

The Golden Age

A JOURNAL OF FACT HOPE AND COURAGE



in this issue

THE SECOND HAND IN THE TIMEPIECE OF GOD

An explanation respecting a complete change of calendar,
with suggestions as to how the
Calendar of Jehovah God
can be put into effect easily and
naturally, without any confusion



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The Second Hand in the Timepiece of God

(In 3 Parts—Part 1)

AN EXPLANATION RESPECTING A COMPLETE CHANGE OF CALENDAR, WITH SUGGESTIONS AS TO HOW THE CALENDAR OF JEHOVAH GOD CAN BE PUT INTO EFFECT EASILY AND NATURALLY, WITHOUT ANY CONFUSION.

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MATTERS have arisen recently to call sharp attention to the Gregorian calendar and its confusions, and to direct attention to the Word of God on the subject of time, with a consideration of what may be called the timepiece of God, the beautiful and orderly arrangement of the sun and moon as they were set in the heavens by the Creator "to rule over the day and over the night" (Genesis 1:18), 'to be for signs, and for seasons, and for days, and for years.'—Genesis 1:14.

This is no nonsense, or worse than nonsense from the Great Pyramid in Egypt (built with unpaid slave labor), but there is now a wealth of information regarding the exact length of the year, and the exact length of the lunation (from one new moon to another), which makes all past history an open book, where the number of years involved is known, and where there is associated with those years some marked reference to the moon.

"The Precious Things Put Forth"

It is an interesting possibility indicated by Moses when he mentions "the precious things put forth by the moon". (Deuteronomy 33:14) In the beautifully working parts of His great timepiece Jehovah God has preserved evidence that will yet shame all the wise of the earth.

Does it not seem a very wonderful thing, a gift from Jehovah God, that Jehovah's people may now have a perfect calendar of the Lord's life, knowing, for example, in terms of the Gregorian calendar, with which all are familiar, the exact days of the week, month and year when, as a boy, He remained behind in the temple, asking and answering questions; that they may know the exact date when Moses came marching out of Egypt, the exact date the Jordan was crossed by the forces under Joshua, the exact

date Noah and his family went into the ark, and the day they came out, and the probable day of Adam's creation, all from the silent movements going on constantly by which the sun and the moon never get out of place or out of order, as do other clocks, but are far enough away that no mischief-maker can get at them to interfere?

It is so simple, when one gets into the subject, that it is passing strange that Jehovah's people never became interested in it before. Though the moon has its variations in speed, yet the mean lunation, 29 days 12 hours 44 minutes 2.864976 seconds (2551442.864976 seconds), is one of the definite fixtures of the heavens, and its reliability is such that astronomers meet and gravely discuss the reasons for differences of so small an amount as 1/1000th of a second in a lunation.

The nature of the oscillations of the moon is known many years in advance, and will be laid before the reader, and he will be able to make intelligent predictions as to times of lunations himself. Nor will this knowledge, when understood, lessen confidence in the second hand of God's timepiece, but rather increase it. A man may run up and down the length of a swiftly moving train and thus move slower or faster through the surrounding country, yet, after all, the net result is not changed if he quietly stays in his seat. That is the way it is respecting the oscillations of the moon.

In his work *The Calendar; Its History, Structure and Improvement* (published by the Macmillan Company) Prof. Alexander Philip, LL.B., F.R.S., of Edinburgh, says the exact length of the year is 365 days 5 hours 48 minutes 46.15 seconds. He made a careful study and had access to many works; in this production it is assumed that his statements are correct.

Indebtedness is acknowledged to 220 works on astronomy; also to Dr. Clyde Fisher, Ph. D., LL.D., curator of the Department of Astronomy, The American Museum of Natural History, 77th street and Central Park West, New York city. Dr. Fisher is rated the ablest astronomer in New York.

An Intricate, Confusing Subject

Gentile scholars of eminence sadly say that years are "incommensurable"; an incorrect but excusable statement, in view of the difficulties involved. There is only one way out: God's way; which way is simplicity itself, as will appear in due course.

That the Jews are confused is self-evident. Here is what the International dictionary says of their efforts: "The common year is said to be defective, regular or perfect (or abundant) according as it has 353, 354 or 355 days. The leap year has an intercalary month, and a total of 383 (defective), 384 (regular), or 385 (perfect, or abundant) days. The calendar is complicated by various rules providing for the harmonious arrangement of festivals, etc., so that no simple perpetual calendar can be constructed." In their calendar the Jews show only 3,761 years in the era B.C., whereas the Scriptures, preserved in their midst, show that somewhere, somehow, they have lost account of at the very least 267 years. Jehovah's people have nothing to learn from the Jews on this subject; the Jews have lost the "key of knowledge".—Luke 11:52.

Jehovah's people are not interested in the old Roman calendar of ten months in a year, even though "Christendom" still uses the original names of the last four months of that year: September, October, November, December.

They are not interested in the old Greek calendar, the use of which caused such confusion in the Roman empire that in the year 46 B.C. it was necessary to add two months to the year, making it fourteen months long, in order to bring the seasons back to their proper position.

They are not interested in the Julian calendar, which followed, unless they chance to live in Greece, or unless they are astronomers. The first of the year, with the Greeks, is thirteen days behind the one now in general use. The reason why the astronomers cling to the Julian reckoning is that it has been in use constantly, in some sections of the world, 1,980 years. They merely use it as a convenient measuring rod, to connect up with the past. Julian days, used

by all astronomers, begin to count 250,310 days prior to the day of Adam's creation, and are to that extent in error. In this article the Edenic day, i.e., the day from Adam's creation, is substituted for the Julian day; and it is hoped that all astronomers, in the interest of pure truth, will adopt and accept and use the Edenic day exclusively.

Jehovah's people disdain to consider for a moment the Mohammedan calendar, which takes its start in July of the year 622 (A.D.), and which even the Mohammedans no longer take seriously.

Napoleon put an end to the French Revolution calendar, which began in November, 1793, and perished in 1805. Everything was supposed to be done by the decimal system. There were 12 months of 30 days each, and five or six fete days at the end of the year, to balance things up.

The Gregorian Calendar

But though Jehovah's people ignore all of the foregoing, they cannot quite, in the immediate present, ignore the Gregorian or papal calendar inaugurated in October, 1582, at which time ten days were dropped from the Julian calendar, the fifteenth of that month hooking up next to the fourth. It was not until 1752 that England adopted the Gregorian calendar.

In this series of articles it will be shown that all the foregoing calendars are calendars of the Devil. If that is shown to be true regarding the Gregorian, it will certainly be true of all the others. Please, now, take the time to examine some of the necessary details of this intricate subject.

Jehovah God is nowhere mentioned in the Gregorian calendar. It would suit Satan well to have Him lost sight of altogether. Christ is mentioned, but the year 1935 is not the year of our Lord at all, for He was born in 2 B.C. and died in A.D. 33.

In these articles the Gregorian calendar is supplanted and discarded by the unique expedient of extending it into the past, as if it had always been in operation, using it to establish historical points in terms that will be understood by those now living, and then letting it die an ignominious death.

The present pope is not sure, even, as to in what year Christ died. One of his alleged reasons for extending the "Holy Year" to 1934 was that, so he said, he was not sure whether Christ

died in A.D. 33 or in A.D. 34. Of course, the real reason why he was making both ends of the year "holy" was that thus he could get collections at both ends.

The Gregorian calendar was the work of a council of theologians, professedly the successors of the apostles, but eager to hide the apostles from sight except as they might wish to shine in their reflected glory. One can see this in what the council did, and in what they failed to do.

Gregorian Calendar and Apostles

Let it be supposed that the Gregorian council had really desired to honor the apostles whose successors they claim to be. What a fine chance they had! For instance, they could have changed January to James, in honor of the man to whom the Scriptures refer as the Lord's brother. But they preferred to have millions of people everlastingly writing down a name in honor of Janus, the original Roman "father". Janus was two-faced. His successors have been like their "father". He was worshiped as the god of gods, supreme janitor of heaven and earth. The word "janitor" takes its derivation from the word "Janus". A writer who made a study of this subject says: "But here is the important fact that, till the pope was invested with the title, which for a thousand years had had attached to it the power of the keys of Janus and Cybele, no such claims to pre-eminence, or anything approaching to it, was ever publicly made on his part, on the ground of his being the possessor of the keys bestowed on Peter." In other words, he was Jupiter, the Devil, and naturally those who claim to rule heaven, earth and hell, and who love the name "father", did not wish to part with anything that so well upheld their claims.

The theologians had a second opportunity with regard to the second month. On or about what is now February 15 the ancient pagan Romans had heathen priests, called the priests of Faunus, who clad themselves in goatskins, and made a circuit of the Palatine Hill, striking with goatskin thongs all women encountered. The ostensible object was to insure fertility and easy delivery; the real object was to enable the grafting priests to keep their hold on the superstitious people. This ceremony was supposed to "februare", or purify, the women. One can readily understand why the Roman Catholic

theologians wanted to retain this connection with heathenism.

In connection with the "februation" of the women the priests held a festival, the Lupercalia, in honor of Lupercus, the god of fertility. There is a brief account of a similar "festival" in Numbers 25:1, 2: "And Israel abode in Shittim, and the people began to commit whoredom with the daughters of Moab. And they called the people unto the sacrifices of their gods: and the people did eat, and bowed down to their gods."

These alleged successors of the apostles who made the Gregorian calendar could have named the second month Boanerges, in memory of James the brother of John, the one who had the honor of being the first martyr among the Lord's chosen twelve, but they preferred the old pagan name.

The Old Roman Year

The old Roman year began with March, and its first month in the year was named Martius, after Mars, the god of war. The war priests of ancient Rome were the Salii, or leapers. Their job (contrasted with their present successors) was not so much the encouragement of the production of more Roman soldiers, but to see to it that Mars was well bribed by their leapings and other gymnastics. Their chief ceremony was on March 19.

The Gregorian ecclesiastics had another good opportunity here. They might have named this month after Peter, for whom they profess to have so much attachment. But as between following the advice of Peter to "seek peace, and ensue it" (1 Peter 3:11) his alleged successors have done all possible to keep the world in wars and turmoils throughout their entire history, and tomorrow, if another world war were to start, the Roman Catholic theologians would be the very first to climb on the band wagon, for their full share of chaplaincies or whatever other graft was to be had, in every country involved. And the Protestant clergy would be scarcely one whit behind. And so one can see why the Gregorians desired to retain the martial spirit, martial law and martial music of Mars rather than to have a month named after the humble fisherman who, in his writings, counseled peace at least five times.

The second month of the old Roman year of ten months was Aprilis, from a word meaning

'to open', and probably signifying that this was the month in which the buds open. There is no objection to this, surely, but, as this was the month in which the Savior died, what a chance there was here to commemorate that event upon which all human life depends. The month could have been called Christ, and it would have been an annual reminder of man's debt that can never be repaid.

But the theologians preferred the old name, with which, no doubt, some god or goddess was in some way involved. Incidentally, as will later be shown in this series of articles, there is ground for the tradition that Christ was nailed to the tree on April 1, and that the so-called "April fool" pranks on that day are intended by the Devil to bring ridicule on the One who counted not His life dear unto Himself, but gave it all up in the doing of Jehovah's will and in the vindication of His name. May God help all of Jehovah's people to be like their Master, and "fools" for His sake.—1 Corinthians 4:10.

The Month of Maius

The month of Maius in the old Roman calendar, the present May, refers to Master Jupiter, the great father god, who had more wives than Henry VIII. It would have been a rather nice thing for the theologians who pretended to think so much of the apostles if they had called this month Matthew. But it was Matthew, in the 23d chapter, that specially drew attention to the Lord's warning: "Call no man your father upon the earth: for one is your Father, which is in heaven. Neither be ye called [Master]: for one is your Master, even Christ." (Verses 9 and 10) And the theologians knew better than to draw the attention of the people to the word of God which exposes their paternalistic method of gaining control of the men through control of the women.

Juno, so the encyclopedia discloses, was "the most exalted divinity of the Latin races in Italy next to Jupiter, of whom she was the sister and wife. She was the queen of heaven and under the name of Regina (queen) was worshiped in Italy at an early period". It would have been nice for the Gregorian theologians to name the sixth month after John, the one whom the Lord especially loved, but that would have been a hard blow at mariolatry; and so the Gregorian ecclesiastics, who are so strong for the pagan queen-of-heaven idea, preferred to let the name June stand as it is.

In the old Roman calendar the fifth month was named Quintilis, which merely meant that it was the fifth month of their year. When Julius Caesar reconstructed the calendar, making the year one of twelve months instead of ten, one of the new months was named after himself, and Quintilis became July. Here again the theologians had a fine opportunity to choose between a great warrior and the humble and faithful Jude, whose short epistle contains so much; and so, because they more admired military conquerors than a humble messenger of peace, they chose to retain the name of the warrior, born in that month.

The Month of August

It was Mark Antony, the politician, that fixed it up to have the seventh month of the year named after Julius Caesar, but Julius' successor Augustus was less modest. He changed the name Sextilis, sixth month, to August, and the Roman senate, to gratify his vanity, took one day away from February and added it to the month thus named. That is why February is so short.

Theologians love everything that exalts men; and so when the question came up, if it ever did come up, of naming the eighth month after the apostle Andrew, the suggestion was voted down 100 percent in favor of retaining the name of the publicity-seeker who started world-wide taxation.

September, seventh old Roman month, could have nicely been named after Philip, but it was not. October, eighth old Roman month, could have been named after Thomas, but it was not. November could have been named after Nathanael (Bartholomew), but it was not; and December could have been named after Simon (Zelotes), but it was not. The theologians did not want any of the months named after the real apostles. They preferred that the old paganism which constitute their sole stock in trade should be perpetuated, as long as possible. Certainly, on no account do they wish the people to have the Scriptures, or even to be reminded of them, except in so far as they can twist these to seem to sustain their pretensions.

The Days and the Hours

The Devil, of course, was the one who induced the ancestors of the present generation to name all the days of the week after heathen gods and goddesses. Neither God nor Christ, nor any

prophet or apostle, is represented in the days of the week as now in common use. Sunday is named after the sun god; Monday, after the moon god; Tuesday, after Zeus, or Tyr; Wednesday, after the god Woden; Thursday, after Thor, the god of thunder; Friday, after Frigg, or Friga, Woden's wife; and Saturday, after Saturn. The theologians could have changed all this if they had wished to do so, but they did not.

God made the day to begin at sundown, and so the Devil has changed that in almost every place, but not quite. In most countries the beautiful robe of starlit night is rent in twain and the day begins at midnight, which practice was handed down from the Egyptians and Romans. The Babylonians began the day at sunrise. Astronomers make it begin at noon, and number the hours from 1 to 24 consecutively. This system is followed in some parts of Italy. In all of these matters the theologians have gone along with every scheme to dishonor the Maker of the stars and to stray farther and farther from the Word of God. They have seemed to instinctively realize that their protection consists in keeping as close as possible to the Devil and the Devil's way of doing things.

Latest Ecclesiastical Muddling

Under the leadership of Doctor Cadman, ex-president of the Federal Council of [Protestant] Churches in America, a still further mix-up in respect to calendars is in sight. Following a big get-together council of all the most pompous Protestant theologians, at Fanoe, Denmark, in 1934, the proposition was launched to make every year one of 364 days, adding the 365th day as an "extra" Saturday, coming always between December 30 and January 1; then when the year would have 366 days the "extra" day would be inserted as an "extra" Saturday between June and July. By this plan, in which the Scriptural arrangement of the days into weeks would be entirely ignored, there would be four quarters of the year identical in length, each containing three months of 31, 30 and 30 days, and, if one is foolish enough to believe it, "any given date will fall on the same day of the week."

It is thus seen that the Devil and the children of the Devil are greatly interested in having everything different from the way God arranged it, not only as respects the years and the months, but as respects the weeks, the days, and even the hours, and the reason for it is clear. The

Devil is determined to leave no stone unturned to dishonor God, and he also well knows that as one error leads to another so one truth also leads to another, and is in terror lest great truths long covered should be brought to light.

And so, with this preliminary examination, please turn to make a *study* of the various items that enter into the making of calendars, a Scriptural as well as a scientific study, to which is invited the closest scrutiny of astronomers, mathematicians and others, as well as Jehovah's people. Should any errors be discovered in statements of fact or in calculations, be so good as to transmit them to *The Golden Age* as promptly as possible. In this material, high-school and college teachers have abundant opportunities to put the skill of their pupils to the test and at the same time exalt the name of Jehovah, the true and living God.

The methods that will be pursued will be entirely different from any ever before used. The place to begin is with the year.

A Consideration of the Year

According to Genesis 1:14 God made both the sun and the moon to be "for signs, and for seasons, and for days, and years". The thought that the signs here mentioned have anything to do with the signs of the zodiac is all nonsense, demonism. The word "signs" signifies "ensigns", as if here is some standard that needs the attention which will now be given to it.

