certain among the definitions and laws recorded in the astronomical book appear to correctly depict that rates of solar days, synodic months, and

tropical years can all be identified together in the context of a rational model (an intelligent lunisolar system).

As is further shown throughout subsequently presented paragraphs and external references, some of the adages and axioms given by Enoch for resolving the courses of the Sun and Moon adequately describe/define an intelligently arranged system.

> *Clear enough from the collection of Enoch texts is that even an early astronomer would have been capable of making an accurate forecast of the orbital returns of the Earth and Moon. In fact, some of the cosmological interpretations attributed to Enoch are so entirely valid that even a modern astronomer would find them of benefit.*

To bring some of the material that has been presented in previous chapters under the lens of the current focus, a rather comprehensive description of tracking time stations can be recognized from portions of the Enoch literature. Early-held knowledge of the count of stations (for both the Sun and Moon) is plainly manifested from the astronomical section—as follows:

> *[Chapter 71:] "The book of the revolutions of the luminaries of heaven, according to . . . their respective periods . . . and their respective months . . . according to every year of the world for ever . . . ." [Skipping to Chapter 73:] " . . . I beheld their stations . . . according to the fixed order of the months the Sun rises and sets . . .* ***thirty days belonging to the Sun*** *. . . [All the days belonging to each year can be correlated to a fixed number of*

> *days]. . .* ***to the Sun and stars . . . thirty days belonging to them*** *. . . The Moon brings on all the years exactly, that their stations may come neither too forwards nor too backwards a single day; but that the years may be changed with correct precision in [a fixed number of] days . . .* ***The year then becomes truly complete according to the station of the Moon, and the station of the Sun . . . which rise and set in them for thirty days****."*

From the Enoch literature, it is apparent that the ancients did once time track a "station of the Sun"—probably in association with a cycle of 30 days. Portions of text from the astronomical book also make it clear that a "station to the Moon" was time tracked inside of the year cycle.

Based upon an hypothesis that Enoch's numbers could pertain to a valid lunisolar system; and to better illustrate the use and definition of a station of the Sun; certain portions of Enoch's astronomical book (Chapter 73) can be interpreted/paraphrased—as follows:

- One in 30 days belongs to the Sun.
- To the Sun and stars, one in 30 days belongs to them.
- The station of the Sun (or one day) reappears in a cycle of 30 days.

The indicated description of a station or a day of the Sun seems significant, and the detail is ample enough to point to the ancient use of the following axiom or time formula:

> **The revolutions of the heavenly luminaries define a station or day that pertains to the Sun.**

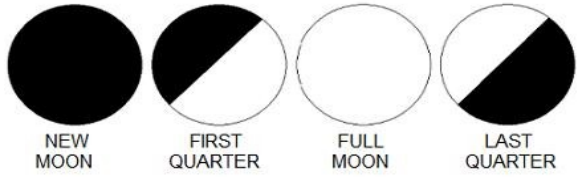
This station or day reoccurs in a cycle of 30 days (an endless rate).

It is pertinent that—in addition to a station of the Sun—Enoch's astronomical book also describes an associated station of the Moon.

> *"The year then becomes truly complete according to the station of the Moon, and the station of the Sun" (ibid.).*

According to the astronomical book, in addition to a station of the Sun, a station of the Moon also belongs among (pertains to) the revolutions of the heavenly luminaries.

As previously has been shown, other portions of the Enoch literature tend to indicate that the cited station or day of the Moon might have been tracked in place, or in position, with a sequence of the lunar quarters.



Note that the Moon travels through four distinct quarter phases in each orbital cycle. The four distinctly defined phases are: 1. New phase (when the Moon is fully dark); 2. First-quarter phase (when the Moon is half dark and half light); 3. Full phase (when the Moon is full of light); and 4. Last-quarter phase (when the Moon is half light and half dark).

Each of the cited quarter phases of the Moon can be predicted to elapse in a time-span that is approximately equivalent to seven and one-third days.

This positioning of a station of the Moon amid a cycle of the lunar-quarter phases is easy to interpret from the following portions of the cited astronomical book: "(Chapter 72: verse 3) . . . [the Moon's] light is a seventh portion from the light of the Sun . . . . (verse 6) Half of it is in extent seven portions . . . its light is by sevens . . . (verse 8-10) On that night, when it commences its period . . . it is dark in its fourteen portions . . . During the remainder of its period its light increases to fourteen portions [or the Moon's light increases to fourteen portions] . . . (Chapter 73: verse 4) In each of its two seven portions it completes all its light [or the Moon reaches the phase of full illumination in two seven portions] . . . " (refer to '***The Ethiopian Enoch***', by Laurence).

A more in depth research of Enoch's astronomical book leads to the ultimate conclusion that the cited station or day of the Moon was probably tracked in association with a cycle of 7 lunar quarters or 7 lunar weeks. The clue to coming up with a more explicit definition of the station of the Moon from the astronomical book can seemingly be found in Chapter 73 in the portion of text that provides detail of the Moon and its lag of 50 days. (*"To the Moon alone . . . it has fifty days . . . "*). It is here of considerable significance that a cycle of 7 lunar quarters or 7 lunar weeks can effectively be counted out in correspondence with a span of 50-days—as is further shown below.

It can thus ultimately be interpreted that primal priest-astronomers did once reckon lunar weeks and were

knowledgeable of a station or day of the Moon (in addition to the cited station of the Sun). The station of the Moon appears to have been tracked in correspondence with a time-span of 7 lunar quarters or 7 lunar weeks.

The description of a station or a day of the Moon from the Enoch texts is then additionally significant and tends to indicate the early use of the following axiom or time formula:

> **The revolutions of the heavenly luminaries define a station or day that pertains to the Moon. This station or day reoccurs in a cycle of 7 lunar weeks (an endless rate).**

Note that priest-astronomers throughout the ancient Middle East are indicated to have once specially reckoned a cycle of 7 weeks (probably 7 lunar weeks). For parallel information concerning the early time track of a station or day of the Moon, refer to Chapter Five of the current document.

It here becomes most remarkable that "every year of the world forever" can effectively be determined by applying nothing more than the two cited axioms (those described in Enoch's astronomical book)! Essentially, it is demonstrable that the rate of the solar year can effectively (perfectly!) be measured and metered out through the time track of a station (a day) of the Sun and a station (a day) of the Moon.

Through the continual reckoning of the two cited stations, the rate of the solar year can precisely (perfectly!) be correlated to a specific number of day units.

> *Hint: If the rate of one day in each month-like cycle of 30 days is routinely reckoned apart from other*

days that comprise the time stream then this respective rate is inherently equal to 12.17474 days per year. Also, if the rate of one day in each cycle of 7 lunar weeks is routinely reckoned apart from other days that comprise the time stream then this respective rate is inherently equal to 7.0676 days per year. These two rates of set-apart days (stations) are then equivalent to a total of 19.24232 days per year (in average time). Thus, if 19.24232 days or stations per year (on average) are reckoned apart from all other days, it becomes a given conclusion that the limits of each passing solar year can effectively be measured and metered out in correspondence with a number count that is always equal to 346.000 of the other days. Note that the rate of the solar year of 365.242 days minus the cited rate of set-apart days (19.242 days) is equal to 346.000 days.

It then seems clear that certain among the axioms and time formulas written down in Enoch's astronomical book are remarkably accurate. The solar circle (365.24219 days) inherently does contain a station or day of the Sun (one in a 30-day cycle) and also a station or day of the Moon (one in a cycle of 7 lunar weeks).

Thus, of significance to a study of Enoch's astronomical book is that—as long as the cited stations of the Sun and Moon are routinely tracked apart from the other days—the length of each passing solar year is inherently metered into 346 equal divisions—

on average. (Note that each of the cited 346 divisions inherently corresponds with the boundary of an exclusively counted day).

> *It is here very significant that the reckoning of 346 specific divisions (as exclusively counted days) results in a time span that is exactly equivalent to the length of the annual circle or year (in average time). Essentially, 346 days—when counted in association with 19.24232 renewal days per year—is equal to 365.24232 days. Thus, the annual result of routinely leaping the count of each station (or day) of the Sun and each station (or day) of the Moon is a time span that is exactly equal to the length of the annual circle or solar year (on the average). The average annual result of tracking 346 days in correspondence with stations of the Sun and Moon is perfect to within an annual difference of only 11.2 seconds! Remarkable is that the annual result of tracking stations of the Sun and Moon can be recognized as fully or absolutely perfect relative to the rate of the solar year only several centuries before. Refer to the previously presented Chapter 11 for more specific information concerning the perfect accuracy inherent in tracking a station (or day) of the Sun and a station (or day) of the Moon.*

While some areas of text attributed to Enoch can clearly be recognized in the context of a correct lunisolar model, a number of

passages appear to pertain to definitions of the spin and orbital phenomena that are incorrect.

The most logical conclusion for the disparate information is that a more original version of the astronomical book was in circulation among the ancients. The primal version of the astronomical book appears to have subsequently been modified—or possibly recompiled with other information—by intervening scribes. Essentially, those inconsistent areas of text now attributed to Enoch do probably reflect the action of scribal error (or addition).

One obviously incorrect definition appearing in current copies of the astronomical book is the fixed assignment of “364 stations” for the length of the year. Because portions of the astronomical book detail a requirement to intercalate stations of the Sun and Moon (an average intercalation rate equal to 19.24 days per year) then it becomes a given conclusion that the original version would have shown 346 stations for the annual number—not 364 stations. In essence, it is demonstrable that each and every passing annual circle can perfectly be measured and metered out in correspondence with 346 time stations (plus the intercalation of 19 more days). Therefore, current versions of Enoch—which now indicate 364 days—probably do not properly reflect what was originally written (346 days plus intercalated days).

Based upon the clear indication that the rate of the solar year (365.24 days) can perfectly be measured and metered out through a combinational time track of a station (or day) of the Sun and a station (or day) of the Moon, current copies of Enoch's astronomical book seem to warrant the substituting of the originally written number of days (346) for the wrongly copied number of

days (364). Consequently, the wording used in the following paragraph does probably come close to representing an outline of the original version of Enoch's astronomical book:

> *[Chapter 71:] "The book of the revolutions of the luminaries of heaven, according to . . . their respective periods . . . and their respective months . . . according to every year of the world for ever . . . ." [Skipping to Chapter 73:] " . . . I beheld their stations . . . According to the fixed order of the months the Sun rises and sets . . . one station or day in 30 days belongs to the Sun . . . All the remaining days belong to the year . . . It is the station (or day) of the Moon that brings on all the years exactly so that an annual count of 346 days can be assigned. This count does come neither too forwards nor too backwards by a single day. Through the intercalation of Sun and Moon stations, the years are changed with correct precision."*

Regardless of which recreation of Chapter 73 is believed to more closely reflect the more original version, there is hardly any doubt but that primal priest-astronomers were knowledgeable of a station (or day) of the Sun and a station (or day) of the Moon. It seems remarkable that the Sun and Moon stations shown in early-written Enoch texts can be used to effectively (perfectly) measure and meter out the solar orbit. Even more remarkable is that these same stations can also be used to effectively (perfectly) measure and meter out the lunar orbit. (By tracking the cited stations of the

Sun and Moon, the solar orbit can effectively be represented in terms of a number of day divisions: 346 metered divisions. Also by tracking the very SAME stations of the Sun and Moon, the lunar orbit can effectively be represented in terms of a number of day divisions: 28 metered divisions.)

This all means that certain of the axioms and formulas contained in portions of Enoch's astronomical book (the presumed more original version) appear to be remarkably valid. It is very clear that a nearly perfect definition of the solar year—or 365.24232 days in average time—can be achieved by accounting for the cited lunar and solar stations. (For additional information concerning the incredible accuracy inherent in the day reckoning of months and weeks, refer to ***www.creation-anwers.com*** on the Internet).

> *Almost beyond belief then is that the use of certain of Enoch's axioms and time-formulas would result in a perfect definition of the solar year. It is the literal truth that cycles of both the new month and the lunar week can be counted-out in correspondence with "every year of the world for ever". [Note that in this modern era, a simple count of months and lunar weeks can be used to define the limits of the solar year to within a difference of only 11.2 seconds too slow; however, due to the slowing spin of the Earth, astronomers who were alive at about 3000 years ago should have been able to define the solar year to within the limits of perfect accuracy.]*

SIGNIFICANCE OF THE LUNAR WEEK

Of further significance concerning the content of the Enoch literature is that the ancients are indicated to have tracked and celebrated a special day in correspondence with each passing annual quarter.

Explicitly clear from two separate sections is that a unique day would have been intercalated in correspondence with the turn of each quarter—where 4 equally-distributed days are shown to have been tracked per year. The respective 4 days that were routinely intercalated were described in detail by the author (or authors) of Enoch in ascending order (or in chronological sequence) with the previously cited count of annual stations (or world stations).

The definition of 4 specific days in pace with the 4 quarters of the year can be recited from portions of the astronomical section—as follows:

> *" . . . 4 intercalary days . . . belong to the reckoning of the year . . . owing to them men go wrong therein, for those luminaries truly render service on the world-stations, the 1st day in the 1st portal . . . the 2nd day in the 3rd portal . . . the 3rd day in the 4th portal . . . and the 4th day in the 6th portal, and the exactness of the year is accomplished through its separate 346 stations . . . " (Paraphrase of Chapter 75, by Charles. Note that 346 is here shown rather than 364 so as to better reflect the probable original number of world stations).*

As in other passages of Enoch, this quoted portion of text continues to indicate that primal astronomers did track each

passing solar year in pace with a fixed number of world stations. The cited quote—however—additionally shows 6 portal stations and 4 seasonal stations as being distributed along/among/amid the world stations.

The cited 4 days that were intercalated appear to have been understood to pertain to the "exactness of the year". In essence, early astronomers appear to have understood 4 specific days as dividing the year into quarter divisions (exactly).

The respective interpretation that is indicated has considerable merit in the regard that each passing quarter of the tropical year can effectively (perfectly!) be measured and metered out within the context of a month count that alternates between 28 days (in one month) and 29 days (in the following month). The day-count guides stated by author (or authors) of Enoch thus point to a rather sophisticated lunisolar model of the tropical zodiac (as further shown below).

EARTH'S ROTATION CAN BE CORRELATED TO THE ANNUAL QUARTERS

Annual Division	Corresponding Day Counts
Quarter 1	1 + 28 + 29 + 28
Quarter 2	1 + 29 + 28 + 29
Quarter 3	1 + 28 + 29 + 28
Quarter 4	1 + 29 + 28 + 29

The cited calendar count of 346 days does inherently pace the return of each passing

year as long as specific additional days are routinely intercalated--as follows:

1. Every Sun Cycle: + 1 day
2. Every Moon Cycle: + 1 day

The shown diagram attempts to better illustrate the feasibility of tracking the revolution of each passing tropical year within the context of the day cycles indicated by Enoch. In reference to the diagram, it seems significant that each one of the annual quarters (4 per year) can EXACTLY be correlated (on the average) to only ONE specific day. Through this interpretation, one day unit (positioned right at the turn of each annual quarter) is typed or classed to stand out and apart from the month days.

Of further significance concerning the modeled month sequence (that alternates between 28 and 29 days) is that the short and long month cycle can inherently be repeated throughout all 12 months of the year. In fact, the alternating month count of the modeled zodiac calendar is so very precise that—from the very beginning of recorded history—the addition or omission of a calendar day has never been warranted. In essence, each calendar year of the model can be stated to ALWAYS contain 6 months of 28 days and 6 months of 29 days.

Additionally significant about the recorded time track of a day positioned at each quarter division of the year is that a distribution of at least 6 portals or 6 gates was also shown by the author (or authors) of the Enoch literature. The first of these four days is shown as being positioned in the first portal, the second of the quarter days is shown at the position of the third portal, the third

quarter day is shown in position in the fourth portal, and the last of the days (the 4th day) is shown in the sixth portal (as cited).

If a quarter division of the year was positioned within the 1st, 3rd, 4th, and 6th of the cited gates or portals then a given conclusion is that one of the quarter divisions would have been reckoned from about the middle of the 1st portal. Subsequent quarter divisions would then inherently have commenced in correspondence with the beginning of the 3rd portal . . . and again the middle of the 4th portal . . . and yet again at the beginning of the 6th portal.

INDICATED POSITIONING OF 6 ANNUAL PORTALS *

Season Number	Quarter Day	Zodiac Month	Month Days	Portal Day
1	1	1	28	+ 1
		2	28	
		3	28	+ 1
2	1	4	28	
		5	28	+ 1
		6	28	
3	1	7	28	+ 1
		8	28	
		9	28	+ 1
4	1	10	28	
		11	28	+ 1
		12	28	
	4		336	+ 6

Year Total = 346 World Stations

*** -- This count equals 365.2423 days per year when paced by the addition of Sun and Moon stations.**

SIGNIFICANCE OF THE LUNAR WEEK

From the described positioning of the 6 portals relative to the 4 quarters it can ultimately be recognized that each of the portals could have exactly been accounted for right at the turn of every 29th day. (Note, in reference to the shown model, each of the respective portal days can be stated to inherently overlay one day —say the 29th day-- of every alternate zodiac month.

The indicated effective time track of world stations with seasonal and with portal divisions points to the possibility that—on the average—some among the early astronomers may have been right on par with modern astronomers. Essentially, the limits of each passing solar year (on the average) could have been determined to within the limits of even perfect precision.

To further investigate which portions of Enoch's astronomical book might contain a valid axiom (or axioms) for resolving the courses of the (apparent) Sun and Moon, the following passage could be of possible significance:

> *"And I saw six portals in which the Sun rises . . . and* ***the Moon [also] rises . . . in these [same six] portals*** *. . . " (Chapter 72).*

This piece of ancient text raises an hypothesis that the priest-author would have understood the synodic period of the Moon in interface (or also in cross-reference) with the previously cited distribution of 6 portal divisions.

Thus, portions of Enoch's astronomical book point to a possibility that primal priests held knowledge of a day-count method of computing the return of the synodic Moon (in addition to the stated method of day counting 6 portal divisions each year).

Of significance here is that a formal method for tracking the revolution of the Moon relative to the positioning of 6 annual portals is very easy to document. The inherent correspondence between the rate of the lunar month and the rate of 6 annual portals can perhaps best be recognized from the time span (in days) by which the Moon revolves through all its phases. [Note that the time for the synodic return is accomplished (on the average) in correspondence with a time span of 29.53059 days.]

Because the cycle of the lunar month is completed in a time interval that is NOT divisible by a whole-day rate then a count of the lunar month in terms of the solar day must be in correspondence with either a shorter span of 29 days or a longer span of 30 days. Essentially, because the lunar orbit completes in correspondence with a fractional day then at least every other lunar month must be counted to be longer than 29 days.

This respective additional lunar day was commonly interpreted among certain Jewish astronomers to correspond with a long or a full count of the lunar month (or a month that contained a 30th day). Long or full months of 30 days were those months that contained an intercalated (extra) day . . . a day counted in place right at the end or at the synodic return of the Moon.

However, in portions of Enoch's astronomical book, the ancients are shown to have observed the Moon and Sun to both appear together at a reoccurring rate of always 6 days per year.

> *" . . . [I saw a law for the luminary] named the Moon . . . [sometimes] her days are . . . together with the Sun . . . And the overplus of . . . [these days] amounts to 6 days [each year] . . . ".*

From the detail of this annual distribution of 6 days it is perceivable that certain early astronomers understood or interpreted the synodic revolution of the Moon right in correspondence with the location of the cited 6 time portals (not necessarily in correspondence with a 30th day positioned at the end of the lunar period). Essentially, the requirement to track additional lunar days may have been understood in correspondence with 6 special days (time portals) located at fixed time positions (or at equally distant time spans) around the annual transit of the Sun.

The indicated understanding of the location of 6 portals (or uniformly positioned gates) in association with the tropical year is then significant in that this interpretation points to the possibility that some among the ancients applied a day count of no more than 29 days to each lunar month.

To be more specific, a fixed count of always 29 days may have been assigned to counting lunar-month days, and the cited annual portals (6 days per tropical year) may not have been assigned to the count of the lunar month. Rather, the portal days may have been leaped from out of (or not included within) the count of the lunar month (a fixed count of 29 days). In essence, the additional day that was required to match the synodic return of the Moon may have been accounted for in pace with a separated time portal--not as a specifically numbered day of the lunar month—as the Enoch literature implicitly shows.

It is here significant that shadowy passages of text embedded in the Enoch literature point to the possibility that the ancients

would have understood yet another law for interpreting the synodic revolution of the Moon:

> *"And I saw another [time] course, a law for her, how according to [the track of an additional circuit, the Moon's monthly revolution can exactly be determined] . . . in 8 years there are . . . days. For the moon alone the days . . . in 8 years amount . . . all the days . . . in 8 years . . . ".*

Enoch's 2nd law for resolving the Moon's monthly revolution thus appears to have been understood in the context of a time circuit equal to 8 tropical years.

Enoch's additional law is significant in regard that if the synodic return of the Moon is routinely accounted for in half-day units then an effective (perfect!) time track of the limits of 8 tropical years can ultimately be achieved. (For additional information of this cycle, refer to Chapter 12).

The cited time course of 8 years would have almost surely been understood among the ancients as also being synonymous with a fuller or longer count of 16 years (as is further shown below). Essentially, Enoch's 2nd law—when stated in terms of whole days—is inherently equal to a double cycle of 8 tropical years, or is equal to a span of 16 tropical years.

To more clearly illustrate how primitive Hebrew astronomers might have computed the return of the Moon using Enoch's 2nd law, passages of text attributed to Anatolius of Alexandria seem to be pertinent. When writing "of the order of the times", this early Christian author made mention of a peculiar cycle of 16 years—as follows.

> *"[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 . . . in the general, but even the separate and minutest moments . . . all calculated . . . Of these Hippolytus made up a period of 16 years with certain unknown courses of the Moon" ('The Paschal Canon').*

From other passages of early-written literature, it can be recognized from the cited reference to Hippolytus that this early astronomer was both a learned scholar and a prolific writer. As a Christian theologian, Hippolytus became rather influential at Rome before finally suffering martyrdom in about the year 238 CE.

Based upon lunisolar accounting attributed to Hippolytus, it is clear that this ancient astronomer was also familiar with a long cycle of 112 years (refer to Easter Controversy at the New Advent web site on the Internet). Hippolytus is thus shown to have possessed the means of predicting the spin and orbital phenomenon in association with a long cycle comprised of both 16 years and 112 years. (Note that the stated great cycle of 112 years was almost surely time tracked in 7 segments of 16 years each).

What is significant concerning the stated great cycle of 112 years (and similar information contained in ancient "books of the Hebrews and Greeks") is that the spin and orbital rates (Earth and Moon) can be demonstrated to exactly keep pace with a time grid comprised of 16-year segments.

To be more specific, it would be a true axiom to state that if the rate of the synodic month is always counted out in correspondence with a whole-day rate (29 days) then the

difference (when counted apart as a day rate) inherently equals 105 additional days in every cycle of 16 tropical years. (This respective rate of additional days is also exactly equal to 735 days in a cycle of 112 years).

The indicated correspondence between the spin of the Earth and the synodic revolution of the Moon is then remarkable in the regard that 105 days in 16 years . . . or 735 days in 112 years . . . is quite perfectly equal to the rate of 0.53059 days per lunar month. In essence, a 30th day in the Moon's synodic obit can be counted at a rate that is exactly equal to 105 days in a cycle that is exactly equal to 16 years.