The seasons recognized in the Scriptures are but two, the summer and the winter, which seasons will continue forever. "While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night, shall not cease."—Genesis 8:22.

Jehovah's people are familiar with the instructions to Israel to "keep the passover at his appointed season" (Numbers 9:2), and know why Jehovah spoke of it as "the season that thou camest forth out of Egypt". (Deuteronomy 16:6) They know that the Lord, in the parable of the vineyard, spoke of "fruits in their seasons" (Matthew 21:41), that the apostle also mentioned "fruitful seasons" (Acts 14:17); the prophecy of Zechariah (14:8) speaks of summer and winter as ever continuing; and there are other references to the seasons in the Scriptures, and yet the clergy have never recognized in any way these grand divisions of time in any of their calendars. One would have thought

that they would at least have named one month after the opening of the vernal season or one after the opening of the autumnal season, but the clergy have no zeal for the honoring of anything with which Jehovah God has had anything to do. They are interested only in the things that bring dishonor to Him and do bring honor to men and to their master, the Devil, whose they are and whom they serve. On the other hand it seems that the attention of the *true* people of God has been directed to the vernal equinox for centuries, and there must be some reason for it. To this day, Jehovah's people, striving for truth and obedience, seek the beginning of Nisan (the name is of heathen origin), the month in which Jesus died, and locate it with the new moon nearest to the said equinox.

When Do the Seasons Begin?

For various reasons it is desirable that the new year should have a fixed point at which to begin, and to end; and what better point than that made by Jehovah himself in the heavens, when the days and nights are of equal length at every point on the globe? It is the time of life, a time when all should specially turn their minds and hearts to the great Creator who provided such a convenient day for the settlement of accounts that are in the past and for the opening of new vistas for the future. "Thou crownest the year with thy goodness."—Psalm 65: 11.

Years ago many of those who are now Jehovah's witnesses had the belief that the true time of the year's beginning is in the fall, yet, whatever may have been the reason, in the two texts where the two seasons are mentioned together the summer is mentioned first.—See Genesis 8: 22; Zechariah 14: 8.

All intelligent persons know that on the equator the days and nights are always of equal length. They also know that twice a year the sun apparently shifts its position with respect to the earth, and in March and September there are what are called equinoxes; that is, the days and nights are of equal length in every place on the earth. The human family was first implanted in the Northern Hemisphere; there the Scriptures were written; there the Lord died. Hence the Scriptures tacitly recognize the fact.

Additionally, the Northern Hemisphere contains most of the land surface.

The summer season (which men, but not the

Scriptures, divide into two parts, one of which is named "spring") begins in March (in the Northern Hemisphere) and contains the growing and harvesting seasons of that part of the world, wherein most of the land surface of the earth is found. The cold seasons are inaugurated by the autumnal equinoxes.

The Gregorian calendar does not begin at either equinox, and does not even begin any month with either of them, but it cannot quite ignore these important fixed points in terrestrial history, and so one generally finds in an almanac a brief mention of the time when the equinox (usually the vernal) occurs. It is manifest that, in the mind of God, the true year would have its beginning at one of these points. Would it not seem reasonable, since God made the sun to rule the day and the moon to rule the night, that He would have the greater of these two luminaries fix the length of the year and the lesser fix the length of the month?

Jehovah puts the mind at rest on this subject of *His* time for beginning the year. As the Israelites were about to leave Egypt (which, as will be shown subsequently, was about the time of the vernal equinox) He said to Moses: "This month shall be unto you the beginning of months: it shall be the first month of the year to you."—Exodus 12: 2.

Much has been said of the observance of so-called Jewish "New Year" at the autumnal equinox, but the Devil has been after the Jews as well as after the Christians. Can anybody show where the Jews or anybody else was ever commanded or authorized to begin a new year at any other time than that fixed by Jehovah God? He cannot. It is quite true that Exodus 34: 22 speaks of "the feast of ingathering at the year's end" (revolution of the year, *margin*); but the reference is manifestly to the crop year, which does indeed end in the fall, as is well known to everybody. Exodus 12: 2 is the *law* on this subject.

The foregoing text, therefore, ought to be sufficient proof that the true time of the beginning of the year is with the vernal equinox; but there is more. Nine months from the autumnal equinox would be on or about June 23, at which time in Palestine it is exceedingly warm. Nine months from the vernal equinox is about December 22. Here read Jeremiah 36: 22: "Now the king sat in the winter house, in the ninth month: and there was a fire on the hearth

burning before him." What time that year started ought to be plain to all.

On Solomon's Porch—in Winter

When Jesus was here on earth His every word and act was designed to be an honor to His Father's name. He was able to say, "I do always those things that please him." (John 8:29) The Father himself said: "Thou art my beloved Son; in thee I am well pleased."—Luke 3:22.

As a result of this close relationship, one may study with minute care every detail of what Jesus said and did and always find in it something that the Father is telling His people by that means. There is this item: "And it was at Jerusalem the feast of the dedication, and it was winter. And Jesus walked in the temple in Solomon's porch."—John 10:22, 23.

Theologians have endeavored to explain this text, aiming to show that Jesus was trying in some way to participate in a feast of dedication not mentioned in the Scriptures, and in so doing they have missed the point.

In this passage the heavenly Father seems to be gently hinting to the reader that there is a point in connection with Solomon's temple that needs to be considered; it is the time of its dedication. And if one looks the matter up he finds that it was dedicated "in the month Ethanim" (the name itself is of heathen origin), "which is the seventh month" (1 Kings 8:2), and the "feast of dedication", identified with the seven-day dedication of the altar, was on the 8th to the 14th of that month. (2 Chronicles 7:9, 10) The seventh month was the first month of the winter season. Additionally, it is well known that the day of atonement and the feast of tabernacles, which occurred in the seventh month, were observed when the Israelites had gathered in the fruits of the land and were entering the winter season. (Leviticus 23:27, 39) It is thus established by the mouth of four witnesses that the true beginning of the year is at the vernal equinox.

The Length of the Year

The length of the year, from vernal equinox to vernal equinox, is not an exact number of days.

Beginning with the vernal equinox of the year 1886 (A.D.), the times between the vernal equinoxes for the next succeeding fifty years, down to 1936 inclusive, are, in their order, 365 days 5 hours and the number of minutes which fol-

low: 46, 45, 48, 54, 44, 05, 46, 48, 60, 27, 45, 48, 50, 13, 57, 81, 41, 52, 66, 60, 00, 60, 60, 60, 21, 49, 53, 40, 56, 51, 48, 61, 40, 52, 58, 40, 51, 53, 49, 57, 46, 50, 55, 37, 47, 49, 45, 54, 40. This information was gleaned from reference works in the New York Public Library. The general average for this particular period is 365 days 5 hours 46 minutes 45.6 seconds.

The length of the year is influenced by conditions in the earth itself, near the equator, by the approach and recession of other planets, and by the precession of the equinoxes. In the accompanying diagram (page 363), in the right-hand lower corner is shown in graphic form how the influences that make one year shorter than another are overcome in succeeding years. The small differences are not cumulative; the total divergences of less than an hour from the mean would not be greater six thousand years ago, which means that one can tell accurately the time of the vernal equinox in any year from creation to date. Moreover, its day in the week can be ascertained, which is something quite new in the field of human interest, a path never before trodden.

Extending the Gregorian Calendar

Taking note of the fact that there are 60 seconds in a minute, 60 minutes in an hour, and 24 hours in a day, it follows that in one of God's years, a so-called solar year, or tropical year, or synodical year, that is, from one vernal equinox to another, there are 31,556,926.15 seconds; in a calendar year of 365 days the number of seconds is 31,536,000; so God's year is longer than man's year by 20,926.15 seconds.

In the Gregorian calendar arrangement man puts in an extra day once in four years; so in that time he has 1,461 days. In four of God's years there are 126,227,704.6 seconds. In 1,461 calendar days there are 126,230,400 seconds; so at the end of the four years man has borrowed 2,695.4 seconds from the future, to make up for his extra inserted day.

After twenty-four leap-year periods of four years each, man has borrowed nearly a day. Accordingly, when the end of the century is reached, the leap year is usually omitted. The normal century of man, therefore, has in it 24 leap years and 76 years that are not leap years. The total of days in such century is 36,524 days, amounting to 3,155,673,600 seconds. In one hundred of God's years He has 3,155,692,615

seconds. At the end of a normal century, man has not used in his calendar all the time that has been made for his use, by 19,015 seconds.

After four centuries, or rather, every fourth century, man finds it necessary to put in an extra leap year. These years, called quadricentennial years, go in at the end of such centuries as are divisible by 400. The next one would be in the year A.D. 2000, but it will not be needed. The Lord has a much better way.

In four of man's centuries he has 146,097 days: 97 leap days and 146,000 ordinary days. In seconds this amounts to 12,622,780,800. In 400 of God's years there are 12,622,770,460 seconds; so at the end of each quadricentennial period of 400 years the man has again borrowed from the future a total of 10,340 seconds.

Another shift is necessary after eight quadricentennial periods. In that time man will have borrowed for his calendar 82,720 seconds that did not belong to him. This is almost a day (there are 86,400 seconds in a day); accordingly at this point no quadricentennial leap day occurs. The net difference, then, in 3,200 years amounts to 3,680 seconds, or 1 hour 1 minute 20 seconds. A further correction would be necessary after 23 such 3,200-year periods; and so on indefinitely.

Projecting the Calendar Backward

If the Gregorian calendar can be projected forward it can also be projected backward; and this has been done in the accompanying illustration. The outline at the top (page 363) shows in a general way the time of vernal equinox of every year from creation to date. Each century is in a little diamond-shaped section by itself, except where the quadricentennial leap days occur, when two sections are merged in one. The latest date in each century when the equinox could occur is named, and the earliest one. A little careful study of the enlarged diagrams beneath the outline will show how to make use of the outline. The quadricentennial leap years are fourteen in number; that is, 4000, 3600, 3200, 2800, 2400, 2000, 1600, 800, 400, and 1, B.C., and A.D. 400, 800, 1200 and 1600. The year 1200 B.C. is not a leap year, for the reason that it is one of the correction places in the whole general scheme, as has already been fully explained.

In using the Gregorian calendar between centuries removed from each other, it is neces-

sary when finding how far apart any two equinoxes are, if one is in a century B.C. and one is in an A.D. century, to make the total one year less than that indicated by adding the years together. In computing time from a B.C. date to an A.D. date the portion of the year that has elapsed must be taken into consideration. That the exact number of years is not to be had by simply adding B.C. and A.D. dates together, as some long supposed, can be immediately demonstrated. In the spring of 1 B.C. Christ was $\frac{1}{2}$ year of age; He died 33 full years thereafter, but not in the spring of A.D. 32, as would be the case if it were correct to add B.C. and A.D. dates together: the 33 years were not up till the spring of A.D. 33. If B.C. and A.D. dates are added together, the total number of years is one less than the sum thus obtained.

The year 4 B.C. is a leap year, though only three years away from the leap year of 1 B.C. (a quadricentennial year). This feature is shown in one of the diagrams (C) below the outline.

Calculating the Equinoxes: Problem 1

Reference to the outline at the top of page 363 shows that in the year 1935 A.D. the equinox is on the afternoon of Thursday, March 21.* To be exact, it is at 52 seconds after 3:42 p.m., Jerusalem time, which is the proper time basis to use in all human affairs, for reasons to be explained later. The time of equinox at the 75th meridian west, commonly called Eastern Standard Time, is 8:18 a.m., March 21. This is 7 hours 24 minutes 52 seconds later than Jerusalem time (used henceforth in calculating the equinoxes). Enlarged section of the last years of the nineteenth century and the remaining years to date shows more fully the times of equinoxes at Jerusalem in the past century. See the diagram on opposite page for particulars.

Jehovah's people have heretofore thought they had good evidence to believe that Adam was created in 4128 (or fall of 4129) B.C., and Problem 1 is to ascertain the time of vernal equinox for the year 4128 B.C. Reference to the small outline at top shows it was in the morning of March 21, 4128 B.C.; the enlarged section (A) of the first period after creation shows it was very close to 10:00 a.m. Exactly what time was it?

*Master chart, from which this greatly condensed outline was drawn, is 15 feet 3 inches long; on file at the *Golden Age* office, where it may be seen on application.

From 4128 B.C. to A.D. 1935 is not 6,063 (4128+1935) years, but 6,062 (4128+1935-1) years. The number of seconds in 6,062 solar years, God's years, is 191,298,086,321.3; in 2,214,098 days, the total number of seconds is 191,298,067,200.0. The difference is 19,121.3 seconds, which is 5 hours 18 minutes 41.3 seconds; to be figured back from (before) 3 hours 42 minutes 52 seconds (3:42:52) p.m., the hour of equinox on March 21, A.D. 1935. The answer is that the equinox on March 21, 4128 B.C., was at 10.7 seconds after 10:24 a.m. Now, what day of the week was it?

The 2,214,098 days from March 21, 4128 B.C., to March 21, A.D. 1935, are found as follows:

- (a) Each of the 6,062 years had at least 365 days . . . $6062 \times 365 = 2,212,630$
- (b) The 60 centuries had at least 24 leap days each . . . $60 \times 24 = 1,440$
- (c) 14 quadricentesimal years had each a leap day $14 \times 1 = 14$
- (d) 8 leap days in the 20th century $8 \times 1 = 8$
- (e) 6 leap days in the period before 4100 B.C. $6 \times 1 = 6$

Total number of days 2,214,098

Leap day for the year 4128 B.C. would not be counted, as the vernal equinox is not as far back in the year as the point at which the leap day occurs.

Another method of arriving at the same result is to take the number of leap years (1468) and multiply by 366; and then, deducting the number of leap years from the total of 6062 (6062-1468=4594), multiply the result by 365, as follows:

1,468 leap years;	$1468 \times 366 =$	537,288
4,594 common years;	$4594 \times 365 =$	1,676,810
Total number of days		<u>2,214,098</u>

In 2,214,098 days there are 316,299 weeks and 5 days. In the year 1935 the 21st of March falls on Thursday. In 4128 B.C. the 21st of March fell five days earlier in the week, which day is Saturday. Therefore, the vernal equinox of 4128 B.C. fell on Saturday, at 10:24:10.7 a.m.

The Result of Some Calculations

Using exactly the same method as above, but without going over all the operations, the next step in order is to give a considerable list of vernal equinox dates, in the past and the present. After A.D. 1886 there is given a plus or minus number of minutes by which the actual

time of equinox varied from the mean which the astronomers have provided.

Problem No.

1	B.C. 4128	Sat.	10:24 a.m.	and	10.7 sec.,	Mar. 21
2	" 4028	Thu.	3:41 p.m.	"	5.7 "	" 21
3	" 2472	Fri.	12:25 p.m.	"	55.1 "	" 21
4	" 2372	Wed.	5:41 p.m.	"	50.1 "	" 20
5	" 2045	"	10:30 p.m.	"	21.15 "	" 21
6	" 1945	Tue.	3:48 a.m.	"	56.15 "	" 21
7	" 1920	Fri.	5:08 a.m.	"	9.9 "	" 20
8	" 1615	Sat.	2:01 a.m.	"	5.65 "	" 21
9	" 1575	"	6:31 p.m.	"	51.65 "	" 20
10	" 1515	Thu.	7:08 a.m.	"	.65 "	" 21
11	" 1475	"	11:58 p.m.	"	46.65 "	" 21
12	" 1469	Fri.	3:39 p.m.	"	51.12 "	" 21
13	" 1035	"	1:27 p.m.	"	12.65 "	" 21
14	" 1028	Sun.	6:08 a.m.	"	35.7 "	" 21
15	" 998	Tue.	12:31 p.m.	"	40.2 "	" 22
16	" 745	Mon.	7:10 p.m.	"	16.15 "	" 21
17	" 641	Thu.	11:42 p.m.	"	15.75 "	" 21
18	" 607	Fri.	5:20 a.m.	"	24.85 "	" 21
19	" 537	Mon.	4:14 a.m.	"	15.35 "	" 22
20	" 468	Tue.	9:21 p.m.	"	no "	" 21
21	" 455	Thu.	12:53 a.m.	"	19.65 "	" 21
22	" 3	Sat.	12:16 p.m.	"	59.45 "	" 21
23	A.D. 12	Tue.	9:39 p.m.	"	45.55 "	" 20
24	" 33	Sun.	11:53 p.m.	"	54.7 "	" 21
25	" 1879	Fri.	2:11 a.m.	"	47.6 "	" 21
26	" 1884	Thu.	7:15 a.m.	"	38.35 "	" 20
27	" 1914	Sat.	1:38 p.m.	"	42.85 "	" 21
					(minus 14 min.)	
28	" 1918	Thu.	12:53 p.m.	"	47.45 sec.,	Mar. 21
					(minus 14 min.)	
29	" 1922	Tue.	12:08 p.m.	"	52.05 sec.,	Mar. 21
					(plus 2 min.)	
30	" 1926	Sun.	11:23 a.m.	"	56.65 sec.,	Mar. 21
					(minus 1 min.)	
31	" 1931	Sat.	4:27 p.m.	"	47.4 sec.,	Mar. 21
32	" 1932	Sun.	10:16 p.m.	"	33.55 sec.,	Mar. 20
					(plus 1 min.)	