A PRECISE DAY-TO-YEAR CORRESPONDENCE BASED UPON THE RATE OF THE SYNODIC MONTH

Cycle	Number of Tropical Years	Synodic Months at 29 Days	Month Days in Excess of 29 Days
1	16	197.89225	105
2	16	197.89225	105
3	16	197.89225	105
4	16	197.89225	105
5	16	197.89225	105
6	16	197.89225	105
7	16	197.89225	105
Totals:	112 Y.	40172.1277 D.	735 D

Total Days for Model = 40907.1277 days

```
Actual Days in 112 Years = 40907.1253 days
Month Rate for Model     =  29.5306 days
Actual Synodic Month Rate  =  29.5306 days
```

Thus, the rate of the lunar-month in excess of 29 days (or 105 days in 16 tropical years) can be recognized to inherently bound with the epoch of each 16th year to within an average difference of only 30 seconds. (This is a difference of less than 2 seconds per year!)

The cited rate of 105 days can then almost perfectly be scribed relative to the rate of 16 tropical years; however, because the spin of the Earth appears to be slowing with time then this respective solar-day count can be predicted to have been absolutely perfect in the relatively recent past.

The cited rate of lunar-month days in excess of 29 days is then of considerable significance in the regard that the number of days in each synodic revolution CAN systematically be scribed relative to always 29 days (as a rate of whole days). Of further significance is that the stated rate of days in excess of 29 days can also be recognized to exactly (perfectly!) interface with the rate of the tropical year.

Thus, the astronomer-priest who wrote the Enoch texts would have been fully correct in citing the requirement to leap a portal day from out of the lunar-month count (of always 29 days) in that this respective leap day can exactly be accounted for in correspondence with a separated or a secondary rate of days (as shown).

Because the required secondary rate of days is all but perfectly equal to 105 days in every time segment of 16 tropical years then it is clear that the ancients could very well have 'day counted' the synodic return within the context of this respective time cycle.

> *Note that if the period of the Moon cycled at a rate exactly equal to 29.5 days per synodic month then a 30th day could simply be intercalated every alternate month. However, the actual synodic revolution in 29.53059 days is 44 minutes and 3 seconds slower than 29.50000 days. This respective difference—if prorated on a straight-line basis—would mandate that an additional day always be intercalated every 55.65614 days (on the average). [Note that each tropical year inherently contains 12.368267 lunar months. This number of months when multiplied by an excess over 29 days of 0.53059 days per month is equal to 6.56248 additional days per tropical year—on the average. (This rate is also equal to 1 additional day every 55.65614 days . . . or is equal to 104.99965 additional days every 16 tropical years).]*

The clear possibility then is that the ancients might have tracked 6 portals or gates throughout each passing tropical year (Enoch's 1st law). It is here additionally significant from the information passed down by Hippolytus that a possible cycle of 112 years was additionally tracked in 16 year segments (Enoch's 2nd law).

If so, then this long cycle—and the requirement to always leap 6 portals relative to the rate of the tropical year—indicates that an additional lunar-month day would have been leaped at the frequency of every 7th season.

The subsequent diagram attempts to more clearly illustrate that if the cited additional lunar-month day was invariably leaped in association with a time portal or gate (6 times per year) then the required residual rate of additional month days could have been counted right in pace with the epoch of each 7th season.

> *Note that by subtracting the count of one lunar-month day in correspondence with each of the 7th seasons and by additionally subtracting the count of one lunar-month day in correspondence with each one of the stated portal divisions (6 per tropical year) then each passing cycle of the synodic month can exactly be correlated to a fixed count that never varies from 29 days.*

DISTRIBUTION OF SEASONS ACROSS A CYCLE OF 112 YEARS

```
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7
```

64 Segments of 7 Seasons in 112 Solar Years

In reference to tracking a cycle of 112 years, the stated additional Moon day (64 instances) can be recognized to reoccur in average correspondence with each 7th of the annual seasons. However, accounting for a seasonal overlap is required once in every cycle of 112 tropical years.

The Passover tables computed across 16 years and 112 years by the ancient astronomer Hippolytus may therefore have also been predicated upon a more ancient Hebrew tradition of time tracking portals or gates (6 per tropical year).

The lunisolar system that certain among the Hebrew astronomers are indicated to have understood may thus have been exactly precise in that an average definition of 29.53059 days can be recognized for the turn of the lunar month—as cited.

Additionally evident from the collection of writings attributed to Enoch (and from some other portions of Temple-Era literature) is that certain Middle-Eastern astronomers appear to have tracked or scribed the waxing and waning stages of each lunar month.

The accounting that is given for the turn of the lunar month (between waxing and waning cycles of the Moon) is shown (in some passages of early-written text) in correspondence with the half-day cycle. In essence, each half cycle of the Moon is sometimes shown to have been time tracked in correspondence with an identical template or pattern based upon specific parts or stages of daylight or of darkness. The respective template that was sometimes used to define and delimit each passing half-month unit thus appears to have been predicated upon the boundary that is inherent between daytime and nighttime (or the reverse).

In particular, a peculiar scribe of the Moon's phases can be recited from certain of the sea scrolls that were recovered at Qumran. These several snippets of early-written text surprisingly indicate the ancients would have tracked the waxing and waning halves of the lunar month in cross-reference with specific parts or stages of light or darkness. As an example, portions from the Hymn Scroll reflect that some among the period astronomers did account for time in distinct periods (or patterns) of either daytime or nighttime:

> *"The times for worship . . . from cycle to cycle . . .*
> *at the return of day, according to the ordinance . . .*
> *at the appointed return of night, in their station . . .*
> *in the fixed position of stations according to the law*
> *of their markers . . . " (my paraphrase).*

It can be interpreted from others of the sea scrolls that the lunar month would sometimes have been tracked (or mapped) in specific half cycles (from either the limits of the full-phase or from boundary of the new-phase).

A unique half-month accounting for the revolution of the lunar month was recognized several years ago by those researchers who first worked on recovering the scrolls. A lead translator then noted that some among the ancients did probably track the month cycle from the full phase of the Moon (J. T. Milik, 1959).

Scroll 4Q317, in particular, shows the half Moon to have been uniquely accounted for in corresponding parts or stages of light and darkness.

Of significance concerning the content of Scroll 4Q317 is that a segment of period astronomers appear to have formally charted

the half-Moon cycle—where on this respective scroll, the phases of the Moon (waxing and waning) are mapped in cross-reference with a certain solar month.

The indicated map of the solar-month days versus the lunar appearance indicates the Moon was understood to have always revolved throughout 14 days of entering daylight and 14 days of entering nighttime.

The original Hebrew text of Scroll 4Q317 has a peculiar reference to a twice month date—'Echad Bshbt'—as follows:

4th of month, 11 parts obscured, Moon enters Day.
5th of month, 12 parts obscured, Moon enters Day.
6th of month, 13 parts obscured, Moon enters Day.
7th of month, 14 parts obscured, Moon enters Day.
8th of month, 14 + HALF obscured, Moon rules all Day.

When the Sun sets, the light of the Moon is no longer obscured. Thus, the Moon begins to be revealed again on One-to-Sabbath [Echd BShbt], the 8th of the month).

9th of month, 1 part revealed, Moon enters Night.
10th of month, 2 parts revealed, Moon enters Night.
11th of month, 3 parts revealed, Moon enters Night.
12th of month, 4 parts revealed, Moon enters Night.
13th of month, 5 parts revealed, Moon enters Night.
14th of month, 6 parts revealed, Moon enters Night.
15th of month, 7 parts revealed, Moon enters Night.
16th of month, 8 parts revealed, Moon enters Night.
17th of month, 9 parts revealed, Moon enters Night.
18th of month, 10 parts revealed, Moon enters Night.
19th of month, 11 parts revealed, Moon enters Night.
20th of month, 12 parts revealed, Moon enters Night.
21st of month, 13 parts revealed, Moon enters Night.
22nd of month, 14 parts revealed, Moon enters Night.
22nd of month, 14 + HALF revealed, Moon rules all Night.

When the Sun sets, the light of the Moon is no longer revealed. Thus, the Moon begins to be obscured again on One-to-Sabbath [Echd BShbt], the 22nd of the month).

Of significance here is that—in line with this twice monthly event—a Sabbath appears to have been celebrated (once at the epoch of the new Moon, and again at the epoch of the full Moon).

The time when this respective Sabbath was celebrated is rather clearly mapped to half divisions of the Moon—as follows:

1. A unique half day is shown at the BEGINNING of the lunar month.
2. An additional half day is shown at the MIDDLE of the lunar month.

To be more specific, a peculiar half day is shown (on Scroll 4Q317) at the beginning of the synodic period—as follows: *"The Moon rules all the day in the sky this day".*

> *Please note that this respective half day would inherently have corresponded with the daytime of the new Moon.*

Thus, the initial half part of each month would have been understood to have been marked by a special half-day unit—one that extended from sunrise to sundown. In essence, the initial half day of the initial half month is shown as being equal to the DAYLIGHT PART of the specific day when the dark phase (molad) of the Moon was reached.

The last half part of the lunar month is shown (on Scroll 4Q317) to have commenced in concert with the full phase of the Moon—as follows: *"The Moon rules all the night sky this evening".*

Thus, the last half division of the month would been understood to have been headed by a half-day unit—one that extended from sundown to sunrise.

> *The half day that marked the second half of the month is shown as being equal to the NIGHTTIME PART of the specific day when the light phase (full phase) of the Moon was reached.*

An inherent conclusion from the monthly accounting given on Scroll 4Q317 then simply is that the initial half day of the first half of the month was accounted for when the Moon was completely invisible throughout the nighttime, while the second half day that marked the second half of the month was accounted for when the Moon was fully visible throughout the nighttime.

When describing the revolutions of the heavenly luminaries, the author (or authors) of the Enoch literature likewise noted the location of a distinct half part of light or darkness. The position of the cited half stage was described right at the beginning and at the middle of the lunar month—as follows:

> *"[Light is given to the Moon] in (definite) measure. . . when her light is uniform it amounts to the 7th part . . . in the beginning . . . the Moon sets with the Sun, and is invisible that night with the 14 parts and* ***the half of one of them*** *. . . In single 7th parts she accomplishes all her light in the east, and in single 7th parts accomplishes all her darkness in the west . . . ".*

Texts produced and reproduced in the era of the Temple thus mirror that some among the period astronomers did uniquely

account for each half-Moon cycle—where each half month was resolved in the context of a fixed time grid or pattern of days (corresponding to the Moon entering either light or darkness).

The following diagram is consequently presented to illustrate more clearly that the first half of the synodic revolution can indeed be resolved in the context of counting 14 progressive stages—where each stage is comprised of a half part of night followed by a half part of day.

The diagram attempts to show the waxing half of the lunar month can be correlated to 14 "night before day" sequences—as follows:

---
14 WAXING STAGES

1st stage of Moon waxing (nighttime + daytime)
2nd stage of Moon waxing (nighttime + daytime)
3rd stage of Moon waxing (nighttime + daytime)
4th stage of Moon waxing (nighttime + daytime)
5th stage of Moon waxing (nighttime + daytime)
6th stage of Moon waxing (nighttime + daytime)
7th stage of Moon waxing (nighttime + daytime)
8th stage of Moon waxing (nighttime + daytime)
9th stage of Moon waxing (nighttime + daytime)
10th stage of Moon waxing (nighttime + daytime)
11th stage of Moon waxing (nighttime + daytime)
12th stage of Moon waxing (nighttime + daytime)
13th stage of Moon waxing (nighttime + daytime)
14th stage of Moon waxing (nighttime + daytime)

One-to-Sabbath celebrated at nighttime
(The Moon "rules all night" this evening)

The second half of the synodic revolution can likewise be resolved within a context of "reverse" counting 14 daytime

sequences. In essence, throughout the last half of the lunar month, the waning of the Moon (14 stages) can be assigned to “day before night count”—as follows:

---

14 WANING STAGES

1st stage of Moon waning (daytime + nighttime)
2nd stage of Moon waning (daytime + nighttime)
3rd stage of Moon waning (daytime + nighttime)
4th stage of Moon waning (daytime + nighttime)
5th stage of Moon waning (daytime + nighttime)
6th stage of Moon waning (daytime + nighttime)
7th stage of Moon waning (daytime + nighttime)
8th stage of Moon waning (daytime + nighttime)
9th stage of Moon waning (daytime + nighttime)
10th stage of Moon waning (daytime + nighttime)
11th stage of Moon waning (daytime + nighttime)
12th stage of Moon waning (daytime + nighttime)
13th stage of Moon waning (daytime + nighttime)
14th stage of Moon waning (daytime + nighttime)

One-to-Sabbath celebrated at daytime
(The Moon "rules the daytime" this day)

It is here significant that 14 waxing days (plus one-half day) and 14 waning days (plus one-half day) inherently equal a total time span of 29 solar days.