Notes on the Above Problems:

Problems Nos. 2, 3, 6, 8, 12, 13, 14, 16, 18, 22, present the same features as Problem No. 1, and are solved by taking similar steps.

Problems 25, 27, 28, 29, 30, are similar to Problem 1, but, being wholly within the A.D. period, the years that intervene are ascertained by subtracting the year in question from the year 1935. All other steps are the same as for No. 1.

Problems 5, 16, 17, 20, 21, 31, are similar to Problem 1, but fractions are large and must be watched; in each of these instances there are sufficient hours in the fractional days to make them count as complete days.

Problems 4, 7, 9, 10, 11, 23, 24, 26, 32, show the vernal equinox for the desired year falls on March 20. By this trick of the calendar one full day is lost, and must be accounted for in the answer. This is clearly seen in Problem 26. The 18,627 days involved are 2,661 weeks (fractions in the problem being too small to affect the answer). March 20, 1935 A.D., is on Wednesday. One might infer from this that the equinoctial date of March 20 in the year 1884 A.D. (which is an even number of weeks away from the equinoctial date of 1935 A.D.) would also be on a Wednesday, but it is on a Thursday (the same as in 1935). (See diagram [B] page 363.)

Problems 15, 19, show the vernal equinox for the desired year falls on March 22, instead of the 21st. By this trick of the calendar one full day is borrowed, and must be accounted for in the answer. These two problems, like those in the paragraph last above, require close reasoning.

To aid students of these problems there is published, on pages 368, 369, a calendar from creation to date, occupying two full pages of *The Golden Age*, and greatly simplifying the arriving at correct dates in the remote past, both as to the days of the month and as to the days of the week.

Date of Autumnal Equinox 4129 B.C.

Inasmuch as some have held that Adam was created in the fall of 4129 B.C., at a date convenient to the autumnal equinox, the date of that equinox is fixed by the following accurate and convenient method:

Autumnal equinox, 1934 A.D., Jerusalem time, was September 23, 8:11 p.m. Vernal equinox, 1935 A.D., is, Jerusalem time, March 21, 3:43 p.m. Therefore the length of time from the autumnal equinox of 1934 to the vernal equinox of 1935 is 178 days 19 hours 32 minutes. The year 4128 B.C. was a leap year; therefore 178 days 19 hours 32 minutes back from the time of the vernal equinox of 4128 B.C. brings us to September 24, 4129 B.C., at 10.7 seconds after 2:52 p.m. as the time of the autumnal equinox of that year.

Following are the vernal and autumnal equinoxes, Jerusalem time, for the years stated:

	Vernal	Autumnal
1923,	March 21, 5:54 p.m.	September 24, 4:29 a.m.
1924,	" 20, 11:45 "	" 23, 10:24 "
1925,	" 21, 5:38 a.m.	" 23, 4:09 p.m.
1926,	" 21, 11:27 "	" 23, 9:52 "
1927,	" 21, 5:24 p.m.	" 24, 3:42 a.m.

1928,	March 20, 11:10 p.m.	September 23, 9:31 a.m.
1929,	" 21, 5:00 a.m.	" 23, 3:18 p.m.
1930,	" 21, 10:55 "	" 23, 9:02 "
1931,	" 21, 4:32 p.m.	" 24, 2:49 a.m.
1932,	" 20, 10:19 "	" 23, 8:41 "
1933,	" 21, 4:08 a.m.	" 23, 2:26 p.m.
1934,	" 21, 9:53 "	" 23, 8:11 "

Average date, vernal: March 21, 7:41:32 a.m.

Average date, autumnal: September 23, 6:18:50 p.m.

Average time, vernal equinox forward to autumnal equinox, 186 d. 10 h. 36 m. 18 sec.

Average time, autumnal equinox forward to vernal equinox, including the three leap days, in the 12 years, 178 d. 19 h. 23 m. 42 sec.

As some will be interested at this point to consider them, two small items are now slightly anticipated in the following summary:

New moon rose Sunday, September 22, 4129 B.C., at 8:23:27.504592 a.m.

Autumnal equinox was 54½ hours later, Tuesday, September 24, 4129 B.C., at 2:52 p.m.

New moon rose Tuesday, March 17, 4128 B.C., at 12:47:44.694448 p.m.

Vernal equinox was 94 hours later, Saturday, March 21, 4128 B.C., at 10:24:10.7 a.m.

Do any of Jehovah's witnesses, or any of the Jonadabs (comrades of Jehovah's witnesses; see *Vindication*, Book Three), see anything in the placement of these moons with respect to the equinoxes, or anything in the days of the week on which they occurred, to specially indicate the hand of God, as one might reasonably expect it to be manifested at such an interesting time in earth's affairs? No such pleasing evidence appears. More on this point later, in its proper place, when careful consideration will be given to the details of the calendar of Jehovah God; which calendar, it is hoped and believed, will permanently replace, as far as calendars are concerned, the efforts of Satan to hide some of God's beautiful truth, now, since 1918, coming out from His temple in such a refreshing stream.

God's Love of the Beautiful

In the summertime, in Pike county, Pennsylvania, in a region where one may see a score or more of wild deer in a single day, deep down in the heart of the forest, a mile or more from the highway, lives all alone a little old lady who loves the truth. She got it by listening to Watchtower programs over the radio station WBBR, of New York city.

When this little old lady was found she went into ecstasies over the messages she had heard. Explaining her environment, and that she could live with her children in New York city and in Philadelphia, if she chose, she said, "I prefer to live here, like a gypsy, in the midst of God's bouquets." The frost had just touched the leaves of the forest, tinting them with colors that beggar description.

How much more God loves beauty! And how much the most beautiful things of His creation are all a little different from one another! When men try to make things beautiful they try to make them all alike.

No two flowers in a flower garden were ever exactly alike; no two roses on a rose bush, no two petals on a rose. A million new-born infants can be fingerprinted, or a billion of them, or ten billion, for that matter, and no two sets of fingerprints will be the same. And thus one comes to a consideration of God's beautiful months, His lovely, exquisite months, that the more they are studied, the more they are to be admired, because, while all substantially alike, they are all slightly different.

A Study of God's Months

The word "month" comes from the word "moon"; God's months were all arranged for before man appeared on the earth. It is man's proper place to inquire humbly at God's feet respecting the work of His hands; it is not man's right to discard things which God has made for His government, nor to substitute others in their place.

"And God said, Let there be lights in the firmament of the heaven, to divide the day from the night; and let them be for signs, and for seasons, and for days, and years: and let them be for lights in the firmament of the heaven, to give light upon the earth: and it was so. And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also. And God set them in the firmament of the heaven, to give light upon the earth, and to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good." (Genesis 1:14-18) Herein is the first reference to the moon in the Scriptures.

Even though the moon had not been mentioned at all in God's Word, man would be compelled to take note of it; it is too conspicuous in

the heavens to be ignored; and too beautiful; and too useful.

Satan has endeavored to get men to hold God's month and its instrument the moon in little esteem; hence the terms "lunacy", "lunatic," "moon-struck," and terms of similar import. The apostle does indeed say, "Let no man therefore judge you in meat, or in drink, or in respect of an holy day, or of [feasts celebrating] the new moon, or of the sabbath days; which are a shadow of things to come; but the body is of Christ." (Colossians 2:16, 17) But this is far from urging men to set aside the plain statement of God's Word that God "appointed the moon for seasons" (Psalm 104:19), monthly seasons being manifestly what is here meant.

"A Faithful Witness in Heaven"

It is true that the prophet Isaiah brings the message to an idolatrous and rebellious people, "Your new moons and your appointed feasts my soul hateth" (Isaiah 1:14), but that does not change the fact that the prophet Ezekiel writes of the future offerings of "the prince" which are to take place "in the new moons". See *Vindication*, Book Three, pages 287, 293, 295, for comments and explanations on references to the new moons in Ezekiel 45:17; 46:1, 3, 6. These may not be ignored or set aside.

Though Isaiah mentions in the first chapter God's disgust with Israel's hypocritical observances of the new moons, he says in the next to the last verse of his prophecy: "And it shall come to pass, that from one new moon to another, and from one sabbath to another, shall all flesh come to worship before me, saith [Jehovah]." (Isaiah 66:23) Of course, that is after the oncoming battle of Armageddon has done its work of destroying Satan's organization, and the earth has been cleansed of all its defilements.

When the psalmist said, "When I consider . . . the moon" (Psalm 8:3), he meant that he really did consider it. Especially significant is his statement of David's seed, that "it shall be established for ever as the moon, and as a faithful witness in heaven". (Psalm 89:37) The moon is, indeed, a faithful witness in heaven, a witness whose testimony cannot be gainsaid.

It is the voice of God, speaking through Moses, that mentions the "precious things thrust forth by the moons". (Deuteronomy 33:14, *margin*) What some of those precious things are it is now the privilege of Jehovah's wit-

nesses and their companions in the chariot of Jehovah's organization to see and understand. Indeed, it is even possible that there may be some direct reference to these present unfoldings of truth that God had in mind when He said of this day that "the light of the moon shall be as the light of the sun".—Isaiah 30:26.

Anyway, it was infinitely wise of God to set a second hand in His timepiece, and to put it out there in the sky 239,000 miles away, far enough away that the theologians could not get at it to interfere with it, which they would surely have done if they had been able to so do. Now it is about to put them all to shame.

Calendar for 6,062 Years

This issue contains, on pages 363, 369, all the essentials of a calendar covering all past human history. All know that in the normal year there are 52 weeks and 1 day and that therefore in the next succeeding year, unless it is a leap year, the days of each month are one day later in the week. Thus, in the year 1933 A.D. the 22d day of March came on Wednesday; in the year 1934 A.D. the 22d day of March came on Thursday, while in the year 1935 A.D. the 22d day of March comes on *Friday*. In the year 1936, on account of that year's being a leap year, the 22d day of March will come on Sunday.

The use of the calendar is very simple. Every year is represented. If a given day of the month falls on *Friday* in the year 1935, the day of the week on which that same day of the month will fall in other years is shown at the head of the column above the year desired. Persons using the calendar must consider, in the case of leap years, that dates in January and February must be separately calculated after some other date is known. The calendar will be found very useful and valuable when the manner of using it has been mastered. It is assumed that the user has an ordinary calendar and can readily locate a *Friday* in 1935 or a Thursday in 1934, from which information any other desired data regarding past days of the week may be at once obtained. This is the first time the Gregorian calendar, or any other, has ever been projected back to creation.

Besides the calendar for 6,062 years there is also presented a table of "Lunations Ushering in the Years or Periods Which Contained the Most Important Events in History". Let the table speak for itself. There will be frequent

reference to it in the explanations of the Calendar of Jehovah God which follow.

God's Will Regarding Months

The years of God are not each of an equal number of months, nor of an equal number of weeks, nor of an equal number of days, nor of an equal number of hours, nor of an equal number of minutes, nor of an equal number of seconds. Man has no right to ignore these years of God. It is his duty to number them, and to mark them well as they go, and to use them to God's praise, but not to endeavor to force them to begin or end at some point in no way indicated in the divine Word of the Creator.

The months of God are not of a fixed number in the years of God, nor within themselves are they composed each of an equal number of weeks, nor of an equal number of days, nor of an equal number of hours, nor of an equal number of minutes, nor of an equal number of seconds. Man has no right to ignore these months of God. It is his duty to number them, and to mark them well as they go, and to use them to God's praise, but not to endeavor to force them to begin where the years begin or to end where the years end.

Is it necessary to start a new year on July 4, or Thanksgiving Day, or Christmas, or Washington's Birthday, or Lincoln's Birthday? Not at all. Each of Jehovah's years properly begins at a certain point, and, reasonably enough, at the beginning of a specific day, as in the case of the months, but neither the years nor the months nor the weeks need to be in accord exactly, nor are they in accord except by man's egotistic and destructive acts.

The days in the months of God are never less than 29; and they are never more than thirty. There is a sure and proper method of determining how many days the month should have. Jehovah God fixed the method. He so arranged and ordered all the details connected with the sacrifice of His own dear Son that that event, of first importance in history, occurred at Jerusalem on the fourteenth day of the month, when the moon was at its full. The fourteenth day of each month, therefore, is that day of the month when the moon is full over Jerusalem. That automatically makes Jerusalem, not Greenwich, the time center of the earth.

The weeks are for man, but they are *of* God, and no man may change the arrangement which

LUNATIONS USHERING IN THE YEARS OR PERIODS WHICH CONTAIN THE MOST IMPORTANT EVENTS OF HISTORY, STATED IN TERMS OF THE GREGORIAN CALENDAR, AND ASTRONOMICALLY EXACT

(In the dates cited below are also cited certain other dates, prior to Vernal Equinox No. 2000, hitherto much held in esteem.)

B.C.	Date	H. M.	Second
4129	Su Sp 22	8 23	27.504592 A
4128	Tu Mr 17	12 47	44.694448 P
4028	Fr Mr 22	8 54	48.66976 P
2472	Sa Mr 22	1 13	45.13238 A
2372	Tu Mr 26	9 20	49.106192 A
2045	Th Mr 15	2 09	55.071136 A
1945	Su Mr 19	10 16	59.046448 A
1920	Th Mr 12	9 07	44.324032 A
1615	Th Ap 2	6 59	53.87848 A
1575	Th Mr 11	9 39	29.176624 A
1515	Sa Mr 8	2 22	54.938816 A
1475	Su Mr 16	5 45	33.151936 P
1469	We Ap 2	12 50	8.025136 P
1035	Su Mr 16	4 54	24.351328 A
1028	Su Mr 28	8 46	33.60424 A
993	Mo Mr 23	5 08	16.510326 A
745	Tu Mr 22	10 13	41.02024 A
641	We Mr 13	6 19	5.379376 P
607	Th Mr 27	3 23	11.534272 A
537	Sa Ap 3	3 08	32.603498 P
468	We Mr 22	5 21	16.423016 A
455	Th Mr 28	3 32	57.689152 P
BC 3	Sa Mr 14	3 19	52.904992 P
AD12	Fr Mr 9	10 20	08.54584 A
AD53	Th Mr 17	9 12	33.4396 A
1879	Sa Mr 22	6 50	46.571632 P
1884	We Mr 26	4 21	42.200144 P
1914	Th Mr 26	12 43	27.10624 Pa
1918	Tu Mr 12	12 41	47.490964 Pb
1922	Tu Mr 28	1 24	10.738864 Ac
1926	Su Mr 14	1 22	31.122688 Ad
1931	We Mr 18	10 53	28.75112 Pe
1932	Mo Mr 7	7 42	3.130912 Af
1935	We Ap 3	11 35	52. Ag

Analysis of the Time Content of the Intervening Moons			
Inter-vening Yrs.	Inter-vening Moons	Weeks & 7ths	Fraction of Week at End of Period
D.	H.	M.	Seconds
1/2	6	25-2	2 4 28 17.199356
100	1237	5218-3	3 8 11 3.975312
1556	19245	81138-1	0 4 22 55.46312
100	1237	5218-3	3 8 11 3.975312
227	4044	17060-2	1 16 53 5.962944
100	1237	5218-3	3 8 11 3.975312
25	309	1303-4	3 22 54 45.277584
305	3773	15916-7	6 21 56 9.554448
40	494	2084-0	0 2 43 35.293144
60	742	3120-2	1 15 47 25.812192
40	495	2083-1	1 15 27 34.16312
6	75	316-3	2 19 07 34.8752
434	5367	22641-4	3 16 08 16.326192
7	87	367-0	0 3 56 42.923212
30	371	1565-1	0 20 25 42.905096
253	3129	12300-1	1 5 09 24.509904
104	1286	5425-1	1 5 09 24.509904
34	421	1776-1	0 3 56 42.923212
70	866	3653-2	2 11 49 21.059216
69	853	3598-4	3 14 16 43.824528
13	161	679-1	1 10 15 41.281136
452	5590	23582-2	1 23 50 55.215248
14	173	729-6	5 19 04 15.640848
21	260	1096-6	5 22 56 21.893760
1846	22832	96320-2	2 9 42 13.152032
5	62	261-4	3 21 34 57.628312
30	371	1565-1	0 20 25 42.905096
4	49	206-5	4 24 02 20.383324
4	50	210-7	6 12 46 23.2493
4	49	206-5	4 24 02 20.383324
5	62	261-4	3 21 34 57.628312
1	12	50-4	4 8 32 34.37912
3	38	160-2	2 3 57 43.859368