The indicated formal accounting for the synodic revolution is additionally significant in regard that Echad B+Shabat [= One-to-Sabbath] appears to have been celebrated within this pattern of 14 stages (of light and darkness). This particular event is shown to have been celebrated twice in the lunar month (at the new Moon during daytime, and again at the full Moon during the night).

The possibility that some among the astronomers who flourished in the era of the Temple did formally track the lunar month in half-day cycles seems more certain from passages of early-written Christian literature. For example, a nighttime assembly is shown in the following portion of the book of Acts:

> *"And upon the One-to-the-Sabbaths [or Greek: Mia twn Sabbatwn], when the disciples came together to break bread, Paul preached unto them, in expectation (or observance) of the coming of morning; and continued his speech until midnight . . . When he . . . had broken bread, and eaten, and talked a long while, even till break of light had come, they brought the young man . . . " (refer to the Greek version, Chapter 20: verses 7-12).*

In the Acts account, the disciples are shown assembled upon 'Mia twn Sabbatwn'. (Note that “One-to-the-Sabbaths” would represent a literal translation of the cited calendar term).

Of special interest here is that the cited assembly was continued throughout the night hours in expectation of the break of day, and because this assembly was held upon the One-to-the-Sabbaths, it is plausible to interpret this occasion in the context of Enoch's guides. Essentially, this respective assembly may have been held in association with a lunar Sabbath.

The respective formal track of each half-Moon cycle seems to likewise be mirrored from writings attributed to Clement of Alexandria (c. 2nd century CE). In the following passage from '***The Stromata***', this Christian author noted that certain feasts were then celebrated in pace with a luni-based itinerary:

> *"In not viewing the Moon, some do not hold the Sabbath which is called the One, nor do they hold the new Moon . . . ." (my paraphrase of Chapter 5).*

In summary to the current chapter, cosmological interpretations embedded in Enoch's astronomical book appear to represent MORE than a collection of adages for predicting the orbital returns. Rather, the set of astronomical axioms attributed to Enoch can be recognized to represent a rather sophisticated lunisolar system.

> *"[Chapter 72] The book of the courses of the luminaries of the heaven, the relations of each, according to their classes, their dominion and their seasons . . . according to their months . . . And how it is with regard to all the years of the world and unto eternity . . . ".*

The stated courses of the luminaries (the Sun, Moon, and stars) appear to have minimally been interpreted in the context of specific days pertaining to stations, portals, months, and years. Furthermore, it is clear from the indicated outline of the astronomical section that relationships between the heavenly luminaries would have been defined in the context of certain laws or specific axioms.

What is perhaps most significant concerning selected definitions and laws contained in the astronomical book is that some appear to be entirely valid for correlating specific days to the annual transit of the Sun. Some of the axioms recited by Enoch appear to likewise be valid for correlating specific days to the synodic return of the Moon. In essence, certain among the adages

given for 'day counting' the courses of the heavenly luminaries can be recognized to represent a method/means for effectively measuring and metering the spin and orbital returns.

The modern collection of astronomical writings may then at least partially represent the work of an authentic astronomer who "recounted the weeks" . . . "set in order the months" . . . and determined the signs of "the zodiac" [refer to Jubilees and to Bar-Hebraeus].

Thus, it seems significant that the stated 6 time portals (or gates) could have been within the knowledge of a segment of ancient astronomers (as indicated by passages of Enoch's astronomical book).

Of related significance is that knowledge of the seasons and the tropical zodiac can also be recited from certain other manuscripts that were penned by ancient astronomers and priests. To be more specific, among the most well known of the works by Jewish writers who flourished under the late 2nd Temple were produced by Philo Judaeus. Some of his many philosophical discourses are quite explicit in showing that the courses of the heavenly luminaries were then understood/interpreted as being representative of special time design (as shown throughout chapters of the current document).

> *For pertinent information confirming that a portion of the sacrificial itinerary adhered to by the Temple priesthood would have been paced by time stations of the Sun and Moon, refer to the previously presented Chapter 14.*

16

GREEK/HEBREW TEXTS . . .

Historical records that have been handed down from the era of the Temple point to a tradition of holding an evening assembly each lunar week (as previously has been shown). The indicated celebration of this kind of Sabbath is more clearly indicated from the syntax of words that make up certain passages of period writings (those composed in Hebrew and Greek).

To be more specific about Hebrew and Greek compositions, an analysis of the original versions tends to indicate that some recorded instances of the Sabbath do properly pertain to the cited lunar-week tradition.

To more fully illustrate that a 1st-century reader/writer would have held knowledge of a lunar Sabbath, various instances of a calendar term: "Mia twn Sabbatwn" (or "Mian Sabbatwn") can be recited from passages of period literature. (Note that, in modern English, the respective Greek expression does approximately

mean 'the One of the Sabbaths'; perhaps in the sense of 'One' amid a set of Sabbaths).

The peculiar calendar term appears six times throughout the books of the New Testament . . . and it can also be found in other ancient publications. Of significance here is that the several historical instances (in composite) can only be interpreted within the context of a lunar type of Sabbath. In example, the primal celebration of this kind of Sabbath is apparent from a 2nd-century manuscript—as follows:

> *[Peter] inferred thus: "[Christians should not] worship the same as in Judea . . . for by NOT tracking the Moon, they do not hold the Sabbath, which is called the ONE; nor do they hold the new Moon, nor the feast of unleavened bread, nor the feast, nor the great day." (The Stromata, or Miscellanies, Chapter 5).*

An analysis of those several references made by ancient Christian writers to a "Sabbath called the One" does thus rather clearly point to a primal adherence of lunar liturgy.

Early-held knowledge of perhaps a lunar type of Sabbath can further be recognized from the more original Hebrew and Greek Bibles. Significant here is that different words, or even combinations of words, for the Sabbath were used to compose the Bible books. In fact, expressions such as "Shabbath Shabbathon" (Hebrew), or "Sabbata Sabbatwn" (Greek) can be found in various passages of Bible text.

> *Note that the Septuagint represents a translation of the sacred Hebrew books into Greek. This version*

> *of the Bible—beginning with the Pentateuch—appears to have been completed in stages between the 3rd and 1st centuries BCE.*

Of additional significance here is that the Septuagint has five primary words in reference to the Sabbath period. They are: Sabbata, Sabbatw, Sabbatwn, Sabbatou, and Sabbaton. (Some words for the Sabbath apparently pertain to either a singular or a plural type).

Certain passages of the Greek Bible can ultimately be interpreted to reflect the enactment of an atonement ceremony—as follows:

> *Leviticus 16:29-33 "And this shall be a perpetual [= ongoing] statute for you; in the 7th lunar renewal, at THE RENEWAL OF THE TITHE [Greek: dekath tou mhnov], you shall humble your souls, and shall do no work, the native and the stranger who attaches himself to you . . . This is a WEEK-OF-WEEKS rest to you [Greek: sabbata sabbatwn anapausiv auth estai umin] you shall aflict your souls as a perpetual ordinance . . . and he [= the priest] shall make atonement for all the congregation."*

Atonement liturgy was probably performed by the priests in correspondence with the renewal of other time cycles (in addition to that of the lunar-week cycle). For example, in some passages of Temple-Era literature, the enactment of liturgy in pace with the tropical zodiac is indicated—as follows:

- *"[Memorial days correspond with] . . . 4 divisions of the year . . . " (refer to '**The Book of Jubilees**', Chapter 6, by Charles).*
- *"In the day of your gladness, AND IN your solemn days, AND IN the beginnings [= rosh] of your months, ye shall blow with the trumpets . . . that they may be to you for a memorial . . . " (refer to Numbers 10:10).*
- *"[The garment of the high priest] . . . makes up the seasons of the year, spring, summer, autumn, and winter, distinguishing the four changes . . . The high priest, then, being equipped in this way, is properly prepared for the performance of ALL SACRED CEREMONIES . . . " (Philo Judaeus, '**On the Life of Moses, Part 2**', translation by Yonge).*
- *"[The 12 jewels worn by the high priest] whether we understand by them the months, or whether we understand the like number of the signs of that circle which the Greeks call the Zodiac, we shall not be mistaken in their meaning" (Antiquities by Josephus).*
- *"[Times appointed by God:] when light begins . . . when night begins . . . [The renewal] is a special day for the Holy-of-Holies . . . On the ONE amid the months in EACH of the seasons on Holy Days laid down for a memorial, IN their seasons . . . When each new year begins AND WHEN its seasons turn, fulfilling the law of their decree, each day as set forth, day after day: harvest giving way to summer, planting to the shoots of spring, seasons, years,*

*and weeks of years" (my paraphrase of '**The Community Rule**', Column 10).*

- *[Leviticus 23:24-32] . . . "At 7th of month [tou mhnov tou ebdomou], ONE of renewal [mia tou mhnov], you shall have a rest [estai umin anapausiv], a memorial of trumpets [mnhmosunon salpiggwn]: it shall be to you a holy convocation [klhth agia estai umin] . . . And the [zodiac?] month of the TENTH [kai th dekath tou mhnov] on THIS 7th day [tou ebdomou toutou hmera]: It shall be atonement for you [exilasmou klhth agia estai umin kai]; and ye shall humble your souls . . . you shall do no manner of work: it is a perpetual statute throughout your generations in all your habitations. It shall be a Sabbath-of-Sabbaths to you [sabbata sabbatwn estai umin] and ye shall aflict your souls [kai tapeinwsete tav qucav umwn], from the [zodiac?] month of the NINTH [apo enathv tou mhnov]: from evening to evening [apo esperav ewv esperavye] shall keep your sabbaths [sabbatieite ta sabbata umwn]" (translation based upon Greek and Hebrew texts).*
- *[Ezekiel 45:18-20] Thus saith the Lord God; In the first month, ONE to month . . . make atonement for the holy place. And the priest shall take of the blood of the atonement, and put it on the posts of the house, and upon the four corners of the temple, and upon the altar, and upon the thresholds of the gate of the inner court. And thus shalt you do in the seventh to the month, ONE to month, you shall take a rate from each one; and shall make*

atonement for the house" (refer to the Greek and Hebrew versions).

Of additional significance to a study of time cycles tracked in the era of the Temple is that the Septuagint was composed to include a specific word for the year cycle ('etei' or 'etov'). However, the composition also includes a word that does probably pertain to a general time cycle, or to a term in office ('eniautou' or 'eniautw' or 'eniatos'). Thus, it wouldn't be logical to interpret the several Septuagint instances of the word 'eniautou' to be the same as that of the word 'etei'.

17

EARTH'S SLOWING SPIN . . .

From the essential perspective that the Earth-Moon could represent an interrelated system, the respective spin-orbits should be evaluated to predict the effect of any changes that might result with the passage of time. The spin-orbital rates can be predicted to ultimately change with time due to the spin rate of the Earth. Modern research shows that the spin of the Earth has slowed by a fractional amount throughout the prior 4,000 years. In association with the slowing rotation of the Earth is the slowing orbit of the Moon. It appears that the orbit of the Moon is ever growing wider—and thus also is slowing down.

Subsequent paragraphs will then attempt to make it clear that even though small spin-orbital variations do occur, the Earth-Moon appears to generate time cycles that have very long-term average definitions.

But, by what magnitude does the spin of the Earth vary in terms days, years, and centuries of time?

A very good answer to this kind of question can be recognized from records of Earth's spin--continually collected by the IERS. (Note that the service of monitoring the rotation of the Earth is performed by the International Earth Rotation Service, or IERS).

A small amount of variation in Earth's rotation appears to be the norm based upon modern measurements. The following quote —borrowed from IERS—manifests a tiny amount of variation in Earth's rotation:

> *"Universal time and length of day [LOD] are subject to variations due to the zonal tides (smaller than 2.5 ms in absolute value), to oceanic tides (smaller than 0.03 ms in absolute value), to atmospheric circulation, to internal effects and to transfer of angular momentum to the Moon orbital motion."*

Modern monitoring then indicates that Earth's rotational rate frequently varies in magnitude by a few milliseconds. Even though the magnitude of the variation appears to be extremely small, it is nevertheless manifest that Earth's rotational rate does vary by a tiny amount from season-to-season and from year-to-year.

A catalog of the duration of previous days published by the IERS more specifically shows that the rate of Earth's rotation both increases and decreased—even across centuries of time.

> *Note that a large portion of the cited catalog represents a compilation of annual data provided by L.V. Morrison, Royal Greenwich Observatory.*

Of significance about observations made at Greenwich beginning with the year 1623 is that year-by-year the sightings indicate the length of the solar-day was a fraction of a second faster than 86,400 seconds about 41 percent of the time. It is equally apparent that the length of the solar-day was computed to be a fraction of a second slower than 86,400 seconds about 59 percent of the time. This means that due to the magnitude and frequency of the cited variations in Earth's rotation, it would not be possible to conclude that Earth's rotation is slowing down (at least not in accord with a trend).

In order to identify a faster or slower trend in the rotation of the Earth, it is necessary to try and look further into the past (or across a time-span longer than but a few centuries). From recorded eclipses modern researchers have been able to additionally determine that the length of the day in ancient times was a bit shorter than the length of the modern day (86,400 seconds). To illustrate more of how this conclusion is arrived at, suppose by way of an hypothetical example that a solar eclipse was recorded at Babylon 812,345 days ago. The recorded eclipse on that day is significant because of the passing of the Moon's shadow over that location (Babylonian). If each and every day from then to now traversed no more or less than 86,400 seconds then the shadow of the hypothetical eclipse should have passed at a location 64 degrees in longitude further away from Babylon. Because the shadow instead was observed to pass over Babylon, it can be concluded that the length of the previous day was a bit faster. In essence, a longitudinal shift of 64 degrees in 812,345 rotations is

inherently equal to an average increase in the length of the day equivalent to 1.7 milliseconds per century.

> *Note from the hypothetical example of an ancient eclipse at Babylon that 36524 solar days occur in each passing century. It then follows that an increase in the length of the day equivalent to 1.7 milliseconds per century would result in a time shift of 62.09 seconds for the century (where 0.0017 spin seconds per century times 36524 solar days is equal to about 62.09 spin seconds of time change for the century). Because a time increase of 62.09 spin seconds (or 931.35 arcseconds of longitude) is predicted on a per century basis then a total time shift of 15,356 spin seconds (or a longitudinal shift of 230,340 arcseconds, or 64 degrees) would accrue in 812,345 solar days or in 22.24 centuries (where 62.09 seconds of change per century times the square of 22.24 centuries when divided by 2 is equal to about 15,356 spin seconds) .*

Because a number of ancient eclipses are on record, then changes in the rate of Earth's rotation can be predicted throughout a number of centuries of years into the past. On the basis of these records, modern physicists and astronomers have identified a trend toward slowing in the rotation of the Earth.

The following information from '***Catalog of the Phases of the Moon***', by Fred Espenak, manifests a trend in Earth's rotation of slowing down. This trend appears to have been variable—yet ongoing—over the past several millennia:

VALUE OF DELTA T

Table and Text by Fred Espenak

NASA/Goddard Space Flight Center

http://eclipse.gsfc.nasa.gov/phase/phasecat.html

As Earth rotates on its axis, tidal friction is imposed on it through the gravitational attraction with the Moon and, to a lesser extent, the Sun. This secular acceleration gradually transfers angular momentum from Earth to the Moon. As Earth loses energy and slows down, the Moon gains this energy and its orbital period and distance from Earth increase.

R. F. Stephenson and collaborators have produced a number of seminal works in the field of Earth's rotation over the past several millennia. In particular, they have identified hundreds of eclipse and occultation observations in early European, Middle Eastern and Chinese annals, manuscripts, canons and records. In spite of their relatively low precision, these data represent our only record to the value of delta-T during the past several millennia.

In Atlas of Historical Eclipse Maps East Asia 1500 BC - AD 1900, Stephenson and Houlden (1986) present two empirically derived expressions to

describe the behavior of delta-T prior to telescopic records (pre-1600):

(1) prior to 948 AD
delta-T (seconds) = 1830 - 405*t + 46.5*t^2
(t = centuries since 948 AD)

(2) 948 AD to 1600 AD
delta-T (seconds) = 22.5*t^2
(t = centuries since 1850 AD)

More recently, Stephenson presents a new analysis of most if not all known solar and lunar eclipses that occurred during the period -700 to +1600 (Historical Eclipses and Earth's Rotation, 1997). The new analysis uses a spline to fit the observations.
The following table lists values of delta-T (seconds) derived from Stephenson and Houlden (1986), along with Stephenson (1997) for comparison.

Year	delta-T (1986)	delta-T (1997)	
-2000	54181	-	(all values in seconds)
-1900	51081	-	
-1800	48073	-	
-1700	45159	-	
-1600	42338	-	
-1500	39610	-	
-1400	36975	-	
-1300	34433	-	
-1200	31984	-	
-1100	29627	-	
-1000	27364	-	
-900	25194	-	
-800	23117	-	
-700	21133	-	

-600	***19242***	***-***
-500	***17444***	***16800***
-400	***15738***	***15300***
-300	***14126***	***14000***
-200	***12607***	***12800***
-100	***11181***	***11600***
0	***9848***	***10600***
100	***8608***	***9600***
200	***7461***	***8600***
300	***6406***	***7700***
400	***5445***	***6700***
500	***4577***	***5700***
600	***3802***	***4700***
700	***3120***	***3800***
800	***2531***	***3000***
900	***2035***	***2200***
1000	***1625***	***1600***
1100	***1265***	***1100***
1200	***950***	***750***
1300	***680***	***470***
1400	***455***	***300***
1500	***275***	***180***
1600	***140***	***110***

References for Delta-T

- ***Morrison, L.V. and Ward, C. G., "An analysis of the transits of Mercury: 1677-1973", Mon. Not. Roy. Astron. Soc., 173, 183-206, 1975.***
- ***Stephenson F.R and Houlden M.A., Atlas of Historical Eclipse Maps: East Asia 1500 BC - AD 1900, Cambridge Univ.Press., 1986.***
- ***Stephenson F.R., Historical Eclipses and Earth's Rotation , Cambridge Univ.Press, 1997.***

The following table is based upon interpretations espoused by Stephenson from above and represents my own conclusion as to

the cumulative change indicated in the rate of Earth's rotation over the previous four-thousand years:

INDICATED INCREASE IN THE LENGTH OF THE DAY
(As Estimated from Ancient Eclipses)

Time Range	Spin Rate Shift	Increase in Day
4000 years	- .0018 sec/cen.	+ .07 seconds

Of significance here is that throughout the previous 4,000 years the length of the day is interpreted to have grown longer (as a result of the slowing rotation of the Earth). The indicated increase in the length of the day (a spin rate change of - 0.0018 seconds/century) points to a total increase of + 0.07 seconds from about 4,000 years ago.

Ancient eclipse records then ultimately indicate that the rate of Earth's rotation has trended toward slowing down. A trend is indicated in that—across three or four millennium of time—the length of the modern day appears to have increased by a surplus of + 0.07 seconds from the length of the ancient day.

The cited increase of + 0.07 seconds from the length of the ancient day at 4,000 years ago then means that the spin rate of the Earth has slowed at a rate of 0.0018 seconds per century—as diagrammed).

The indication that the length of the day has increased by a total amount of only .07 seconds throughout the prior 4,000 years seems tiny or

insignificant. This time-span represents only a fraction of one second (a time-stretch that is less than the length of a heartbeat . . . or shorter than a hand clap). The difference of .07 seconds does—however—have significance in that the effects of a slowing rotation are cumulative and the resulting longitudinal change becomes large across thousands of years of time.

Another perspective that can be focused from the cited slowing trend is that—even though Earth's rotation is experiencing a slowing trend—the magnitude of the change is very small. It seems that modern measurements and ancient eclipse records alike indicate that the length of the day in the past, as well as the length of the day in the modern era, completes in about the same relative amount of time (86,400 seconds). The indicated increase (a total of .07 seconds in 4,000 years) then tends to reflect a rotating Earth that is remarkably stable. On a scale of the prior 4,000 years, the tiny magnitude of Earth's rotational slow-down tends to prove that the Earth has continued to spin at a functional rate. Essentially, the length of the day is proven to remain adequately uniform—even across thousands of years.

Yet another indication that as a trend the rotation of the Earth is slowing comes from coral fossil records. Because living coral records growth markers like tree rings then the record of the growth rings can ultimately be correlated to the seasonal progression.

Based upon interpretations espoused by leading researchers in this field, it is widely believed that the annual cycle of the ancient past contained more days than the current annual cycle (which is 365.24). The indication that the ancient year contained more days is interpreted to mean that the spin of the Earth has gradually slowed across millions of years. Based upon estimations concerning the number of millions of years in the past when certain fossil specimens once lived, it is believed that the rotation of the Earth has slowed by an average amount of 0.001 to 0.002 seconds per century.

AN INTERPRETATION OF THE LENGTH OF THE DAY
(from 24 Million Years)

Time Range	Spin Rate Shift	Increase of Day
24 mil. y.	- 0.0015 sec/cen.	+ 6.0 minutes

Part of the problem in correlating coral fossils to the rate of the presumed slowing of the Earth is that the rotation rate appears to change very slowly. Because an average increase in the length of the day is interpreted to be about 0.01 to 0.02 seconds per millennium, it isn't possible to specifically correlate the seasonal passage to such a tiny amount of rotational change (only 1 or 2 milliseconds per century).

For example, at the tiny change of 0.01 to 0.02 seconds per millennium, it would require the passage of from 12 to 24 million years before even a single extra day per year would show up in the cited coral records.

This means that a great amount of time (many millions of years) would ultimately be required before a change of only a single day of difference could be counted (or ultimately even be noticed) amid the seasonal growth rings.

It is then the passage of so great an amount of time required to detect any change in the seasonal progression that thwarts the interpretation of coral fossils. The choice of using coral fossils to detect a change in the number of days across the seasons inherently requires the passage of upwards of a hundred million years to begin to notice a one or two percent change in the day count of the ancient annual cycle.

The fossil record then cannot detect whether the definition of the solar year has changed at all in the past 50-million years. The rotation of the Earth may have slowed a bit throughout this time. Conversely, the rotation of the Earth may have increased a bit. Yet conversely, the rotation of the Earth may not at all have changed (even across many millions of years).

> *Throughout a time-stretch of some 50-million years, the definition for the solar year may have remained at about 365.24 days. No satisfactory conclusion can here be arrived at due to inaccuracy inherent in the process of matching-up coral growth rings to the seasonal progression versus the tiny amount by*

which Earth's rotation is presumed to be slowing down (only 0.001 to 0.002 seconds per century).

The problem then is that counting coral fossils can't define changes in Earth's rotation in a time-range anywhere close to the modern era. Only on a time-scale of about 50 or 60 million years does the record of ancient coral fossils even begin to indicate that the definition of the ancient solar year might have been a bit different from 365 or 366 days. The definition of a definitive change in the day count of the ancient solar year thus requires the detection of coral fossils containing appreciably more growth rings from hundreds of millions of years into the past. On this basis, it is ultimately assumed that Earth's rotational rate was once faster and it is further assumed that the rotational rate has gradually slowed-down throughout the intervening hundreds of millions of years. The interpretation of a gradual slow-down is however only an assumption. (What if indicated change prior to 50 or 60 million years ago came on suddenly, and what if Earth's rotational rate has remained uniform for many millions of years?)