Analysis of Days in Intervening Moons				Series and Totals Starting with the New Moon Near-est the Vernal Equinox for the Year 4028 B.C.			
Normal Lp.	Vern Equi	Lunar Month	Weeks	Days	Total Seconds		
176	1	Vern Lunar					
36505	24	Equi Month					
567941	376						
36505	24	1556	19245	61138-1	568317	49102518176.46312	
119344	78	1656	20452	86405-4	694346	52258653000.429432	
36504	25	1983	24526	103456-6	724263	62576687946.401376	
9119	6	2083	25763	108625-2	760797	65732222770.376688	
111346	73	2108	26072	109962-6	769922	64521218615.654272	
14578	10	2413	29945	125905-6	881341	76147812545.203972	
21897	15	2453	30339	127989-6	895929	77408225320.506864	
14607	10	2513	31081	131120-1	917841	79301395926.219056	
2214	1	2553	31576	133208-2	932458	80564360144.482176	
158379	112	2559	31651	133524-5	934673	80755713359.355376	
2567	2	2993	37018	156166-2	1093164	94494912215.681568	
10950	6	3000	37105	156533-2	1093164	94671287744.93448	
92340	61	3030	37476	156998-3	1106689	95617873047.840576	
37951	25	3283	40605	171298-4	1199090	103601337772.35048	
12424	9	3387	41851	176723-5	1237065	106892493296.709616	
25557	16	3421	42312	178499-6	1249499	107956650742.864512	
25173	17	3491	43178	182153-1	1275072	110166200263.933728	
4751	3	3560	44031	185751-5	1300262	112342581027.758256	
164959	117	3573	44192	186430-6	1305016	112753363329.019392	
5105	4	4025	49782	210013-1	1470092	127015823944.235232	
7673	5	4039	49955	210743-0	1475201	127457328559.87608	
673795	447	4060	50215	211839-6	1432879	128129703704.76984	
1829	2	5906	73047	308160-1	2157121	186373247197.901872	
10950	6	5911	73109	308421-5	2158952	186533436625.530334	
1446	1	5941	73480	309986-6	2169908	187480021958.43648	
1476	1	5945	73529	310193-4	2171355	187605042658.820304	
1446	1	5949	73579	310404-4	2172832	187732614802.069104	
1830	1	5953	73628	310611-2	2174279	187857635502.452928	
353	1	5958	73690	310872-6	2176110	188015824960.08144	
1122	0	5959	73702	310923-2	2176464	188046442274.461152	
		5962	73740	311083-5	2177586	188143397103.33024	

Time shown in each case is Jerusalem time, 7 hours 20 minutes 52 seconds earlier than Eastern Standard time. Each calculation was checked to the one preceding and the one following, and in every instance with the 1935 A.D. date shown, with which agreement is exact. The variations of a b c d e f g, amounting respectively to about 8, 10, 14, 4 1/2, 10, 15, and 3 hours, after calculations extending over 6,000 years, are not due to any errors in the calculations themselves, but to variations from the mean lunation; explained in full in its proper place. In figuring eclipses and other periods astronomers calculate the mean time between lunations as 2551442.864976 seconds. (Their method is to express the time in days and decimals thereof, but the results are the same either way.) These figures, astronomically exact to a millionth of a second, are used in all the above calculations.

God made. No man may alter the number of days in a week; in these days (since the French Revolution calendar fiasco) none but a theologian, with huge conceit and no reverence for God, would contemplate for a moment such an act of presumption. Man may number his weeks; there is no harm in so doing. Since God is so good as to give them, it would seem that, at least once a year, man might take note of their number.

Learning Something About God's Months

It seems strange that man's months should be so different from God's months, that the two kinds of months could be going along steadily side by side, overlapping each other, etc., and yet most people know next to nothing about the particular kind of months that God provided for the nocturnal government of the earth. On page 371 begins a lunation experience table,

carefully compiled from records in the New York Public Library, covering the fifty years from 1886 to date. The moons are here numbered by *The Golden Age*, the one for January 5, 1886, being numbered 73131; thereafter they are in sequence down to 73761, the number of the lunation for December 13, 1936, which is as far as the compilation goes. This table is in Jerusalem time, 7 hours 24 minutes 52 seconds earlier than Eastern Standard time. It is quite self-explanatory. God's months are of 29 or 30 days each; their moons rise at various times of the day or night, on various days in the week, as specified in the first eight columns, the table concluding with the dates grouped under the word "Actual".

The "mean lunation" is universally agreed by astronomers to be 29.530588715 days. Otherwise stated, this is 29 days 12 hours 44 minutes 2.864976 seconds; or it may be stated altogether

Lunation Experience Table, Jerusalem Time

(Jerusalem time is 2 hours 25 minutes* earlier [faster] than Greenwich; or 7 hours 25 minutes earlier than Eastern Standard time. To get Jerusalem time, therefore, add 7 hours 25 minutes to Eastern Standard time.) (*24 minutes 52 seconds)

Moon	Days	Actual		Mean		Compared with next Slow Fast				Compared with Mean Slow Fast				Moon	Days	Actual		Mean		Compared with next Slow Fast				Compared with Mean Slow Fast				
		Date	Time	Date	Time	29 Ds	hr	mi	hr	mi	hr	mi	hr			mi	Date	Time	Date	Time	29 Ds	hr	mi	hr	mi	hr	mi	
1836 A.D.												1890 A.D.																
73131	30	Tu	Jan 5	10:13am	Tu	Jan 5	7:31pm	1170	6	46				9	18	73181	29	Tu	Jan 21	2:18am	Tu	Jan 21	8:11am	639	2	05	5	53
73132	30	Th	Feb 4	5:43am	Th	Feb 4	8:15am	1130	6	06				2	32	73182	29	We	Feb 19	12:57pm	We	Feb 19	8:55pm	633	2	11	7	58
73133	29	Sa	Mar 6	12:33am	Fr	Mar 5	8:59pm	886	3	42			3	34	73183	30	Th	Mar 20	11:30pm	Fr	Mar 21	9:39am	665	1	39	10	09	
73134	30	Su	Apr 4	4:59pm	Su	Apr 4	9:43am	792	28				7	16	73184	29	Sa	Apr 19	10:35am	Sa	Apr 19	10:23pm	733		31	11	48	
73135	29	Tu	May 4	6:11am	Mo	May 3	10:27pm	613		2	31	7	44	73185	30	Su	May 18	11:48pm	Mo	May 19	11:07am	819	55		12	19		
73136	30	We	Jun 2	4:24pm	We	Jun 2	11:11am	491		4	33	5	13	73186	30	Tu	Jun 17	12:27pm	Tu	Jun 17	11:51pm	892	2	08	11	24		
73137	29	Fr	Jul 2	12:35am	Th	Jul 1	11:55pm	440		5	24	40			73187	29	Th	Jul 17	3:19am	Th	Jul 17	12:35pm	930	2	46	9	16	
73138	29	Sa	Jul 31	7:55am	Sa	Jul 31	12:39pm	443		5	16	4	44	73188	30	Fr	Aug 15	6:49pm	Sa	Aug 16	1:19am	933	2	49	6	30		
73139	29	Su	Aug 29	3:23pm	Mo	Aug 30	1:23am	564		4	20	10	00	73189	30	Su	Sep 14	10:22am	Su	Sep 14	2:03pm	912	2	28		3	41	
73140	30	Mo	Sep 27	11:47pm	Tu	Sep 28	2:07pm	597		2	47	14	20	73190	29	Tu	Oct 14	1:34am	Tu	Oct 14	2:47am	873	1	49		1	13	
73141	29	We	Oct 27	9:44am	Th	Oct 28	2:51am	723			41		17	07	73191	30	We	Nov 12	4:07pm	We	Nov 12	3:31pm	813	49		36		
73142	30	Th	Nov 25	9:49pm	Fr	Nov 26	3:35pm	877	1	53			17	48	73192	29	Fr	Dec 12	5:40am	Fr	Dec 12	4:15am	734		30	1	25	
73143	30	Sa	Dec 25	12:24pm	Su	Dec 26	4:19am	1027	4	23			15	55														
73144	30	Mo	Jan 24	5:31am	Mo	Jan 24	5:03pm	1119	5	55			11	32														
1887 A.D.												1891 A.D.																
73145	29	We	Feb 23	12:10am	We	Feb 23	5:47am	1109	5	45				5	37	73193	30	Sa	Jan 10	5:54pm	Sa	Jan 10	4:59pm	647	1	57	55	
73146	30	Th	Mar 24	6:39pm	Th	Mar 24	6:31pm	1003	3	59			08			73194	29	Mo	Feb 9	4:41am	Mo	Feb 9	5:43am	579	3	05	1	02
73147	30	Sa	Apr 23	11:22am	Sa	Apr 23	7:15am	853	1	29			4	07	73195	29	Tu	Mar 10	2:10pm	Tu	Mar 10	6:27pm	546	3	38	4	07	
73148	29	Mo	May 23	1:35am	Su	May 22	7:55pm	707		57	5	36			73196	30	We	Apr 8	11:26pm	Th	Apr 9	7:11am	559	3	25	7	45	
73149	29	Tu	Jun 21	1:22pm	Tu	Jun 21	8:43am	593		2	51	4	39	73197	29	Fr	May 8	8:45am	Fr	May 8	7:55pm	610	2	34	11	10		
73150	30	We	Jul 20	11:15pm	We	Jul 20	9:27pm	533		3	51	1	48	73198	30	Sa	Jun 6	6:55pm	Su	Jun 7	8:39am	693	1	11	13	44		
73151	29	Fr	Aug 19	8:08am	Fr	Aug 19	10:11am	501		4	23	2	03	73199	29	Mo	Jul 6	6:23am	Mo	Jul 6	9:23pm	794	30		14	55		
73152	30	Sa	Sep 17	4:29pm	Sa	Sep 17	10:55pm	516		4	08	6	26	73200	30	Tu	Aug 4	7:42pm	We	Aug 5	10:07am	903	2	19		14	25	
73153	29	Mo	Oct 17	1:05am	Mo	Oct 17	11:39am	573	3	11	10	34	73201	30	Th	Sep 3	10:45am	Th	Sep 3	10:51pm	1002	3	58		12	06		
73154	29	Tu	Nov 15	10:38am	We	Nov 16	12:23am	673		1	31	13	45	73202	29	Sa	Oct 3	3:27am	Sa	Oct 3	11:35am	1055	4	51		8	08	
73155	30	We	Dec 14	11:51pm	Th	Dec 15	1:07pm	797	33			15	16	73203	30	Su	Nov 1	9:02pm	Mo	Nov 2	12:19am	1032	4	28		3	17	
73156	30	Fr	Jan 13	11:08am	Sa	Jan 14	1:51am	914	2	30			14	43	73204	30	Tu	Dec 1	2:14pm	Tu	Dec 1	1:03pm	935	2	51	1	11	
1888 A.D.												1892 A.D.																
73157	29	Su	Feb 12	2:22am	Su	Feb 12	2:35pm	989	3	45			12	13	73205	29	Th	Dec 31	5:49am	Th	Dec 31	1:47am	799	35		4	02	
73158	30	Mo	Mar 12	6:51pm	Tu	Mar 13	3:19am	1006	4	02			8	28	73206	30	Fr	Jan 29	7:08pm	Fr	Jan 29	2:31pm	668	1	36	4	37	
73159	30	We	Apr 11	11:37am	We	Apr 11	4:03pm	976	3	32			4	26	73207	29	Su	Feb 28	6:16am	Su	Feb 28	3:15am	571	3	13	3	01	
73160	29	Fr	May 11	3:53am	Fr	May 11	4:47am	911	2	27			5	4	73208	30	Mo	Mar 28	3:47pm	Mo	Mar 28	3:59pm	509	4	15		12	
73161	30	Sa	Jun 9	7:04pm	Sa	Jun 9	5:31pm	822	58			1	33	73209	29	We	Apr 27	12:16am	We	Apr 27	4:43am	482	4	42	4	27		
73162	29	Mo	Jul 9	8:46am	Mo	Jul 9	6:19am	724		40	2	31			73210	29	Th	May 26	8:18am	Th	May 26	5:27pm	498	4	26	9	09	
73163	30	Tu	Aug 7	8:50pm	Tu	Aug 7	6:59pm	636		2	08	1	51	73211	30	Fr	Jun 24	4:36pm	Sa	Jun 25	6:11am	564	3	20	13	35		
73164	29	Th	Sep 6	7:26am	Th	Sep 6	7:43am	578		3	06		17	73212	29	Su	Jul 24	2:00am	Su	Jul 24	6:55pm	688	1	16	16	55		
73165	30	Fr	Oct 5	5:04pm	Fr	Oct 5	8:27pm	568		3	16	3	23	73213	30	Mo	Aug 22	1:28pm	Tu	Aug 23	7:39am	857	1	33		18	11	
73166	29	Su	Nov 4	2:32am	Su	Nov 4	9:11am	603		2	41	6	39	73214	29	We	Sep 21	3:45am	We	Sep 21	8:23pm	1028	4	24		16	38	
73167	29	Mo	Dec 3	12:35pm	Mo	Dec 3	9:59pm	662		1	42	9	20	73215	30	Th	Oct 20	8:53pm	Fr	Oct 21	9:07am	1135	6	11		12	14	
73168	30	Tu	Jan 11	11:37pm	Tu	Jan 11	10:39am	722		42		11	02	73216	30	Sa	Nov 19	3:48pm	Sa	Nov 19	9:51pm	1134	6	10		6	03	
1889 A.D.												1893 A.D.																
73169	30	Th	Jan 31	11:39am	Th	Jan 31	11:23pm	771	07			11	44	73217	29	Mo	Dec 19	10:42am	Mo	Dec 19	10:35am	1035	4	31		07		
73170	29	Sa	Mar 2	12:30am	Sa	Mar 2	12:07pm	816	52			11	37	73218	29	We	Jan 18	3:57am	Tu	Jan 17	11:19pm	889	2	05		4	38	
73171	30	Su	Mar 31	2:06pm	Mo	Apr 1	12:51am	868	1	44			10	45	73219	30	Th	Feb 16	6:46pm	Th	Feb 16	12:03pm	737		27	6	43	
73172	29	Tu	Apr 30	4:34am	Tu	Apr 30	1:35pm	915	2	31			9	01	73220	30	Sa	Mar 18	7:03am	Sa	Mar 18	12:47am	601	2	43	6	16	
73173	30	We	May 29	7:49pm	Th	May 30	2:19am	934	2	50			6	30	73221	30	Su	Apr 16	5:04pm	Su	Apr 16	1:31pm	492	4	32	3	33	
73174	30	Fr	Jun 23	11:23am	We	Jun 23	3:03pm	907	2	23			3	40	73222	29	Tu	May 16	1:16am	Tu	May 16	2:15am	424	5	40		5	9
73175	29	Su	Jul 28	2:30am	Su	Jul 28	3:47am	839	1	15			1	17	73223	29	We	Jun 14	8:20am	We	Jun 14	2:55pm	416	5	48		6	39
73176	30	Mo	Aug 26	4:29pm	Mo	Aug 26	4:31pm	762		02					73224	29	Th	Jul 13	3:16pm	Fr	Jul 14	3:43am	481	4	43		12	27
73177	29	We	Sep 25	5:11am	We	Sep 25	5:15am	704		1	00	0	4	73225	30	Fr	Aug 11	11:17pm	Sa	Aug 12	4:27pm	617	2	27		17	10	
73178	30	Th	Oct 24	4:55pm	Th	Oct 24	5:29pm	678		1	26	1	04	73226	29	Mo	Sep 10	9:34am	Mo	Sep 11	5:11am	802	38		19	37		
73179	29	Sa	Nov 23	4:13am	Sa	Nov 23	6:43am	668		1	36	2	30	73227	30	Mo	Oct 9	10:56pm	Tu	Oct 10	5:55pm	950	3	46		18	59	
73180	30	Su	Dec 22	3:21pm	Su	Dec 22	7:27pm	657		1	47	4	06	73228	30	We	Nov 8	3:26pm	Th	Nov 9	6:39am	1123	5	59		15	13	

in seconds as 2551442.864976 seconds. This stating of time in such detail as to take note of millionths of a second seems strange to most practical persons, but is in regular use among astronomers.

Astronomers Must Love Truth

It may as well be settled that astronomers love truth in the abstract. They must; their business requires it. It was of great interest in New York city some years ago when an eclipse was due. The astronomers, as a matter of their

common duty to mankind, announced the exact time the eclipse would occur. Additionally, they stated that the edge of totality of the eclipse would be "somewhere between 145th street and 165th street in upper New York". When the eclipse came, its edge of totality was at 155th street, just halfway between. This was not an accident, but the result of careful calculations.

In the year 1846 two astronomers, Adams in England, and Leverrier in France, located the planet Neptune (the existence of which was suspected, but not known) by the use of astro-

Moon	Days	Actual		Mean		Mins. over 29 Ds	Compared with next			Compared with Mean					
		Date	Time	Date	Time		Slow	Fast	hr	mi	hr	mi	hr	mi	
1894 A.D.															
73230	30	Su	Jan 7	5:36am	Su	Jan 7	8:07am	1118	5	54			2	31	
73231	29	Tu	Feb 6	12:14am	Mo	Feb 5	8:51pm	993	3	49			3	23	
73232	30	We	Mar 7	4:47pm	We	Mar 7	9:35am	822	58				7	12	
73233	29	Fr	Apr 6	6:29am	Th	Apr 5	10:19pm	642		2	02		8	10	
73234	30	Sa	May 5	5:11pm	Sa	May 5	11:02am	494		4	30		6	08	
73235	29	Mo	Jun 4	1:25am	Su	Jun 3	11:47pm	409		5	55		1	38	
73236	29	Tu	Jul 3	8:14am	Tu	Jul 3	12:31pm	399		6	05		4	17	
73237	29	We	Aug 1	2:53pm	Th	Aug 2	1:15am	460		5	04		10	22	
73238	30	Th	Aug 30	10:33pm	Fr	Aug 31	1:59pm	580		3	04		15	26	
73239	29	Sa	Sep 29	8:13am	Su	Sep 30	2:43am	733					31		
73240	30	Su	Oct 28	8:26pm	Mo	Oct 29	3:27pm	897		2	13		19	01	
73241	30	Tu	Nov 27	11:23am	We	Nov 28	4:11am	1046		4	42		16	43	
73242	29	Th	Dec 27	4:49am	Th	Dec 27	4:55pm	1146		6	22		12	06	
1895 A.D.															
73243	30	Fr	Jan 25	11:55pm	Sa	Jan 26	5:39am	1157		6	33		5	44	
73244	30	Su	Feb 24	7:12pm	Su	Feb 24	6:23pm	1062		4	58			49	
73245	30	Tu	Mar 26	12:54pm	Tu	Mar 26	7:07am	886		2	02		5	47	
73246	29	Th	Apr 25	3:40am	We	Apr 24	7:51pm	695		1	09		7	49	
73247	30	Fr	May 24	3:15pm	Fr	May 24	8:35am	545		3	39		6	40	
73248	29	Su	Jun 23	12:20am	Sa	Jun 22	9:19pm	461		5	03		3	01	
73249	29	Mo	Jul 22	8:01am	Mo	Jul 22	10:03am	444		5	20			2	02
73250	29	Tu	Aug 20	3:25pm	Tu	Aug 20	10:47pm	479		4	45		7	22	
73251	30	We	Sep 18	11:24pm	Th	Sep 19	11:31am	555		3	29		12	07	
73252	29	Fr	Oct 18	8:39am	Sa	Oct 19	12:15pm	661		1	43		15	36	
73253	30	Sa	Nov 16	7:40pm	Su	Nov 17	12:59pm	798					34	17	
73254	30	Mo	Dec 16	8:58am	Tu	Dec 17	1:43am	951		3	07		16	45	
1896 A.D.															
73255	29	We	Jan 15	12:49am	We	Jan 15	2:27pm	1073		5	09		13	38	
73256	30	Th	Feb 13	6:42pm	Fr	Feb 14	3:11am	1115		5	51		8	29	
73257	30	Sa	Mar 14	1:17pm	Sa	Mar 14	3:55pm	1055		4	51			2	38
73258	29	Mo	Apr 13	6:52am	Mo	Apr 13	4:39am	924		2	40		2	13	
73259	30	Tu	May 12	10:16pm	Tu	May 12	5:23pm	776		12	4	52			
73260	29	Th	Jun 11	11:12am	Th	Jun 11	6:07am	652		1	52		5	05	
73261	30	Fr	Jul 10	10:04pm	Fr	Jul 10	6:51pm	567		3	17		3	13	
73262	29	Su	Aug 9	7:31am	Su	Aug 9	7:35am	521		4	03			04	
73263	30	Mo	Sep 7	4:12pm	Mo	Sep 7	8:19pm	515		4	09		4	07	
73264	29	We	Oct 7	12:47am	We	Oct 7	9:03am	549		3	35		8	16	
73265	29	Th	Nov 5	9:56am	Th	Nov 5	9:47pm	624		2	20		11	51	
73266	29	Fr	Dec 4	8:10pm	Sa	Dec 5	10:31am	732					32	14	11
1897 A.D.															
73267	30	Sa	Jan 3	8:32am	Su	Jan 3	11:15pm	850		1	26		14	43	
73268	30	Mo	Feb 1	10:42pm	Tu	Feb 2	11:59am	943		2	59		13	17	
73269	30	We	Mar 3	2:25pm	Th	Mar 4	12:43am	988		3	44		10	18	
73270	29	Fr	Apr 2	6:53am	Fr	Apr 2	1:27pm	982		3	38		6	34	
73271	30	Sa	May 1	11:15pm	Su	May 2	2:11am	940		2	56			2	56
73272	30	Mo	May 31	2:55pm	Mo	May 31	2:55pm	869		1	45				
73273	29	We	Jun 30	5:24am	We	Jun 30	3:39am	783		19					
73274	30	Th	Jul 29	6:27pm	Th	Jul 29	4:23pm	691		1	13		2	04	
73275	29	Sa	Aug 28	5:58am	Sa	Aug 28	5:07am	617		2	27		51		
73276	30	Su	Sep 26	4:15pm	Su	Sep 26	5:51pm	582		3	02		1	36	
73277	29	Tu	Oct 26	1:57am	Tu	Oct 26	6:35am	592		2	52		4	38	
73278	29	We	Nov 24	11:49am	We	Nov 24	7:19pm	635		2	09		7	30	
73279	30	Th	Dec 23	10:24pm	Fr	Dec 24	8:03am	689		1	15		9	39	
1898 A.D.															
73280	29	Sa	Jan 22	9:53am	Sa	Jan 22	8:47pm	736		28			10	54	
73281	30	Su	Feb 20	10:09pm	Mo	Feb 21	9:31am	777		13			11	22	
73282	30	Tu	Mar 22	11:06am	Tu	Mar 22	10:15pm	823		59			11	09	
73283	29	Th	Apr 21	12:49am	Th	Apr 21	10:59am	878		1	54		10	10	
73284	30	Fr	May 20	3:27pm	Fr	May 20	11:43pm	911		2	27		8	16	
73285	29	Su	Jun 19	6:38am	Su	Jun 19	12:27pm	938		2	54		5	49	
73286	30	Mo	Jul 18	10:16pm	Tu	Jul 19	1:11am	887		2	03		2	55	
73287	30	We	Aug 17	1:03pm	We	Aug 17	1:55pm	816		52			52		
73288	29	Fr	Sep 16	2:39am	Fr	Sep 16	2:39am	747			17				
73289	30	Sa	Oct 15	3:06pm	Sa	Oct 15	3:23pm	703		1	01		17		
73290	29	Mo	Nov 14	2:49am	Mo	Nov 14	4:07am	683		1	21		1	18	
73291	30	Tu	Dec 13	2:12pm	Tu	Dec 13	4:51pm	666		1	38		2	39	
1899 A.D.															
73292	29	Th	Jan 12	1:18am	Th	Jan 12	5:35am	652		1	52		4	17	
73293	29	Fr	Feb 10	12:10pm	Fr	Feb 10	6:19pm	611		2	33		6	09	
73294	30	Sa	Mar 11	10:21pm	Su	Mar 12	7:03am	628		2	16		8	42	
73295	29	Mo	Apr 10	8:49am	Mo	Apr 10	7:47pm	678		1	26		10	58	
73296	30	Tu	May 9	8:07pm	We	May 10	8:31am	762		02			12	24	
73297	29	Th	Jun 8	8:49am	Th	Jun 8	9:15pm	851		1	27		12	26	
73298	30	Fr	Jul 7	11:00pm	Sa	Jul 8	9:59am	917		2	33		10	59	
73299	30	Sa	Aug 6	2:17pm	Su	Aug 6	10:43pm	945		3	01		8	26	
73300	29	Tu	Sep 5	6:02am	Tu	Sep 5	11:27am	941		2	57		5	25	
73301	30	We	Oct 4	9:43pm	Th	Oct 5	12:11am	912		2	28		2	28	
73302	30	Fr	Nov 3	12:55pm	Fr	Nov 3	12:55pm	861		1	37				
73303	29	Su	Dec 3	5:16am	Su	Dec 3	1:39am	785		21		1	37		

nomical calculations very similar to those used in this series of articles.

In figuring the mean calculations shown in the central part of the tables, No. 73176, August 26, 1889, was taken as the starting point, because it was only about 2 minutes away from the mean generally used by astronomers for *current* calculations, that is, 29 days 12 hours 44 minutes (seconds being dropped). From this starting point the calculations were carried backward to January, 1886, and forward to December, 1936.

The next column, entitled "Minutes over 29 Days", is a very useful one for purposes of study. Each moon is a period of 29 days and a certain number of minutes in addition. The total number of minutes over 29 days between this moon and the one next following it is given. Thus, from the new moon of Tuesday, January 5, 1886, at 10:13 a.m., to the new moon of Thursday, February 4, 1886, at 5:43 a.m., was 29 days and 1,170 minutes. See Nos. 73131 and 73132.

In the next two columns each moon is compared with the one next to it. Thus, it being taken for truth that the normal time from one new moon to another is 29 days, 12 hours and 44 minutes, that is, 29 days and 764 minutes, if a moon takes 29 days and 1,170 minutes, it is slow by the difference, which is 406 minutes (6 hours 46 minutes).

The Moon Runs Fast

The experience tables show that the moon has the habit of running ahead of its schedule (if such an expression is permissible). Thus, according to the "Mean" the moon on January 5, 1886, was not due to rise until 7:31 p.m. of that day, but, as a matter of fact, it rose 9 hours 18 minutes earlier; so it was fast by that amount of time.

The lover of Jehovah God will now be greatly interested in the accompanying chart of lunations which shows the beautiful and graceful manner in which the moon keeps care of the seconds of the great Creator. It instantly appears that there is order, not the order of cogs and gears and rattling machinery, but the order of rhythm on a magnificent scale. But first another glance at the tables.

Take note of the last four columns of the tables and note how the moon is usually for seven moons fast, then for seven moons slow, etc., as compared with those that have gone before; it

Moon	Days	Actual		Mean		Compared with next		Compared with Mean	
		Date	Time	Date	Time	over Slow	Fast	Slow	Fast
1900 A.D.									
73304	30	Mo	Jan 1	4:21pm	Mo	Jan 1	2:23pm	691	1 13 158
73305	29	We	Jan 31	3:52am	We	Jan 31	3:07am	602	2 42 45
73306	29	Th	Mar 1	1:54pm	Th	Mar 1	3:51pm	545	3 39 1 57
73307	30	Fr	Mar 30	10:59am	Sa	Mar 31	4:35am	533	3 51 5 36
73308	29	Su	Apr 29	7:52am	Su	Apr 29	5:19pm	567	3 17 9 27
73309	30	Mo	May 28	5:19pm	Tu	May 29	6:03am	627	2 07 12 44
73310	29	We	Jun 27	3:56am	We	Jun 27	6:47pm	736	28 14 51
73311	30	Th	Jul 26	4:12pm	Fr	Jul 27	7:31am	850	1 26 15 19
73312	29	Sa	Aug 25	6:22am	Sa	Aug 25	8:15pm	964	3 20 13 53
73313	30	Su	Sep 23	10:26pm	Mo	Sep 24	8:51am	1050	4 46 10 33
73314	30	Tu	Oct 23	3:56pm	Tu	Oct 23	8:43pm	1070	5 06 5 47
73315	30	Th	Nov 22	9:46am	Th	Nov 22	10:27am	1004	4 00 4 41
73316	29	Sa	Dec 22	2:32am	Fr	Dec 21	11:11pm	875	1 51 3 19
1901 A.D.									
73317	30	Su	Jan 20	5:05pm	Su	Jan 20	11:55am	729	35 5 10
73318	29	Tu	Feb 19	5:14am	Tu	Feb 19	12:39am	608	2 35 4 35
73319	30	We	Mar 20	3:22pm	We	Mar 20	1:23pm	524	4 00 1 59
73320	29	Fr	Apr 19	12:06am	Fr	Apr 19	2:07am	481	4 43 2 01
73321	29	Sa	May 18	8:07am	Sa	May 18	2:51pm	475	4 49 6 44
73322	30	Su	Jun 16	4:06pm	Mo	Jun 17	3:35am	517	4 07 11 33
73323	29	Tu	Jul 16	12:39am	Tu	Jul 16	4:19pm	617	2 27 15 40
73324	29	We	Aug 14	10:56am	Th	Aug 15	5:03am	771	07 18 07
73325	30	Th	Sep 12	11:47pm	Fr	Sep 13	5:47pm	953	3 09 18 00
73326	30	Sa	Oct 12	3:46pm	Su	Oct 13	6:31am	1103	5 39 14 51
73327	30	Mo	Nov 11	10:03am	Mo	Nov 11	7:15pm	1159	6 25 9 12
73328	29	We	Dec 11	5:22am	We	Dec 11	7:59am	1101	5 37 2 37
1902 A.D.									
73329	30	Th	Jan 9	11:43pm	Th	Jan 9	8:49pm	967	3 23 3 00
73330	30	Sa	Feb 8	3:56pm	Sa	Feb 8	9:27am	803	45 6 23
73331	29	Mo	Mar 10	5:19am	Su	Mar 9	10:11pm	660	1 44 7 08
73332	30	Tu	Apr 8	4:19pm	Tu	Apr 8	10:55am	535	3 49 5 24
73333	29	Th	May 8	1:14am	We	May 7	11:39pm	446	5 13 1 35
73334	29	Fr	Jun 6	8:40am	Fr	Jun 6	12:25pm	408	5 56 3 43
73335	29	Sa	Jul 5	3:22pm	Su	Jul 5	1:07am	478	5 26 9 39
73336	30	Su	Aug 3	10:46pm	Mo	Aug 4	1:51pm	542	3 42 15 05
73337	29	Tu	Sep 2	7:46pm	We	Sep 3	2:35am	730	54 18 47
73338	30	We	Oct 1	7:38am	Th	Oct 2	3:19pm	904	2 20 19 41
73339	30	Fr	Oct 31	10:42am	Sa	Nov 1	4:03am	1071	5 07 17 21
73340	29	Su	Nov 30	4:33am	Su	Nov 30	4:47pm	1160	6 36 12 14
73341	30	Mo	Dec 29	11:53pm	Tu	Dec 30	5:51am	1154	6 30 5 58
1903 A.D.									
73342	30	We	Jan 28	7:07pm	We	Jan 28	6:15pm	1061	4 57 52
73343	30	Fr	Feb 27	12:48pm	Fr	Feb 27	6:59am	907	2 23 5 49
73344	29	Su	Mar 29	3:55am	Sa	Mar 28	7:43pm	726	38 8 12
73345	30	Mo	Apr 27	4:01pm	Mo	Apr 27	8:27am	557	3 27 7 34
73346	29	We	May 27	1:18am	Tu	May 26	9:11pm	442	5 22 4 07
73347	29	Th	Jun 25	8:40am	Th	Jun 25	5:51am	395	6 09 1 15
73348	29	Fr	Jul 24	3:15pm	Fr	Jul 24	10:39pm	425	5 39 7 24
73349	30	Sa	Aug 22	10:20pm	Su	Aug 23	11:23am	520	4 04 13 03
73350	29	Mo	Sep 21	7:00am	Tu	Sep 22	12:07am	619	1 45 17 07
73351	30	Tu	Oct 20	5:59pm	We	Oct 21	12:51pm	820	56 18 52
73352	29	Th	Nov 19	7:32am	Fr	Nov 20	1:35am	976	3 32 17 56
73353	30	Fr	Dec 18	11:55pm	Sa	Dec 19	2:19pm	1160	5 36 14 24
1904 A.D.									
73354	30	Su	Jan 17	6:15pm	Mo	Jan 18	3:03am	1158	6 34 8 48
73355	30	Tu	Feb 16	1:33pm	Tu	Feb 16	3:47pm	1115	5 51 2 14
73356	30	Th	Mar 17	8:03am	Th	Mar 17	4:31am	974	3 30 3 37
73357	29	Sa	Apr 16	12:22am	Fr	Apr 15	5:15pm	785	21 7 07
73358	29	Su	May 15	1:27pm	Su	May 15	5:59am	612	2 32 7 28
73359	30	Mo	Jun 13	11:35pm	Mo	Jun 13	6:43pm	497	4 27 4 56
73360	29	We	Jul 13	7:56am	We	Jul 13	7:27am	451	5 13 29
73361	29	Th	Aug 11	3:27pm	Th	Aug 11	8:11pm	465	4 09 4 44
73362	30	Fr	Sep 9	11:12pm	Sa	Sep 10	8:51am	522	4 52 9 43
73363	29	Su	Oct 9	7:54am	Su	Oct 9	9:39pm	611	2 33 13 45
73364	30	Mo	Nov 7	6:05pm	Tu	Nov 8	10:23am	730	34 16 18
73365	29	We	Dec 7	6:15am	We	Dec 7	11:07pm	871	1 47 16 52
1905 A.D.									
73366	30	Th	Jan 5	8:46pm	Fr	Jan 6	11:51am	1069	4 05 15 05
73367	30	Sa	Feb 4	1:35pm	Su	Feb 5	12:35pm	1093	5 29 11 00
73368	30	Mo	Mar 6	7:48am	Mo	Mar 6	1:15pm	1084	5 20 5 21
73369	29	We	Apr 5	1:52am	We	Apr 5	2:03am	937	3 43 11
73370	30	Th	May 4	6:19pm	Th	May 4	2:47pm	846	1 22 3 32
73371	29	Sa	Jun 3	8:25am	Sa	Jun 3	3:31am	714	50 4 54
73372	30	Su	Jul 2	8:19pm	Su	Jul 2	4:17pm	612	2 32 4 04
73373	29	Tu	Aug 1	6:31am	Tu	Aug 1	4:59am	551	3 33 1 32
73374	30	We	Aug 30	3:42pm	We	Aug 30	5:43pm	526	3 58 2 01
73375	29	Fr	Sep 29	12:23am	Fr	Sep 29	6:27am	539	3 45 5 59
73376	29	Sa	Oct 28	9:27am	Sa	Oct 28	7:11pm	589	2 55 9 44
73377	30	Su	Nov 26	7:16pm	Mo	Nov 27	7:55am	676	1 28 12 39
73378	29	Tu	Dec 26	6:32am	Tu	Dec 26	8:39pm	786	22 14 07

is not always for seven fast and for seven slow, but is so 73 percent of the time, a few sixes, eights and nines being sprinkled in.