As is further explained in subsequent paragraphs, the lunar-month cycle (or the synodic month) does happen to complete at a much faster rate than the solar year (over 12 times as fast). This then means that the fossil record relative to the Moon can more effectively be used to identify prior changes in the configuration of the Earth-Moon. Essentially, it is considerably more straightforward to interpret 29 or 30 growth markers in correspondence with the passage of the lunar month than to try and interpret 365 or more growth markers in correspondence with the passage of the solar year. Furthermore it is easier to detect changes in the prior lunar-

month cycle from bivalve mollusk fossils that may have lived only 5 or 10 million years ago than it is to detect changes in the prior solar year from coral fossils that may have lived over 100 million years ago.

It here seems pertinent to note that the above cited interpretation that Earth's rotation is slowing down appears to be good for explaining the phenomenon of a longitudinal shift at the time of ancient eclipses (as previously explained). The interpretation of a slowing rotation of the Earth can however be faulted in the regard that—while during an eclipse a longitudinal position can roughly be determined—any associated orbital variation of the Moon has to ultimately be estimated.

The length of the ancient lunar month is then difficult to determine as it is assumed that the Moon in it's orbit experiences an acceleration effect due to Earth's spin.

> *Like a ball attached to an ever lengthening string, the Moon—which orbits at a much slower rate than the rotating Earth—is interpreted to experience a commensurate acceleration effect due to Earth tides. As a consequence of the more rapidly spinning Earth and the action of gravity, the spinning Earth is then slowed down and simultaneously the Moon is accelerated. Because the Moon is being accelerated in it's orbit, it's distance from the Earth is indicated to increase. Then, as the Moon moves farther from the Earth, more time is ultimately required for the Moon to complete an orbit.*

Measurements made over the prior 30 years indicate the Moon's orbit is moving away from the Earth at the rate of 4 centimeters or 1.5 inches per year. (Note here that an increase of 1.5 inches per year—if constant throughout time—would accrue to 500 feet in a time-span of four-thousand years).

The rotation of the Earth is then believed to slow down, and the orbit of the Moon which travels in the same eastward direction as Earth's rotation is believed to simultaneously move away into a wider orbit.

Ancient eclipse data indicates that throughout the prior 4,000 years the lunar-month cycle has remained relatively unchanged. Essentially, cataloged records of the phases of the Moon throughout the previous 4,000 years indicate an average synodic month of about 29.5306 days. For more information, refer to the following web page: ***www.creation-answers.com/slowing.htm***.

18

THE GENESIS RECORD . . .

The Genesis account of a great flood event encompasses three consecutive chapters of the Bible book (Chapters 6-8). This elaborate sketch of the events that occurred in only one single year of early human history is quite unusual in comparison with other ancient narratives.

What makes the flood story of Genesis so unique is that the detail of some specific calendar dates (and related day counts) is given. Ultimately, a rather detailed chronology for the year of the great flood is tabled by the author of Genesis. In presenting this chronology, the author references the following time spans, cycles of days, calendar dates, and calendar terms:

- 7 days (is used in 4 instances)
- 30 days (is implicit--2 instances)
- 40 days and/or 40 nights (is used in 4 instances)
- 150 days (is used in 2 instances)
- 17th day (is used in 2 instances)
- 27th day (is used in 1 instance)

- 'TEN' (is used in 1 instance)
- 'ECHAD' or ' THE ONE' (is used in 2 instances)
- 'RISHON' or 'THE FIRST' (is used in 1 instance)
- '2nd CHODESH' or '2nd RENEWAL' (2 times)
- '7th CHODESH' or '7th RENEWAL' (1 time)
- '10th CHODESH' or '10th RENEWAL' (1 instance)
- 120 years
- 600 years
- 600th year
- 601st year

In addition to the flood narrative, the initial chapters of Genesis contain a story about the creation of the 1st man (Adam). While it appears that the very beginning chapter of Genesis may represent a poem, a rather significant genealogy is ultimately given for those persons who lived in the era from Adam to Noah.

When accounting for the creation, and when listing the progeny of Adam, the author of Genesis additionally references the following cycles of days, time spans, and astronomical terms:

- 'RE`SHIYTH' or 'BEGINNING'
- the evening was and the morning was 'ECHAD' day
- the evening was and the morning was the 2nd day
- the evening was and the morning was the 3rd day
- the evening was and the morning was the 4th day
- the evening was and the morning was the 5th day
- the evening was and the morning was the 6th day
- the 7th day (is used in 3 instances)
- 'OWTH' or 'SIGNS'
- 'MOW`ED' or 'FIXED TIMES'
- day, days, night, years
- 62 years
- 65 years
- 70 years
- 90 years
- 105 years
- 130 years

- 162 years
- 182 years
- 187 years
- 300 years
- 365 years
- 500 years
- 595 years
- 777 years
- 782 years
- 800 years
- 807 years
- 815 years
- 830 years
- 840 years
- 895 years
- 905 years
- 910 years
- 912 years
- 930 years
- 962 years
- 969 years

Throughout the somewhat elaborate and lengthy chronology set forth in the rare Genesis record appear some rather peculiar calendar terms. Among these are: "the evening was and the morning was"; "40 days and 40 nights"; the celestial signs [owth or oth]; and the fixed times [mow`ed]. Also unique or unusual about the calendar or astronomical system referenced by this author is that the 17th or 27th day appears to be integral for dating certain events.

Other literature produced in the era of the Second Temple has very similar information to that shown in Genesis. The most comprehensive description of the flood (external to Genesis) can be recited from '***The Book of Jubilees***'. An account of Noah and the flood is also given in '***Antiquities of the Jews***' (by Flavius

Josephus). The same flood account also appears in certain scrolls of the Sea Scroll library.

The various calendar dates shown, the corresponding day counts given, and the calendar terms used in Genesis make it possible to not only interpret the day and date of the flood but also to recognize that a combinational lunar and solar time track was within the knowledge of the astronomer-priest who wrote the initial chapters. Essentially, it seems very probable that a system of tracking both lunar and solar cycles was used to set down the chronology of Genesis.

> *Throughout the Genesis narrative, the heavenly bodies (Sun, Moon, and stars) are not promoted to be objects worthy of reverence or special worship. The celestial orbs are rather shown to have been specially created in the heavens to illuminate (or give light to) the Earth. Day (divided from Night) appears in a time sequence ruled by the Sun, and Night appears in a separated time sequence governed by the Moon. The Sun and Moon are shown to have also been created for the purpose of defining signs and fixed times . . . and for the additional purpose of generating cycles of days and years [= Hebrew: owth, mow`ed, yowm, and shaneh].*

Beginning with "the day that God created man", the author of Genesis was careful to present a genealogy for those patriarchs

who came after Adam. A genealogy prior to the year of the flood is shown in the 5th chapter--as follows:

GENESIS CHRONOLOGY
(1656 Years)

Adam to Seth	130 years
Seth to Enos	105 years
Enos to Cainan	90 years
Cainan to Mahalaleel	170 years*
Mahalaleel to Jared	65 years
Jared to Enoch	62 years^
Enoch to Methuselah	65 years
Methuselah to Lamech	187 years
Lamech to Noah	182 years
Noah to the Deluge	600 years
Total Time Span:	1656 years

* - Based on Septuagint version
^ - Based on Samaritan version

The genealogical record of Genesis is thus significant in showing a specific time span (1656 years) from an epoch or beginning (at creation) to the year of the Deluge.

Of additional significance about the genealogy given for the patriarchs is that certain Jewish writers who flourished in the era of the Second Temple appear to have understood that the creation of the 1st man Adam and also the 1st day of the flood were events that both occurred on the (same) day of the vernal equinox.

This early-held belief about the Deluge arriving in sync with the spring season can clearly be recognized from writings

attributed to the Jewish philosopher: Philo Judaeus (c. 25 BC - 45 AD). The commencement of the great flood on the first day of spring is manifest from a portion of his second dissertation on the book of Genesis--as follows:

> *" . . . the deluge fell on the day of the vernal equinox . . . the first man who was produced out of the earth was also created at the same season of the year, he whom the divine writer calls Adam . . . Since, therefore, the first beginning of the generation of our race, after the destruction caused by the deluge, commenced with Noah, men being again sown and procreated, therefore he also is recognised as resembling the first man born of the earth. . . putting them to shame because he would, unquestionably, never, after he had created the universe . . . have destroyed all the men who lived on the earth . . . if it had not been for the preposterous excess of their iniquities." ('**Questions and Answers on Genesis',** Part 2:17).*

Knowledge that the Deluge did begin on the first day of spring appears to have likewise been held among a segment of the primal Christians. In example, almost all of the medieval computations for the event of doomsday were made using the vernal equinox as an origin, or as a reference. (Additional information about the Christian expectation of doomsday is shown below).

The composite Hebrew and Christian record does then rather clearly indicate that the ancients believed Adam was created right

on the day of the vernal equinox. Also, after a time span of 1656 tropical years, the great flood was believed to have begun on this SAME DAY of the year cycle (on the first day of the spring season). Thus, early-written records tend to point to an exact epoch for the great flood—as follows:

- The day of the vernal equinox.
- 1656 tropical years from “the day God created man”.

CHRONOLOGY OF THE DELUGE
Equinox Alignments

1st Day of Adam	1st Day of Flood
1st day of spring	1st day of spring

A respective day and date for the event of the Deluge can further be verified from the day position of a 40-day cycle (noted in Genesis when the flood first began).

The Genesis notation of a “40-day count” is significant in the regard that--beginning with the first FULL DAY after the creation of Adam--the number of days across 1656 tropical years (604840 days) can be divided into segments of 40 days (15121 cycles).

The composite day count (1656 years, or 604840 days) does thus additionally indicate a possibility that the author (or authors) of the Genesis record understood/interpreted cycles of 40 days in a specific order. In essence, a time span of 604840 days can be

recognized to inherently contain 15121 revolutions of a 40-day cycle.

But then why—after all—does the Genesis record refer to the count of a 40-day cycle?

The most probable reason for the shown Genesis count of "40 days and 40 nights" is that a very effective method of measuring and metering out each passing solar year is inherent from time tracking this time unit (a cycle of 40 days).

To here be more specific, it would be a true axiom to state that each passing tropical year can very effectively (even perfectly!) be measured and metered out by keeping track of each 40th day.

The effectiveness of this time track is easy to prove in the regard that 1 day in a cycle of 40 days (the 40th day) inherently comprises 2.5 percent of the time stream. This rate is also inherently equal to 9.131055 days per year (on average).

2.5 percent of all days = 9.131055 days per year

An almost given conclusion here is that by classing, or typing, each 40th day in the context of a set of separated days, the rate of the solar year can quite perfectly be correlated to a count of the other days.

> *Note that a domain that represents a count of days OTHER than the 40th days is inherently equal to 97.5 percent of all days. In essence, 2.5 percent of days and 97.5 percent of days is equal to 100 percent of the time stream.*

The following diagram is presented to more clearly illustrate that each passing tropical year can very effectively be cross-referenced to a specific “day count”. Here, a time grid of 9 years is shown in exact overlay with a repeatable calendar count of 3205 days. The respective calendar count (3205 days) requires that each passing 40th day (9.131055 days per year on average) be eternally counted apart (or leaped) from the calendar days.

A PERFECT 9-YEAR CALENDAR *

Renewal	=	1 day
Year 1	=	356 days
Year 2	=	356 days
Year 3	=	356 days
Year 4	=	356 days
Year 5	=	356 days
Year 6	=	356 days
Year 7	=	356 days
Year 8	=	356 days
Year 9	=	356 days

*** - Each 40th day (a perpetual rate) must be leaped or intercalated apart from days comprising the the shown calendar count.**

Calendar count	=	3205.00000 days
40th (uncounted rate)	=	82.17949 days
Average 9-year rate	=	3287.17949 days
Annual calendar rate	=	365.24217 days
Actual solar-year rate	=	365.24219 days
Average difference	=	2 seconds (!!!)

A quite exact cross-reference between the cycle of the solar day and the cycle of the solar year can thus be recognized in the rate of a 40-day cycle--where the rate of 1 day in 40 days is equal to 2.5 percent of time and the rate of 3205 days in 9 years is equal to 97.5 percent of time.