Note again from the tables that the moon is in the habit of running fast not only with respect to the previous moon, but with respect to its mean lunation; for about 9½ lunations it is fast with respect to its mean, and then, for 4 lunations, slow until the balance is recovered.

The way the astronomers put it is that the moon has a maximum eccentricity of orbit of 1.61959788103203 days. That is to say, stating this in a manner suitable for the general reader, the variation over any period of years, no matter how remote, will be not more than 1 day 14 hours 52 minutes 13¼ seconds. But the differences need not be of such an amount, and by proper care in taking the right kind of starting point the total difference over so long a period as 6,000 years will be only an hour or so, as will be shown.

Metonic Cycle and the God of Order

Men have been studying the moon many centuries. It is now about 2,400 years since the astronomer Meton discovered that after 235 lunations the new moon usually rises on the same day of the month that it did 19 years before. Thus, compare No. 73131, January 5, 1886, with No. 73366, January 5, 1905, or any two moons 235 lunations apart, and it will be found that this is nearly exact. The Callippic cycle is a refinement of the Metonic, in which 1 day is dropped every fourth Metonic cycle, to make the Metonics come out more nearly exact over longer periods of time.

Of much greater interest is the saros or eclipse cycle of 223 moons, used by all astronomers in calculating time of eclipses. Every 223 moons the moon is back where it was, if such an expression may be used. The chart (pages 374-375) helps to make this clear. Note again the data regarding the first moon mentioned in the table, No. 73131, of January 5, 1886; now note its position on the chart. Then add 223 moons, reaching to No. 73354, of January 17, 1904 (a period of 6,585.32 days, or 18 years and 10.32 or 11.32 days, depending on how many leap years are in the period), and notice on the chart that the moon is in the same relative position that it was at first. Compare any two moons 223 moons apart, and note the results.

Take the time to pay very special attention to this eclipse cycle feature, as it is the key to

CHART OF LUNATIONS 1886-1911 A.D.

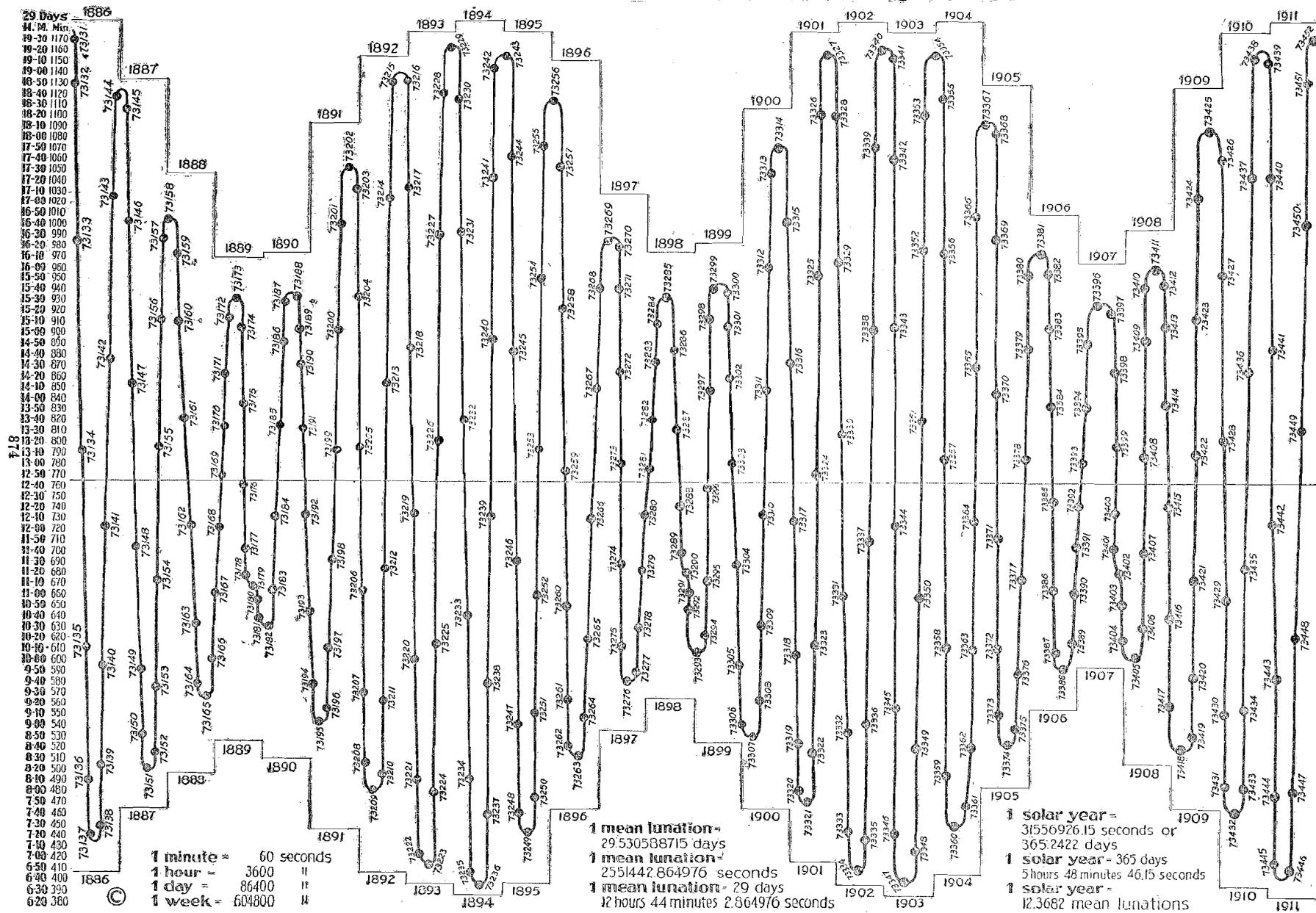
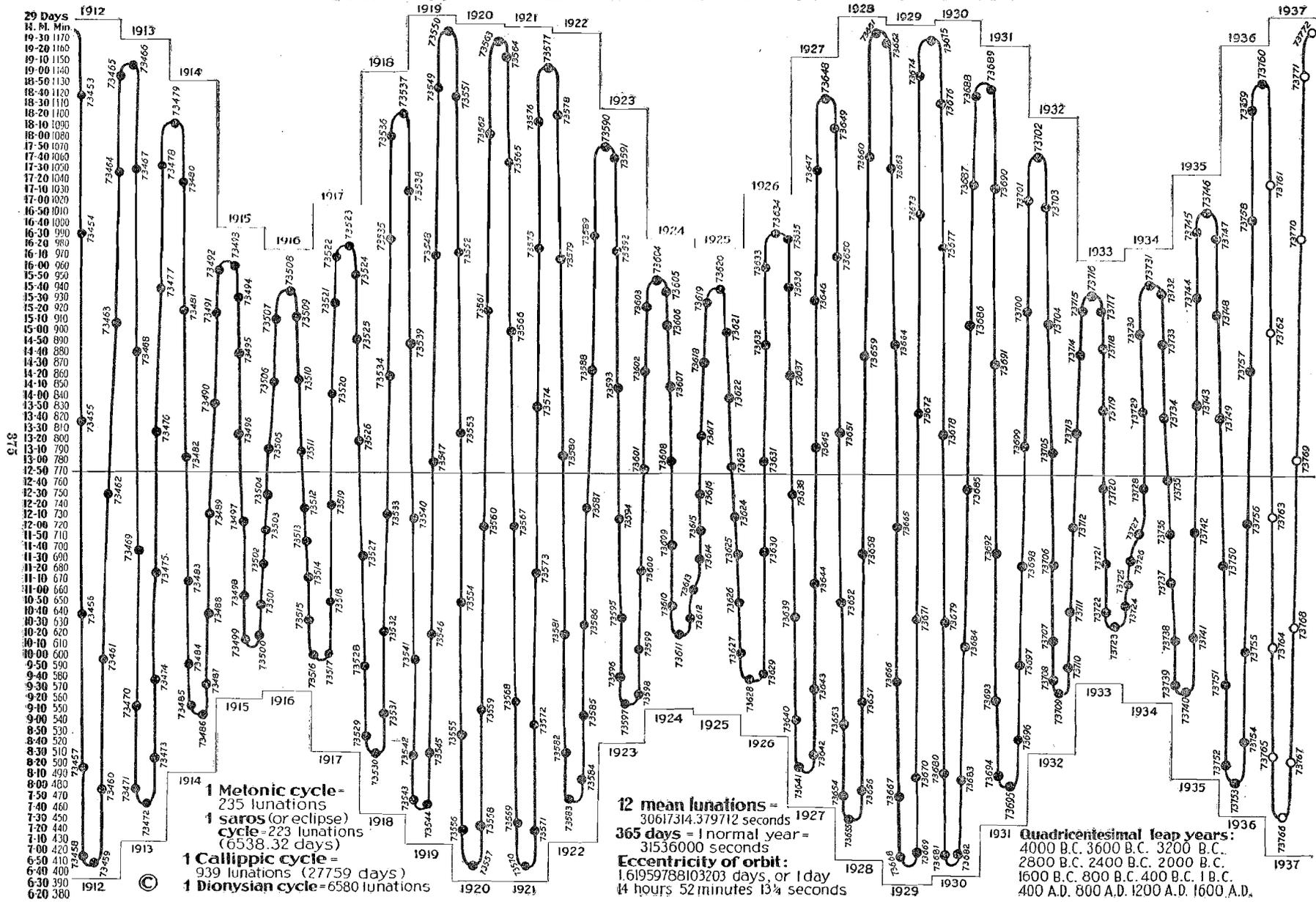


CHART OF LUNATIONS 1912-1937 A.D.



1 Metonic cycle =
 235 lunations
1 saros (or eclipse)
 cycle = 223 lunations
 (6538.32 days)
1 Callippic cycle =
 939 lunations (27759 days)
1 Dionysian cycle = 6580 lunations

12 mean lunations =
 30617314.379712 seconds 1927
365 days = 1 normal year =
 31536000 seconds
Eccentricity of orbit:
 1.61959788103203 days, or 1 day
 44 hours 52 minutes 13 1/4 seconds

Quadricesimal leap years:
 4000 B.C. 3600 B.C. 3200 B.C.
 2800 B.C. 2400 B.C. 2000 B.C.
 1600 B.C. 800 B.C. 400 B.C. 1 B.C.
 400 A.D. 800 A.D. 1200 A.D. 1600 A.D.

Moon	Days	Date	Actual Time	Mean Date	Mean Time	Compared with next			Compared with Mean		
						29 Ds	hr	mi	hr	mi	hr
1906 A.D.											
73379	30	We	Jan 24 7:38pm	Th	Jan 25 9:23am	890	2	06			13 45
73380	30	Fr	Feb 23 10:28am	Fr	Feb 23 10:07pm	953	3	09			11 39
73381	29	Su	Mar 25 2:21am	Su	Mar 25 10:51am	974	3	30			8 30
73382	30	Mo	Apr 23 6:35pm	Mo	Apr 23 11:35pm	954	3	10			5 00
73383	30	We	May 23 10:29am	We	May 23 12:19pm	905	2	21			1 50
73384	29	Fr	Jun 22 1:34am	Fr	Jun 22 1:03am	834	1	10			31
73385	30	Sa	Jul 21 3:28pm	Sa	Jul 21 1:47pm	748			16	1	41
73386	29	Mo	Aug 20 3:56am	Mo	Aug 20 2:31am	666	1	38	1	25	
73387	30	Tu	Sep 18 3:02pm	Tu	Sep 18 3:15pm	609			2	35	
73388	29	Th	Oct 18 1:11am	Th	Oct 18 3:59am	594			2	50	13
73389	29	Fr	Nov 16 11:05am	Fr	Nov 16 4:43pm	618			5	26	2 48
73390	30	Sa	Dec 15 9:23pm	Su	Dec 16 5:27am	663			1	41	5 38
1907 A.D.											
73391	29	Mo	Jan 14 8:26am	Mo	Jan 14 6:11pm	706			58		9 43
73392	30	Tu	Feb 12 8:12pm	We	Feb 13 6:55am	742			22		10 43
73393	29	Th	Mar 14 8:34am	Th	Mar 14 7:39pm	781			17		11 05
73394	30	Fr	Apr 12 9:35pm	Sa	Apr 13 8:23am	833	1	09			10 28
73395	30	Su	May 12 11:28am	Su	May 12 9:07pm	891	2	07			9 39
73396	29	Tu	Jun 11 2:11am	Tu	Jun 11 9:51am	927	2	43			7 32
73397	30	We	Jul 10 5:46pm	We	Jul 10 10:35pm	920	2	36			4 49
73398	29	Fr	Aug 9 9:06am	Fr	Aug 9 11:19am	867	1	43			2 13
73399	30	Sa	Sep 7 11:33pm	Su	Sep 8 12:03am	797			33		30
73400	30	Mo	Oct 7 12:50pm	Mo	Oct 7 12:47pm	738			26	03	
73401	29	We	Nov 6 1:03am	We	Nov 6 1:31am	704			1	00	23
73402	30	Th	Dec 5 12:52pm	Th	Dec 5 2:15pm	680			1	24	1 23
1908 A.D.											
73403	29	Sa	Jan 4 12:12am	Sa	Jan 4 2:59am	653			1	51	2 47
73404	29	Su	Feb 2 11:05am	Su	Feb 2 3:43pm	621			2	23	4 33
73405	30	Mo	Mar 2 9:26pm	Tu	Mar 3 4:27am	605			2	39	7 01
73406	29	We	Apr 1 7:31am	We	Apr 1 5:11pm	631			2	13	9 40
73407	30	Th	Apr 30 6:02pm	Fr	May 1 5:55am	701			1	03	11 35
73408	29	Sa	May 30 5:43am	Sa	May 30 6:39pm	787			23		12 36
73409	30	Su	Jun 28 6:50pm	Mo	Jun 29 7:23am	895	2	11			12 33
73410	30	Tu	Jul 28 9:45am	Tu	Jul 28 8:07pm	943	2	59			10 22
73411	29	Th	Aug 27 1:28am	Th	Aug 27 8:51am	960	3	16			7 25
73412	30	Fr	Sep 25 5:23pm	Fr	Sep 25 9:35pm	947	3	03			4 37
73413	30	Su	Oct 25 9:15am	Su	Oct 25 10:19am	907	2	23			1 04
73414	29	Tu	Nov 24 12:22am	Mo	Nov 23 11:03pm	836	1	12			1 19
73415	30	We	Dec 23 2:18pm	We	Dec 23 11:47am	742			22	2	31
1909 A.D.											
73416	29	Fr	Jan 22 2:40am	Fr	Jan 22 12:31am	640			2	04	2 09
73417	29	Sa	Feb 20 1:20pm	Sa	Feb 20 1:15pm	560			3	24	05
73418	30	Su	Mar 21 10:40pm	Mo	Mar 22 1:59am	520			4	04	3 23
73419	29	Tu	Apr 20 6:20am	Tu	Apr 20 2:43pm	531			3	53	7 23
73420	30	We	May 19 4:11pm	Th	May 20 3:27am	586			2	58	11 16
73421	29	Fr	Jun 18 1:57am	Fr	Jun 18 4:11pm	676			1	28	14 14
73422	30	Sa	Jul 17 1:13pm	Su	Jul 18 4:55am	790			26		15 42
73423	29	Mo	Aug 16 2:23am	Mo	Aug 16 5:39pm	914	2	30			15 16
73424	30	Tu	Sep 14 5:37pm	We	Sep 15 6:23am	1025	4	21			12 16
73425	30	Th	Oct 14 10:42am	Th	Oct 14 7:07pm	1085	5	21			8 25
73426	29	Sa	Nov 13 4:47am	Sa	Nov 13 7:51am	1060	4	56			3 14
73427	30	Su	Dec 12 10:27pm	Su	Dec 12 8:35pm	953	3	09			1 52
1910 A.D.											
73428	30	Tu	Jan 11 2:20pm	Tu	Jan 11 9:19am	802	38				5 01
73429	29	Th	Feb 10 3:42am	We	Feb 9 10:03pm	659			1	45	5 39
73430	29	Fr	Mar 11 2:41pm	Fr	Mar 11 10:47am	553			3	31	3 54
73431	30	Sa	Apr 9 11:54pm	Sa	Apr 9 11:31pm	488			4	36	23
73432	29	Mo	May 9 8:02am	Mo	May 9 12:15pm	463			5	01	4 13
73433	29	Tu	Jun 7 3:45pm	We	Jun 8 12:59am	484			4	40	9 14
73434	30	We	Jul 6 11:45pm	Th	Jul 7 1:43pm	557			3	27	13 54
73435	29	Fr	Aug 5 9:06am	Sa	Aug 6 2:27am	688			1	16	17 21
73436	30	Sa	Sep 3 8:34pm	Su	Sep 4 3:11pm	867	1	43			18 37
73437	30	Mo	Oct 3 11:01am	Tu	Oct 4 3:55am	1044	4	40			16 34
73438	29	We	Nov 2 4:25am	We	Nov 2 4:39pm	1154	6	30			12 14
73439	30	Th	Dec 1 11:39pm	Fr	Dec 2 5:23am	1151	6	27			5 44
73440	30	Sa	Dec 31 6:50pm	Sa	Dec 31 6:07pm	1043	4	39			43
1911 A.D.											
73441	30	Mo	Jan 30 12:13pm	Mo	Jan 30 6:51am	887	2	03			5 22
73442	29	We	Mar 1 3:00am	Tu	Feb 28 7:35pm	727			37		7 25
73443	30	Th	Mar 30 3:07pm	Th	Mar 30 8:19am	587			2	57	6 48
73444	29	Sa	Apr 29 12:54am	Fr	Apr 28 9:03pm	479			4	45	3 51
73445	29	Su	May 28 8:53am	Su	May 28 9:47am	415			5	49	5 4
73446	29	Mo	Jun 26 3:49pm	Mo	Jun 26 10:31pm	413			5	51	6 43
73447	30	Tu	Jul 25 10:41pm	We	Jul 26 11:15am	482			4	42	12 34
73448	29	Th	Aug 24 6:43am	Th	Aug 24 11:59pm	623			2	21	17 16
73449	30	Fr	Sep 22 5:06pm	Sa	Sep 23 12:43pm	812			48		19 37
73450	29	Su	Oct 22 6:38am	Mo	Oct 23 1:27am	1000	3	56			18 49
73451	30	Mo	Nov 20 11:18pm	Tu	Nov 21 2:11pm	1131	6	07			14 53
73452	30	We	Dec 20 6:09pm	Th	Dec 21 2:55am	1170	6	46			8 46

unlocking the past. By means of this key astronomers have located many events which occurred hundreds of years before Christ. The chroniclers mentioned eclipses with much exactness, with the result that the dates could be exactly located.

Calculations in the *Golden Age* office show that in six thousand years the eclipse cycle locates a certain moon with absolute accuracy. It is on this wise: There were 73,740 moons from the lunation nearest the spring equinox of 4028 B.C. to the lunation nearest the spring equinox of A.D. 1935. There are 223 moons in an eclipse cycle; i.e., in 73,740 moons there are 330 eclipse cycles and 150 moons besides. Accordingly, 150 moons back from moon No. 73740, moon No. 73590 (of February 15, 1923) should be in exactly the same position in the heavens as the one some 5,950 years earlier (in 4028 B.C.); and such is the case.

At 29.530588715 days each, 73,590 moons amount, in total, to 2,173,156 days and about 34 minutes over. In 330 eclipse cycles, at 6,585.32 days per cycle, the total days are 2,173,155.6 days. In 5,950 years the moon is in the same position, and positively identifiable, with a total difference in the two calculations of less than 10 hours 3 minutes.

Getting Ready to Explore the Past

With this divinely provided measuring rod there will now be made an exploration of the past, particularly those passages in Holy Writ in which certain things are said to have taken place at such and such a time in such and such a moon. The right place to start inquiry is with the moon nearest at hand, say the one which is nearest to the vernal equinox in the year A.D. 1935. This new moon makes its appearance, astronomically speaking, at Los Angeles, Calif., at 4:11 a.m., Wednesday, April 3; on the 75th meridian, near New York and Philadelphia (Eastern Standard Time), at 7:11 a.m. on the same day, and at Jerusalem at 2:35:52 p.m. on the same day.

It is desired to ascertain as accurately as possible just when, astronomically, the new moon rose, in the year 4028 B.C., at the time nearest the vernal equinox. Remembering the accuracy of the eclipse cycle, one could wish to start backward from the moon which exactly corresponds in its movements with the one around the middle of March, 4028 B.C., but to do this it would be necessary to start with moon No. 73590, of February 15, 1923.

Moon	Days	Date	Actual Time	Mean Date	Mean Time	Compared with next		Compared with Mean	
						Mins. over 29 Ds	Slow hr mi	Fast hr mi	Slow hr mi
1912 A.D.									
73453	30	Fr Jan 19	1:39pm	Fr Jan 19	3:39pm	1114	5 50		2 00
73454	30	Su Feb 18	8:13am	Su Feb 18	4:23am	985	3 41	3 50	
73455	29	Tu Mar 19	12:38am	Mo Mar 18	5:07pm	811	47	7 31	
73456	30	We Apr 17	2:09pm	We Apr 17	5:51am	634		2 10 8 18	
73457	29	Fr May 17	12:43am	Th May 16	6:35pm	490		4 34 6 08	
73458	29	Sa Jun 15	8:53am	Sa Jun 15	7:19am	409		5 55 1 34	
73459	29	Su Jul 14	3:42pm	Su Jul 14	8:03pm	405		5 59	4 21
73460	30	Mo Aug 12	10:27pm	Tu Aug 13	8:47am	471		4 53	10 20
73461	29	We Sep 11	6:18am	We Sep 11	9:31pm	592		2 52	15 13
73462	30	Th Oct 10	4:10pm	Fr Oct 11	10:15am	744		20	18 05
73463	29	Sa Nov 9	4:34am	Sa Nov 9	10:59pm	902		2 18	18 25
73464	30	Su Dec 8	7:36pm	Mo Dec 9	11:43am	1042		4 38	16 07
1913 A.D.									
73465	30	Tu Jan 7	12:58pm	We Jan 8	12:27am	1133	6 09		11 29
73466	30	Th Feb 6	7:51am	Th Feb 6	1:11pm	1141	6 17		5 20
73467	29	Sa Mar 8	2:52am	Sa Mar 8	1:53am	1045	4 41		
73468	30	Su Apr 6	8:17pm	Su Apr 6	2:39pm	877	1 53	5 38	
73469	29	Tu May 6	10:54am	Tu May 6	3:23am	692		1 12 7 31	
73470	30	We Jun 4	10:26pm	We Jun 4	4:07pm	549		3 35 6 19	
73471	29	Fr Jul 4	7:35am	Fr Jul 4	4:51am	472		4 52 2 44	
73472	29	Sa Aug 2	3:27pm	Sa Aug 2	5:35pm	460		5 04	2 08
73473	30	Su Aug 31	11:07pm	Mo Sep 1	6:15am	499		4 25	7 12
73474	29	Tu Sep 30	7:26am	Tu Sep 30	7:05pm	572		3 12	11 37
73475	30	We Oct 29	4:58pm	Th Oct 20	7:47am	672		1 32	14 49
73476	29	Fr Nov 28	4:10am	Fr Nov 28	8:31pm	803	34		16 21
73477	30	Sa Dec 27	5:28pm	Su Dec 28	9:15am	935	2 51		15 47
1914 A.D.									
73478	30	Mo Jan 26	9:03am	Mo Jan 26	9:59pm	1048	4 44		12 56
73479	29	We Feb 25	2:31am	We Feb 25	10:43am	1087	5 23		8 12
73480	30	Th Mar 26	8:38pm	Th Mar 26	11:27pm	1032	4 28		2 49
73481	30	Sa Apr 25	1:50pm	Sa Apr 25	12:11pm	913	2 29	1 39	
73482	29	Mo May 25	5:03am	Su May 24	12:55am	779	15	4 08	
73483	30	Tu Jun 23	6:02pm	Tu Jun 23	1:39pm	665		1 39 4 23	
73484	29	Th Jul 23	5:07am	Th Jul 23	2:23am	588		2 56 2 44	
73485	30	Fr Aug 21	2:55pm	Fr Aug 21	3:07pm	547		3 37	12
73486	29	Su Sep 20	12:02am	Su Sep 20	3:51am	540		3 44	3 49
73487	29	Mo Oct 19	9:02am	Mo Oct 19	4:39pm	568		3 16	7 33
73488	30	Tu Nov 17	6:30pm	We Nov 18	5:19am	634		2 10	10 49
73489	29	Th Dec 17	5:04am	Th Dec 17	6:03pm	727		37	12 59
1915 A.D.									
73490	30	Fr Jan 15	5:11pm	Sa Jan 16	6:47am	829	1 05		13 36
73491	29	Su Feb 14	7:00am	Su Feb 14	7:31pm	911	2 27		12 31
73492	30	Mo Mar 15	10:11pm	Tu Mar 16	8:15am	953	3 09		10 04
73493	30	We Apr 14	2:04pm	We Apr 14	8:59pm	956	3 12		6 55
73494	29	Fr May 14	6:00am	Fr May 14	9:43am	926	2 42		3 43
73495	30	Sa Jun 12	9:26pm	Sa Jun 12	10:27pm	874	1 50		1 01
73496	30	Mo Jul 12	12:00 pm	Mo Jul 12	11:11am	801	37	49	
73497	29	We Aug 11	1:21am	Tu Aug 10	11:55pm	720		44 1 26	
73498	30	Th Sep 9	1:21pm	Th Sep 9	12:59pm	650		1 54 42	
73499	29	Sa Oct 9	12:11am	Sa Oct 9	1:23am	610		2 34	1 12
73500	29	Su Nov 7	10:21am	Su Nov 7	2:07pm	611		2 33	3 46
73501	30	Mo Dec 6	8:32pm	Tu Dec 7	2:51am	642		2 02	6 19
1916 A.D.									
73502	29	We Jan 5	7:14am	We Jan 5	3:35pm	680	1 24		8 21
73503	30	Th Feb 3	6:34pm	Fr Feb 4	4:19am	712		52	9 45
73504	29	Sa Mar 4	6:26am	Sa Mar 4	5:02am	744		20	10 37
73505	30	Su Apr 2	6:50pm	Mo Apr 3	3:47am	783	24		10 57
73506	29	Tu May 2	7:58am	Tu May 2	6:31pm	848	1 24		10 33
73507	30	We May 31	10:06pm	Th Jun 1	7:15am	906	2 22		9 09
73508	30	Fr Jun 30	1:12pm	Fr Jun 30	7:59pm	932	2 48		6 47
73509	29	Su Jul 30	4:44am	Su Jul 30	8:43am	909	2 25		3 59
73510	30	Mo Aug 28	7:53pm	Mo Aug 28	9:27pm	850	1 26		1 34
73511	29	We Sep 27	10:03am	We Sep 27	10:11am	783	19		08
73512	30	Th Oct 26	11:06pm	Th Oct 26	10:55pm	733		31	11
73513	29	Sa Nov 25	11:19am	Sa Nov 25	11:39am	701		1 03	20
73514	30	Su Dec 24	11:00pm	Mo Dec 25	12:23am	669		1 35	1 23
1917 A.D.									
73515	29	Tu Jan 23	10:09am	Tu Jan 23	1:07pm	629	2 13		2 58
73516	30	We Feb 21	8:38pm	Th Feb 22	1:51am	596	2 48		5 13
73517	29	Fr Mar 23	6:34am	Fr Mar 23	2:35pm	596	2 48		8 01
73518	29	Sa Apr 21	4:30pm	Su Apr 22	3:19am	645	1 59		10 49
73519	30	Su May 21	3:15am	Mo May 21	4:03pm	736		28	12 48
73520	30	Tu Jun 19	3:31pm	We Jun 20	4:47am	858	1 14		13 16
73521	29	Th Jul 19	5:29am	Th Jul 19	5:31pm	921	2 37		12 02
73522	30	Fr Aug 17	8:50pm	Sa Aug 18	6:15am	966	3 22		9 25
73523	30	Su Sep 16	12:56pm	Su Sep 16	6:59pm	974	3 30		6 03
73524	29	Tu Oct 16	5:10am	Tu Oct 16	7:43am	947	3 03		2 33
73525	30	We Nov 14	8:57pm	We Nov 14	8:27pm	889	2 05		30
73526	30	Fr Dec 14	11:46am	Fr Dec 14	9:11am	795	31	2 35	

All things considered, it seems best to start with the moon nearest the present (moon No. 73740; April 3, 1935), but to take advantage of the eclipse cycle data, and thus start three hours earlier than moon No. 73740 indicates. Comparing the records of these two moons we find that No. 73590 was 10 hours 35 minutes ahead of the mean, while No. 73740 was but 7 hours 35 minutes ahead of it; the difference is 3 hours. Therefore the start is made at Jerusalem at Wednesday, April 3, 1935 A.D., at 11:35:52 a.m. (instead of 2:35:52 p.m. on the same day), so that the answer when obtained will be as nearly exact as possible. Any date in the remote past may now be sought with confidence.

Method of Calculating Lunations

Problem: Find the date of lunation nearest the autumnal equinox of the year 4129 B.C. Answer: 6,062½ years from the above starting point is October 2, 4129 B.C., at 11:35:52 p.m. In 6,062½ years there are at least 6,062½ × 365 normal days, which are 2,212,812½ days; in the 60 unbroken centuries, counting 24 leap years to each century, there are 1,440 more days; in the fragment of the 42d century B.C. there were 7 leap days; in the portion of a century in which this generation now lives there have been 8 leap days; there were also 14 so-called quadricentesimal leap years (being the years B.C. 4000, 3600, 3200, 2800, 2400, 2000, 1600, 800, 400, 1, and A.D. 400, 800, 1200, and 1600, but not the year 1200 B.C.). Total leap days, 1,469. Total days for 6,062½ years, 2,214,281½.

There are approximately 12.3682 lunations each year. In the 6,062½ years (multiplying) the correct number is found to be 74,983 lunations. In a lunation there are 2,551,442.864976 seconds; in 74,983 there are 191,314,840,344.495408, which at 604,800 seconds to the week, 86,400 to the day, 3,600 to the hour, and 60 to the minute, resolves into 316,327 weeks 3 days 3 hours 12 minutes 24.495408 seconds.

The starting point having been on a Wednesday (April 3, 1935) at 11:35:52 a.m., the time of the lunation in 4129 B.C. is 3 days 3 hours 12 minutes 24.495408 seconds earlier in the week than Wednesday, and is therefore on Sunday at 8:23:27.504592 a.m. In these problems the decimal fractions are preserved and carried along, as they afford protection against errors and provide methods of checking results.