Thus, a given conclusion is that the modern rate of solar year (which is 365.24219 days) can quite perfectly be metered out in correspondence with the cited number of calendar days (3205 days across 9 years). An annual difference of only 2.2 seconds per year is the inherent result of tracking 40th days separately from the time stream--as a perpetual rate.

> *Note that each passing solar year can effectively (almost perfectly) be measured and metered out by simply counting solar days--as cited. In this modern era, the epoch of each passing solar year can inherently be determined to within the limits of 2.2 seconds (on average). Because Earth's spin appears to be slowing down by a tiny amount with each passing century, it can be recognized that the track of a 40-day cycle could have been used to exactly (perfectly!) measure and meter the solar-year rate in some era of the past. The era when the solar year could have been perfectly measured and metered out using a track of 40 days was probably within very recent centuries.*

The possibility that early astronomers did interpret '40 days' relative to a cyclical count can additionally be recited from various portions of Second-Temple literature. For example, the count of 40

days in a cycle can be recited from '***The Book of Jubilees***'--as follows:

> *" . . . In the 1st week was Adam created . . . [His wife] in the 2nd week . . . And after Adam had completed 40 days . . . we brought him into the garden of Eden to till and keep it, but his wife they brought in on the 80th day . . . " (Jubilees 3: 8-10).*

The cited quote is significant in the regard that primal priest-astronomers appear to have interpreted a calendar count of 40 days as commencing right on the 1st day of human history. Essentially, the 1st day of a running cycle (40 days) was interpreted in association with the day when the 1st man (Adam) was created.

The Genesis record likewise shows the commencement day of the great flood in association with a cyclical count of 40 days--as follows:

> *. . . [In the] 2nd renewal, the 17th day of the renewal, the SAME DAY were all the fountains of the great deep broken up, and the windows of heaven were opened. And the rain was upon the earth* ***40 days and 40 nights*** *. . . " [Genesis 7:11].*

On the basis of the day counts given, it can be deduced that the Genesis narrative agrees with other portions of period literature. For example, the first man (Adam) can be recited to have been created on the day of the vernal equinox (1 day prior to a 40 day count). In addition, the Deluge is shown to have commenced on the (same) day of the vernal equinox (on day 1 of a 40 day count). The Genesis record thus is recognizably the same, or

similar, to other ancient accounts. [Note that the number of days across 1656 tropical years (from equinox-to-equinox) is exactly divisible into segments of 40 days.]

The references made by the author (or authors) of Genesis to a 40-day cycle are additionally significant in the regard that this respective time track exactly dovetails with a calendar count of 9 tropical years. A calendar interface from the Genesis account is easy to illustrate in regard of the given span of 1656 years.

> *Note that 1656 years can exactly be divided into calendar segments of 9 years each. In essence, a time span occupied by 1656 years does inherently contain 184 calendar cycles (of 9 years each).*

Various flood stories from around the world can also be recited in evidence that the ancients did once track time in units of nine. Though most of these flood stories seem preposterous, and though many of these tales tend to exceed an interpretation can be considered to be real or literal, it remains to be somewhat significant that a time track of "nine" or "nines" is rather frequently referenced. The following instances of time cycles pertaining to the number "nine" or "nines" are subsequently listed from various of the several stories that pertain to a cataclysmic flood:

- Ancient Greek literature relates that "Zeus sent a flood to destroy the men of the Bronze Age. Prometheus advised his son Deucalion to build a chest . . . after floating in the chest for nine days and nights, landed on Parnassus. When the rains ceased, he sacrificed to Zeus, the God of Escape." [Apollodorus, 1.7.2]

- Plato wrote that a number of "great deluges have taken place during the nine thousand years" since Athens and Atlantis were preeminent". ["Timaeus" 22, "Critias" 111-112.]
- According to Lithuanian legend water and wind once destroyed the Earth in 20 days and 20 nights. Those who survived the flood did jump 9 times and 9 other couples rose up. From the 9 couples that rose, the Lithuanian tribes originated. [Gaster, Myth, Legend, and Custom in the Old Testament, 1969.]
- According to Burmese legend, a flood came and a brother and sister took refuge in a boat. In this boat were 9 birds and 9 staves. In correspondence with each day of the flood, a bird and a stave were let loose from the boat. On the 9th day, the 9th bird was heard to sing and the 9th stave did strike the bottom. After the flood was over, the sister gave birth. Unfortunately, a witch cut the baby into pieces where 9 roads met. Along these 9 roads, the nations of the Earth sprang from the slain child's parts. [ibid.]
- In a Transylvanian legend, a certain man promised he would return in 9 days. On the 9th day, the man returned and announced the coming of a cataclysmic flood. This great flood lasted for the duration of a whole year. [Frazer, Folk-Lore in the Old Testament, 1919.]
- Indians of the Sacramento Region relate that the chief of all the nations did once overlook great flood waters for the duration of 9 sleeps. He ultimately grew invincable after the 9 sleeps were past. [ibid.]

- Certain Chinese writings relate that 2 children lived inside a gourd for 99 days. A flood eventually lifted the gourd to the top of a mountain. After the flood was past, the sky then held 9 Suns and 7 Moons. Using a dragon's bow, the children shot down all but a single Sun and Moon. The 2 children then became married and--from their 12 offspring--the various races on Earth originated. [Miller, South of the Clouds: Tales from Yunnan, 1994.]

Of related significance is that numerous (other) stories about the event of a cataclysmic flood have been passed down among many societies (from all around the world).

Thus, those Genesis referrals to a great flood do somewhat parallel other accounts of a deluge event (both written and oral).

Early-held knowledge of a calendar count of 40 days seems somewhat more certain from portions of the Genesis record that have detail of this count in a loop (or as a cycle). In example, a count of this respective cycle is at first shown relative to the commencement day of the flood--as previously shown. However, a count of 40 days is AGAIN listed after several more months—in that same year cycle--as follows:

> *. . . [On the beginning day] . . . the rain was upon the earth* ***40 days and 40 nights*** *. . . [The waters increased and then began to decrease until the 10th renewal] . . . and in the TEN on the ONE [= echad] to the renewal, were the tops of the mountains seen. And it came to pass at* ***the end of 40 days*** *. . . a raven . . . [and] a dove [were sent forth] to see if the waters were abated from off the*

face of the ground; But the dove . . . returned . . . for the waters were on the face of the whole earth . . . " [Genesis 7, 8: 5-9].

Because a count of 40 days is referenced at the beginning of the flood and again in the 10th renewal of the same year then it seems clear that the author (or authors) of Genesis might have held knowledge of 40 days and 40 nights as a calendar count.

An ancient Jewish writer (Philo Judaeus) made reference to the cited (Genesis) description of a 40-day cycle--as follows:

" . . . the overflow of the deluge took place for forty days . . . [thereafter] a hope of RENEWAL took place at intervals of forty days . . . " (Questions and Answers on Genesis, Part 2:33).

The count of 40 days as perhaps a cyclical count can also be recited from the book of Exodus--where it is shown that Moses was in the mount for 40 days and 40 nights (refer to Chapter 24: 10-18). The calendar term "40 days and 40 nights" is again recorded in the book of Deuteronomy, where Moses wrote:

"And I stayed in the mount . . . to the 1st day, ***40 days and 40 nights*** *. . . " (refer to Chapter 10:10).*

This passage shows "the 1st day" as immediately following 40 days and 40 nights. (Note that the Hebrew language usage of "rishown yowm"--or the beginning day--tends to indicate the track of a cyclical or a chronological count of 40 days).

Primal astronomer-priests thus appear to have understood 40 days as a cyclical count. It is here significant that Adam was believed to have been created right on the day of the vernal equinox in association with day 1 and year 1 of a calendar count of

40 days. The day of the flood appears to have likewise been understood to have commenced right on the day of the vernal equinox and in correspondence with day 1 and year 1 of the respective calendar count. Of additional significance is that a specific interval of days (604840 days) can be recognized from the content of those priestly records that pertain to the creation of Adam and to the epoch of the flood.

> *A specific number of days can be recognized between "the day that God created man" and "the day of the Deluge" in the regard that 1656 years (counted from equinox to equinox) is inherently equal to 604840 days. It is furthermore manifest that a cycle of 40 days does inherently return into conjunction with a span of 9 tropical years according to a long-cycle count of 604840 days.*

A given conclusion from the duplicate Hebrew record then is that the Earth was in the same orbital position around the annual transit of the Sun on “the day when God created man” and also on “the day of the end” (a day positioned at the turn of the vernal equinox).

CHRONOLOGY OF THE DELUGE
Equinox Alignments

1st Day of Adam	1st Day of Flood
Day of Equinox	Day of Equinox

To more firmly establish that the day of the flood was understood in the context of a time span equal to 604840 days, this cycle can additionally be interpreted in terms of a chronology of lunar months.

Of significance here is that the Genesis record points to a Moon chronology beginning a few days prior to "the day that God created man". (Note that Adam wasn't believed to have been created until day 6 of creation week).

Assuming then that early astronomer-priests did interpret the Moon; in symbol; to have stood with its 1st day on the 1st day of the 1st week then the flood event would have likewise been interpreted to have occurred in coincidence with a SAME (or an identical) new phase of the Moon.

> *Note that 1656 years, or 604840 days, plus 6 more days totals 604846 days. Thus, in terms of cycles of the lunar month, a span of 604846 days inherently encompasses 20482 lunar molads. In essence, if counted in association with the day of an initial lunar month, a count of 604846 days*

inherently ends in correspondence with the first day of a lunar month.

Because this span of days can so exactly be accounted for in cycles of the lunar month (29.53059 days per lunar month) then it can be recognized that primal priests may have interpreted the epoch of the flood in correspondence with the very 1st day of the lunar-month cycle (the day after the molad).

The early use of some kind of a solar calendar is also apparent from the record of Genesis. References to a solar calendar can especially be detected from the chronological content of the 7th chapter.

In the 7th chapter, a 150-day span is listed in correspondence with a run of 5 calendar months. (The respective span of 150 days is shown to begin with the 17th day of the 2nd month and end with the 17th day of the 7th month). It is very clear from these two day dates that a month cycle of exactly 30 days was being referenced by the author.

The interpretation that a calendar of 30-day months was within the knowledge of the author of Genesis is thus predicated upon those references to a time span of 150 days. Of significance here is that instances of this time span (150 days) actually appear two times--once in the 7th chapter and again in the 8th chapter--as follows:

"[7th chapter] And the waters prevailed, and were increased . . . for 150 days . . . [8th chapter] And the waters returned . . . 150 days . . . "

The 1st instance of this time span is clearly used in reference to a period when the waters were prevailing. (A 2nd instance of

150 days could possibly refer to a subsequent period when the waters were receding).

The cited Genesis references to a 30-day count do then rather clearly reflect that the author was knowledgeable with an extant solar calendar. It here seems to be significant that a calendar predicated upon this time count appears to have been rather widely used by early astronomers throughout the Middle East. An example of a calendar based upon a cyclical count of 30 days can be recited from certain clay tablets engraved in the Kultepe region of ancient Assyria. A peculiar method of tracking the renewal of 30 days can be recited from the writings of Biruni (a medieval astrologer/astronomer who lived in Iran). In 'al-Athar al-baqiya', Biruni reported upon an ancient method of reckoning 360 days. The year was counted in correspondence with always 360 days and each month was counted always in correspondence with 30 days. An intercalery month was inserted in each 6th year, and two months were inserted into each 120th year (refer to Chapter 14).

Based upon the composite chronology shown for the flood event, it can even more firmly be established that the author (or authors) of Genesis held knowledge of a time track that consisted of nothing more that a cyclical count of 30 days. The indicated count of a cycle of 30 days is pointed at from a tally of the days between the epoch of the creation and the 1st day of the flood (a day count of 604847 days). This respective count can be correlated to the 17th day of a running count of 30-day cycles--as follows:

A 30-DAY CYCLE IN THE GENESIS RECORD

initial epoch	=	0
1680 cycles of 360 days	=	604800 days
1 month of 30 days	=	30 days
partial month	=	17 days
2nd month and 17th day	**=**	**604847 days ***

* -- 604847 as a count of days after the initial epoch.

A segmented count of 30-day cycles--as diagrammed above--reveals that the number of days from the epoch of creation week to the 1st day of the flood can be correlated to a segmented count of 360 days. (Note that 12 months of 30 days is equal to 360 days). Based upon the cited 12-month (360 day) segmentation, the 1st day of the flood would inherently have commenced 1 month and 17 days in line with a segmented count of 12 months (360 days). Essentially, the flood is indicated to have began on the 17th day of the 2nd month according to a segmented count of 360-day cycles. (This day and date--derived by counting 30 day cycles--exactly agrees with the Genesis record).

The indicated Genesis referral to a 360-day time count can perhaps further be recognized from the notation of a time span of 120 years--as is shown in the 6th chapter.

Note that ancient Persians are indicated to have time tracked a running cycle of 30 days in reference to a long cycle of 120 years. For more information, refer to Chapter 14.

The Genesis referrals to a cycle of 30 days may mirror the early time track of time stations. A time station attributed to the Sun appears to have routinely been tracked by astronomer-priests throughout the era of the Temple. The indicated time track of a solar station (every 30 days) perhaps explains more of why the author of Genesis did refer to this particular time cycle. (For pertinent information about the priestly track of time stations, refer to Chapter 15).

It here seems significant that the initial chapters of Genesis (written early in the Temple Era) tend to reflect a regard among members of the priesthood for the cycle of the lunar quarter or the lunar week.

As previously has been shown, there are 4 distinct quarter phases of the Moon: 1.New phase; 2. First-quarter phase; 3. Full phase; and 4. Third-quarter phase. The quarter phases are easy to recognize on the basis of observation. At the new phase the Moon is dark and appears to be completely invisible; at full phase, the Moon is fully-illuminated and is round-shaped; and at the first quarter and at the third quarter, the Moon is half illuminated and is distinctly divided into half-parts (half-light and half-dark, or the reverse).

What is peculiar about the cycle of the lunar week is that the priests appear to have tracked or accounted for the unit of the lunar week in multiples of seven (or by sevens). Essentially, a tally or

count of 7 lunar weeks (a pentecontad cycle) was perceived to be succeeded by a subsequent cycle of 7 lunar weeks (the next pentecontad cycle). This unique cyclical count (7 lunar weeks) appears to have been endlessly performed. The cited cycle of 7 lunar weeks was probably tracked by primal astronomers for religious purposes and also to properly regulate the annual harvest. For pertinent information about the ancient track of 7 lunar weeks, refer to the introductory chapters.

A regard for tracking pentecontads among the Temple priests can additionally be detected from Genesis chronology leading up to the day of the flood.

Because the time span prior to the day of the flood can exactly be represented in units of the lunar month, this respective time span inherently would have been understood in units of the lunar week (81928 lunar weeks).

It is here significant that the number of lunar weeks between the 1st day of creation week and the 1st day of the flood is inherently divisible by seven. The indicated division of this time span in segments of 7 lunar weeks then points to the possibility that the priests also interpreted flood chronology in terms of the pentecontad cycle.

> *Note that the time span between the 1st day of creation week and the 1st day of the flood event can inherently be represented in units of 7 lunar weeks (11704 pentecontads). What is most remarkable is that this respective number of pentecontad cycles (11704 cycles) is yet again divisible by seven.*

Subsequent spans of 7 lunar weeks (other pentecontad boundaries) can be detected from the portion of Genesis chronology that is shown after the initial day of the flood.

Perhaps the clearest example of a 7 weeks boundary subsequent to the 1st day of the flood can be recited from portions of the 8th chapter--as follows:

> *"And it came to pass . . . [in the following year] in the first [= ri`shown], on the one [= echad] to the month, the waters were dried up from off the earth: and Noah removed the covering of the ark, and looked, and, behold, the face of the ground was dry. And in the 2nd renewal, on the 27th day of the month, was the earth dried. And God spake unto Noah, saying, Go forth . . . " [Genesis 8: 13-16].*

This portion of text indicates that--due to effects of the great flood--land journey did not begin again until after one full year had elapsed. It then appears that travel did begin again on the 27th day of the 2nd renewal (or month).

It here seems to be significant that this respective day date did inherently come exactly 370 days [= 50 lunar weeks] from the 1st day of the flood. [Note a span of 370 days days is inherent from a calendar count that extends from the 17th day of the 2nd month to the 27th day of the 2nd month of the next year. Essentially 12 cycles of 30 days each plus 10 more days is equal to a span of 370 days. This time span--370 days--is also precisely equal to 50 lunar weeks plus 1 day].

The 49th and 50th lunar weekends that came after the commencement of the flood were probably understood to mark

unusual or very unique epochs. For example, the cited time span of 81928 lunar weeks that marked the start of the flood can inherently be divided by the square of seven (as shown). However, the time span of 81977 lunar weeks--marking the end of the 49th lunar week--can inherently be divided by the CUBE of seven!

The 50th lunar weekend that came after the start of the flood [= the 26th day of the 2nd month in the next year] then would almost surely have been understood to mark a significant event in terms of lunar chronology.

A priestly regard for the Sabbath of the lunar week is probably the reason why land travel was not described to begin again until the 27th day of the 2nd month. (The Genesis author seemingly understood that land journey would not have been permitted until after the 50th lunar week was out).

The Genesis record then points to the remarkable possibility that astronomer-priests in the era of the Temple were keen to interpret the 1st day of creation week as the 1st day of a lunar-week unit. From this initial lunar week, a time sequence consisting of pentecontad cycles appears to have been interpreted prior to the 1st day of the flood.

The day of the great flood was then probably understood by the priesthood as a day that did correspond with the renewal of a time cycle of 7 lunar weeks. Likewise, the duration of the flood appears to have been understood in terms of the pentecontad cycle. An analysis of Genesis chronology indicates that the flood lasted for an incredible duration of 7 pentecontads. Land travel did not commence again until the 27th day of the 2nd month--when the 50th lunar week was over.

Of additional significance about the Genesis record is that Earth's rotational rate can be stated to inherently conjoin with the same orbital phase of the Moon--every 49 synodic periods. In essence, the length of 49 lunar months is also inherently equal to the length of 1447 day units.

> *Note that the length of 7 sets of 7 lunar months, or 49 months, is exactly divisible by the length of the 24-hour day. For pertinent information of a cycle of 49 months, refer to Chapter 12.*

It is then rather amazing that the priest's record of a specific span of days between the 1st day of creation and the 1st day of the flood event is exactly divisible by the span of time occupied by 49 lunar months. This respective time span is also exactly divisible by Earth's conjunction cycle with the Moon (a cycle exactly equal to 1447 solar days).

> *The rotation of the Earth can be recognized to have been identically conjoined (or aligned) with the orbit of the Moon on both of these occasions. In essence, the rotation of the Earth appears to have been understood to have been aligned with the Moon on the 1st day of creation week . . . and again on the 1st day of the great flood event.*

CHRONOLOGY OF THE DELUGE
Earth and Moon Alignments *

1st Day of 1st Week	1st Day of Flood
1st of 49-month cycle	1st of 49-month cycle

*** -- The spin of the Earth and the synodic orbit of the Moon do both conjoin or align together every 49 lunar months.**

The above diagram shows that Earth's rotation was identically aligned with the synodic period of the Moon on the 1st day of creation and again at the equinox on the day of the flood.

Note that the 1st man (Adam) was interpreted to have been created on the 6th day of creation week. Thus, commencing with the 1st FULL DAY after the creation of Adam, the priest's record tends to indicate a calendar count of 604840 days [= the 1st day of the flood as shown]. Remarkable about the priestly record is that from the 1st day of creation week to the 1st day of the flood event is a time span that inherently is divisible by the length of 49 synodic periods (418 total cycles). This respective span of time is also inherently divisible by Earth's conjunction cycle with the Moon at the 1447th rotation (also 418 total cycles)

Thus, it seems of considerable significance that the priests are indicated to have held knowledge of Earth's conjunction with the revolution of 49 Moons (a time span also exactly equal to 1447 rotations of the Earth).

The fact that the Genesis record spans a lengthy time span of 1656 years and yet appears to be correct in its description of the alignment of the day of the flood with the two cited months (one lunar, and one solar) is quite remarkable. The additional description of the day of the flood aligning with yet another day cycle (that of 40 days) and with a seasonal epoch (at the equinox) can be interpreted as pretty amazing.

The Genesis record thus reflects that the priests might have held unusual--even advanced--knowledge of the spin and orbital rates. Essentially, an accurate method of tracking the spin and orbital cycles would have been required to correctly predict that--after a number of days across a time span of over 1.5 millennia--the orbit of the Moon would come again into alignment with the epoch of the vernal equinox!

The accurate Genesis record of lunisolar cycles timing out together on one specific day (the day of the flood) points to the clear possibility that the Genesis account could be authentic. (The record is at least authentic in terms of time cycles generated by the Earth and Moon). The authenticity of the Genesis story in this regard tends to at least indicate that advanced knowledge of astronomy must have been held by the primal priesthood.

> *The Temple priests appear to have been in possession of a literal set of records pertaining to a week of creation and also to a flood event--as cited.*

Unfortunately, the Genesis source doesn't fully explain which season of the year the great flood occurred in. Certain writings attributed to the patriarch Enoch are however explicit in showing that the vernal equinox was understood as the beginning of the year cycle. Writings attributed to Philo Judaeus are also explicit in stating that "the Deluge fell on the day of the vernal equinox . . . ".

Early Christians who resided in the British Isles appear to have made a number of predictions about the epoch of doomsday. It is here significant that many of the computations made to announce the coming of doomsday can clearly be recognized in the context of those time cycles that are reflected in the account of the Genesis flood (as previously presented).

To be more specific about computations made by medieval astronomers, certain records and calendar artifacts recovered from Abby locations in England and about France make it clear that many did then believe that doomsday would be fulfilled on no other day than the 8th of the Kalends of April (March 25). ('*Liber Floridus*', by Lambert of Saint-Omer).

Based upon "Augustine chronology", primal Christians appear to have also held knowledge that Adam was created on this same calendar day (March 25). In addition, certain early-penned passages do also show that March 25 was then interpreted as the day when Isaac was bound, the Red Sea was crossed, the birth of Christ was announced, and the day when Christ was crucified.

Primitive Christian records can further be recited in evidence of an hypothesis that doomsday was then reckoned in association

with a time track of 40 days. In example, the following quote from '***The Blickling Homilies***' tends to reflect that doomsday was then expected to come at the turn of a 40-day cycle:

> *"[A fast of 40 days always precedes] the celebration of the [crucifixion] of Christ . . . plainly shown [is] that the awful Doomsday shall come about the time [= March 25] . . . the elders of the church have instituted that [40-day] fast before His passion and also before the coming of the awful doomsday . . . " (based upon the Morris' translation).*

Of significance then is that primitive Celtic Christians are indicated to have celebrated doomsday in at least partial association both with the time of the vernal equinox and with the turn of a 40-day cycle. The cited method of reckoning the vernal equinox with a 40-day count can be recognized from works attributed to an astronomer of the 3rd century (Anatolius). This ancient scientist noted that certain Christians of his day did then track and celebrate the crucifixion in association with a long-cycle of 84 years. Of significance here is that a time grid of 40 days can be recognized to inherently overlay a time cycle of 84 tropical years.

> *Note that a long cycle of 84 years is inherently equal to a count of 30680 days. Consequently, this long cycle is exactly divisible into segments of 40 days. In addition, a time grid comprised of 9 year cycles can be recognized to also interface with a*

long cycle of 84 years . . . with an intersect occurring every 3rd cycle.

The 40-day cycle leading to the ultimate celebration of crucifixion/doomsday was interpreted as a time for penance and fasting among primal Christians. The possibility of doomsday actually occurring (or coming) in any given year must have been deemed to be greater in those years when the vernal equinox was perceived to coincide with the turn of the cited 40-day cycle.

For additional information of the Genesis record, refer to the following web pages: ***www.creation-answers.com/forty.htm*** and ***www.creation-answers.com/flood.htm***.