As to the day of the month: In the 6,062½ years the total days were found to be 2,214,-

Moon	Days	Actual		Date	Time	Mean	Date	Time	Compared with next			Compared with Mean			Moon	Days	Actual		Date	Time	Mean	Date	Time	Compared with next			Compared with Mean		
		29	Ds						hr	mi	hr	mi	hr	mi			hr	mi						hr	mi	hr	mi	hr	mi
1918 A.D.																													
73527	29	Su	Jan 13	1:01am	Sa	Jan 12	9:55pm	689	1 15	3 05				73601	30	Su	Jan 6	3:13pm	Mo	Jan 7	4:11am	770	06				12 58		
73528	29	Mo	Feb 11	12:30pm	Mo	Feb 11	10:39am	587	2 57	1 51				73602	29	Tu	Feb 5	4:03am	Tu	Feb 5	4:55pm	860	1 36				12 52		
73529	30	Tu	Mar 12	10:17pm	Tu	Mar 12	11:23pm	522	4 02		1 06			73603	30	We	Mar 5	6:23pm	Th	Mar 6	5:39am	919	2 35				11 16		
73530	29	Th	Apr 11	6:59am	Th	Apr 11	12:07pm	507	4 17		5 08			73604	30	Fr	Apr 4	9:42am	Fr	Apr 4	6:23pm	943	2 59				8 41		
73531	30	Fr	May 10	3:26pm	Sa	May 11	12:51am	542	3 42		9 25			73605	29	Su	May 1	1:25am	Su	May 4	7:07am	834	2 50				5 42		
73532	29	Su	Jun 9	12:23am	Su	Jun 9	1:35pm	619	2 25		13 07			73606	30	Mo	Jun 2	4:59pm	Mo	Jun 2	7:51pm	901	2 17				2 52		
73533	29	Mo	Jul 8	10:47am	Tu	Jul 9	2:19am	728		36	13 32			73607	29	We	Jul 2	8:00am	We	Jul 2	8:35am	847	1 23				3 5		
73534	30	Tu	Aug 6	10:55pm	We	Aug 7	3:03pm	854	1 30		16 08			73608	30	Th	Jul 31	10:07pm	Th	Jul 31	9:19pm	775	11				48		
73535	30	Th	Sep 5	1:09pm	Fr	Sep 6	3:47am	951	3 37		14 38			73609	29	Sa	Aug 30	11:02am	Sa	Aug 30	10:03am	699	1 05				59		
73536	29	Sa	Oct 5	5:30am	Sa	Oct 5	4:31pm	1077	5 13		11 01			73610	30	Su	Sep 28	10:41pm	Su	Sep 28	10:47pm	641	2 03				06		
73537	30	Su	Nov 3	11:27pm	Mo	Nov 4	5:15am	1097	5 33		5 48			73611	29	Tu	Oct 28	9:22am	Tu	Oct 23	11:31am	619	2 25				2 09		
73538	30	Tu	Dec 3	5:44pm	Tu	Dec 3	5:59pm	1025	4 21		15			73612	30	We	Nov 26	7:41pm	Th	Nov 27	12:15am	630	2 14				4 34		
														73613	29	Fr	Dec 26	6:11am	Fr	Dec 26	12:59pm	659	1 45				6 48		
1919 A.D.																													
73539	30	Th	Jan 2	10:49am	Th	Jan 2	6:43am	883	1 59		4 06			73614	30	Sa	Jan 24	5:10pm	Su	Jan 25	1:43am	687	1 17				8 33		
73540	29	Sa	Feb 1	1:32am	Fr	Jan 31	7:27pm	724		40	6 05			73615	29	Mo	Feb 23	4:37am	Mo	Feb 23	2:27pm	711	5 3				9 50		
73541	29	Su	Mar 2	1:36pm	Su	Mar 2	8:11am	594	2 50	5 25				73616	30	Tu	Mar 24	4:23pm	We	Mar 25	3:11am	745	19				10 43		
73542	30	Mo	Mar 31	11:30pm	Mo	Mar 31	8:55pm	505	4 19	2 35				73617	29	Th	Apr 23	4:53am	Th	Apr 23	3:53pm	800	36				11 02		
73543	29	We	Apr 30	7:55am	We	Apr 30	9:39am	462	5 02		1 44			73618	30	Fr	May 22	6:13pm	Sa	May 23	4:35am	869	1 45				10 26		
73544	29	Th	May 29	3:37pm	Th	May 29	10:23pm	461	5 03		6 46			73619	30	Su	Jun 21	8:42am	Su	Jun 21	5:23pm	923	2 39				8 41		
73545	30	Fr	Jun 27	11:18pm	Sa	Jun 28	11:07am	508	4 16		11 49			73620	29	Tu	Jul 21	12:05am	Tu	Jul 21	6:07am	935	2 51				6 02		
73546	29	Su	Jul 27	7:46am	Su	Jul 27	11:51pm	616		2 28	16 25			73621	30	We	Aug 19	3:40pm	We	Aug 19	6:51pm	897	2 13				3 11		
73547	30	Mo	Aug 25	6:02pm	Tu	Aug 26	12:35pm	777	13		18 33			73622	29	Fr	Sep 18	6:37am	Fr	Sep 18	7:35am	834	1 10				5 8		
73548	29	We	Sep 24	6:59am	Th	Sep 25	1:19am	966	3 22		18 20			73623	30	Sa	Oct 17	8:31pm	Sa	Oct 17	8:31pm	772	08				12		
73549	30	Th	Oct 23	11:05pm	Fr	Oct 24	2:03pm	1120	5 56		14 58			73624	29	Mo	Nov 16	9:23am	Mo	Nov 16	9:03am	727	37				20		
73550	30	Sa	Nov 22	5:45pm	Su	Nov 23	2:47am	1175	6 51		9 22			73625	30	Tu	Dec 15	9:30pm	Tu	Dec 15	9:47pm	690	1 14				17		
73551	30	Mo	Dec 22	1:20pm	Mo	Dec 22	3:31pm	1112	5 48		2 11			1920 A.D.															
73552	30	We	Jan 21	7:52am	We	Jan 21	4:15am	968	3 24		3 37			73626	29	Th	Jan 14	9:00am	Th	Jan 14	10:31am	645	1 59				1 31		
73553	29	Fr	Feb 20	12:30am	Th	Feb 19	4:59pm	801	37		7 01			73627	30	Fr	Feb 12	7:45pm	Fr	Feb 12	11:15pm	600	2 44				3 30		
73554	30	Sa	Mar 20	1:21pm	Sa	Mar 20	5:43am	647	1 57	7 38				73628	29	Su	Mar 14	5:45am	Su	Mar 14	11:59am	576	3 08				6 14		
73555	29	Mo	Apr 19	12:08am	Su	Apr 18	6:27pm	522	4 02	5 41				73629	30	Mo	Apr 12	3:21pm	Tu	Apr 13	12:43am	579	3 05				9 22		
73556	29	Tu	May 18	8:50am	Tu	May 18	7:11am	426	5 28	1 39				73630	29	We	May 12	1:00am	We	May 12	1:27pm	693	1 11				12 27		
73557	29	We	Jun 16	4:06pm	We	Jun 16	7:55pm	404	6 00		3 49			73631	30	Th	Jun 10	12:33pm	Fr	Jun 11	2:11am	778	14				13 38		
73558	30	Th	Jul 15	10:50pm	Fr	Jul 16	8:39am	439	5 25		9 49			73632	29	Sa	Jul 10	1:10am	Sa	Jul 10	2:55pm	883	1 59				13 24		
73559	29	Sa	Aug 14	6:09am	Sa	Aug 14	9:22pm	548	3 36		13 14			73633	30	Su	Aug 8	4:14pm	Mo	Aug 9	3:39am	956	3 12				11 25		
73560	30	Su	Sep 12	3:17pm	Mo	Sep 13	10:07am	718		46	18 50			73634	30	Tu	Sep 7	8:10am	Tu	Sep 7	4:23pm	988	3 44				8 13		
73561	29	Tu	Oct 12	3:15am	Tu	Oct 12	10:51pm	915	2 31		11 36			73635	29	Th	Oct 7	12:38am	Th	Oct 7	5:07am	981	3 37				4 29		
73562	30	We	Nov 10	6:30pm	Th	Nov 11	11:35am	1079	5 15		11 15			73636	30	Fr	Nov 5	4:55pm	Fr	Nov 5	5:51pm	938	2 54				5 2		
73563	30	Fr	Dec 10	12:23pm	Sa	Dec 11	12:19am	1163	6 39		11 50			73637	29	Su	Dec 5	8:37am	Su	Dec 5	6:35am	856	1 32				2 02		
1921 A.D.																													
73564	30	Su	Jan 9	7:52am	Su	Jan 9	1:03pm	1150	6 26		5 11			73638	30	Mo	Jan 3	10:53pm	Mo	Jan 3	7:19pm	746				18 3 34			
73565	29	Tu	Feb 8	3:02am	Tu	Feb 8	1:47am	1052	4 48		1 15			73639	29	We	Feb 2	11:19am	We	Feb 2	8:03am	631	2 13				3 16		
73566	30	We	Mar 9	8:34pm	We	Mar 9	2:31pm	826	2 12		6 03			73640	30	Th	Mar 3	9:50pm	Th	Mar 3	8:47pm	539	3 45				1 03		
73567	29	Fr	Apr 8	11:30am	Fr	Apr 8	3:15am	717		47	8 15			73641	29	Sa	Apr 2	6:4 am	Sa	Apr 2	9:31am	4 6	4 28				2 42		
73568	30	Sa	May 7	11:27pm	Sa	May 7	3:59pm	553	3 31	7 28				73642	29	Su	May 1	3:05pm	Su	May 1	10:15pm	506	4 18				7 10		
73569	29	Mo	Jun 6	8:40am	Mo	Jun 6	4:43am	441	5 23	3 57				73643	30	Mo	May 30	11:31pm	Tu	May 31	10:59am	566	3 18				11 28		
73570	29	Tu	Jul 5	4:01pm	Tu	Jul 5	5:27pm	402	6 02		1 25			73644	30	We	Jun 29	8:57am	We	Jun 29	11:43pm	664	1 40				14 46		
73571	30	We	Aug 3	10:43pm	Th	Aug 4	6:11am	435	5 29	7 28				73645	29	Fr	Jul 29	8:01am	Fr	Jul 29	12:27pm	790	26				16 26		
73572	29	Fr	Sep 2	5:58am	Fr	Sep 2	6:55pm	533	3 51		12 57			73646	30	Sa	Aug 27	9:11am	Su	Aug 28	1:11am	925	2 41				16 00		
73573	30	Sa	Oct 1	2:51pm	Su	Oct 2	7:39am	673	1 31		16 48			73647	29	Mo	Sep 26	12:36am	Mo	Sep 26	1:55pm	1046	4 42				13 19		
73574	29	Mo	Oct 31	2:04am	Mo	Oct 31	8:23pm	827	1 03		18 19			73648	30	Th	Oct 25	6:02pm	We	Oct 26	2:39am	1112							

Moon	Days	Date	Actual Time	Mean Date	Mean Time	Compared Mins. with next			Compared with Mean		
						over	Slow	Fast	Slow	Fast	Slow
1930 A.D.											
73676	30	We	Jan 29 9:32pm	We	Jan 29 11:11pm	1106	5	42			1 39
73677	30	Fr	Feb 28 3:58pm	Fr	Feb 28 11:55am	973	3	29		4 03	
73678	29	Su	Mar 30 8:11am	Su	Mar 30 12:32pm	802	38			7 32	
73679	30	Mo	Apr 28 9:32pm	Mo	Apr 28 1:23pm	629	2 15	9 10			
73680	29	We	May 28 8:02am	We	May 28 2:07am	490	4 34	5 55			
73681	29	Th	Jun 26 4:12pm	Th	Jun 26 2:51pm	415	5 49	1 21			
73682	30	Fr	Jul 25 11:07pm	Sa	Jul 26 3:35am	415	5 49			4 28	
73683	30	Su	Aug 24 6:02am	Su	Aug 24 4:19pm	485	4 39			10 17	
73684	30	Mo	Sep 22 2:07pm	Tu	Sep 23 5:03am	606	2 38			14 56	
73685	29	We	Oct 22 12:13am	Fr	Oct 22 5:47pm	753		11		17 34	
73686	30	Th	Nov 20 12:46pm	Fr	Nov 21 6:31am	903	2 19			17 45	
73687	29	Sa	Dec 20 3:49am	Sa	Dec 20 7:15pm	1032	4 28			15 26	

1931 A.D.											
73688	30	Su	Jan 18 9:01pm	Mo	Jan 19 7:59am	1115	5	51			10 58
73689	30	Tu	Feb 17 3:36pm	Tu	Feb 17 8:43pm	1120	5	55			5 07
73690	30	Th	Mar 19 10:16am	Th	Mar 19 9:27am	1029	4	25		49	
73691	29	Sa	Apr 18 3:25am	Fr	Apr 17 10:11pm	863	1 44			5 14	
73692	30	Su	May 17 5:53pm	Su	May 17 10:55am	694	1 10	6 58			
73693	29	Tu	Jun 16 5:27am	Mo	Jun 15 11:39pm	558	3 26	5 48			
73694	29	We	Jul 15 2:45pm	We	Jul 15 12:23pm	487	4 37	2 22			
73695	30	Th	Aug 13 10:52pm	Fr	Aug 14 1:07am	479	4 45			2 15	
73696	29	Sa	Sep 12 6:51am	Sa	Sep 12 1:51pm	520	4 04			7 00	
73697	30	Su	Oct 11 3:31pm	Mo	Oct 12 2:35am	589	2 55			11 04	
73698	29	Tu	Nov 10 1:26am	Tu	Nov 10 3:19pm	681	1 23			13 59	
73699	30	We	Dec 9 12:41pm	Th	Dec 10 4:03am	793	29			15 22	

1932 A.D.											
73700	29	Fr	Jan 8 1:54am	Fr	Jan 8 4:47pm	916	2	32		14 53	
73701	30	Sa	Feb 6 5:10pm	Sa	Feb 7 5:31am	1019	4	15		12 21	
73702	30	Mo	Mar 7 10:09pm	Mo	Mar 7 6:15am	1057	4	53		8 06	
73703	29	We	Apr 6 3:46am	We	Apr 6 6:59am	1011	4	07		3 13	
73704	30	Th	May 5 8:37pm	Th	May 5 7:43pm	904	2	20			
73705	30	Sa	Jun 4 11:41am	Sa	Jun 4 8:27am	784	20			3 14	
73706	29	Mo	Jul 4 12:45am	Su	Jul 3 9:11pm	682	1 22	3 34			
73707	29	Tu	Aug 2 12:07pm	Tu	Aug 2 9:55am	613	2 31	2 12			
73708	30	We	Aug 31 10:20pm	We	Aug 31 10:39pm	575	3	09		19	
73709	29	Fr	Sep 30 7:55am	Fr	Sep 30 11:23am	566	3 18			3 23	
73710	30	Sa	Oct 29 5:21pm	Su	Oct 30 12:07am	587	2	57		6 46	
73711	29	Mo	Nov 28 3:08am	Mo	Nov 28 12:51pm	639	2	05		9 43	
73712	30	Tu	Dec 27 1:47pm	We	Dec 28 1:35am	718		46		11 48	

1933 A.D.											
73713	29	Th	Jan 26 1:45am	Th	Jan 26 2:19pm	804	40			12 34	
73714	30	Fr	Feb 24 3:09pm	Sa	Feb 25 3:03am	876	1 52			11 54	
73715	29	Su	Mar 26 5:45am	Su	Mar 26 3:47pm	918	2 34			10 02	
73716	30	Mo	Apr 24 9:05pm	Tu	Apr 25 4:31am	929	2 45			7 29	
73717	30	We	May 24 12:32pm	We	May 24 5:15pm	915	2 31			4 43	
73718	29	Fr	Jun 23 3:47am	Fr	Jun 23 5:53am	881	1 57			2 12	
73719	30	Sa	Jul 22 6:28pm	Sa	Jul 22 6:43pm	825	1 01			15	
73720	29	Mo	Aug 21 8:13am	Mo	Aug 21 7:27am	753		11 46			
73721	30	Tu	Sep 19 8:46pm	Tu	Sep 19 8:11pm	684	1 20	35			
73722	29	Th	Oct 19 8:10am	Th	Oct 19 8:55am	639	2	05		4 5	
73723	30	Fr	Nov 17 6:49pm	Fr	Nov 17 9:39pm	629	2 15			2 50	
73724	29	Su	Dec 17 5:18am	Su	Dec 17 10:23am	644	2 00			5 05	

1934 A.D.											
73725	30	Mo	Jan 15 4:02pm	Mo	Jan 15 11:07pm	666	1 38			7 05	
73726	29	We	Feb 14 3:08am	We	Feb 14 11:51am	685	1 19			8 43	
73727	30	Th	Mar 15 2:33pm	Fr	Mar 16 12:35am	709	55			10 02	
73728	29	Sa	Apr 14 2:22am	Sa	Apr 14 1:19pm	753		11		10 57	
73729	30	Su	May 13 2:55pm	Mo	May 14 2:03am	822	58			11 08	
73730	29	Tu	Jun 12 4:37am	Tu	Jun 12 2:47pm	894	2 10			10 10	
73731	30	We	Jul 11 7:31pm	Th	Jul 12 3:31am	940	2 56			8 03	
73732	30	Fr	Aug 10 11:11am	Fr	Aug 10 4:15pm	934	2 50			5 04	
73733	29	Su	Sep 9 2:45am	Su	Sep 9 4:59am	885	2 01			2 14	
73734	30	Mo	Oct 8 5:30pm	Mo	Oct 8 5:43pm	819	55			13	
73735	29	We	Nov 7 7:09am	We	Nov 7 6:27am	761		03 42			
73736	30	Th	Dec 6 7:50pm	Th	Dec 6 7:11pm	715	49	39			

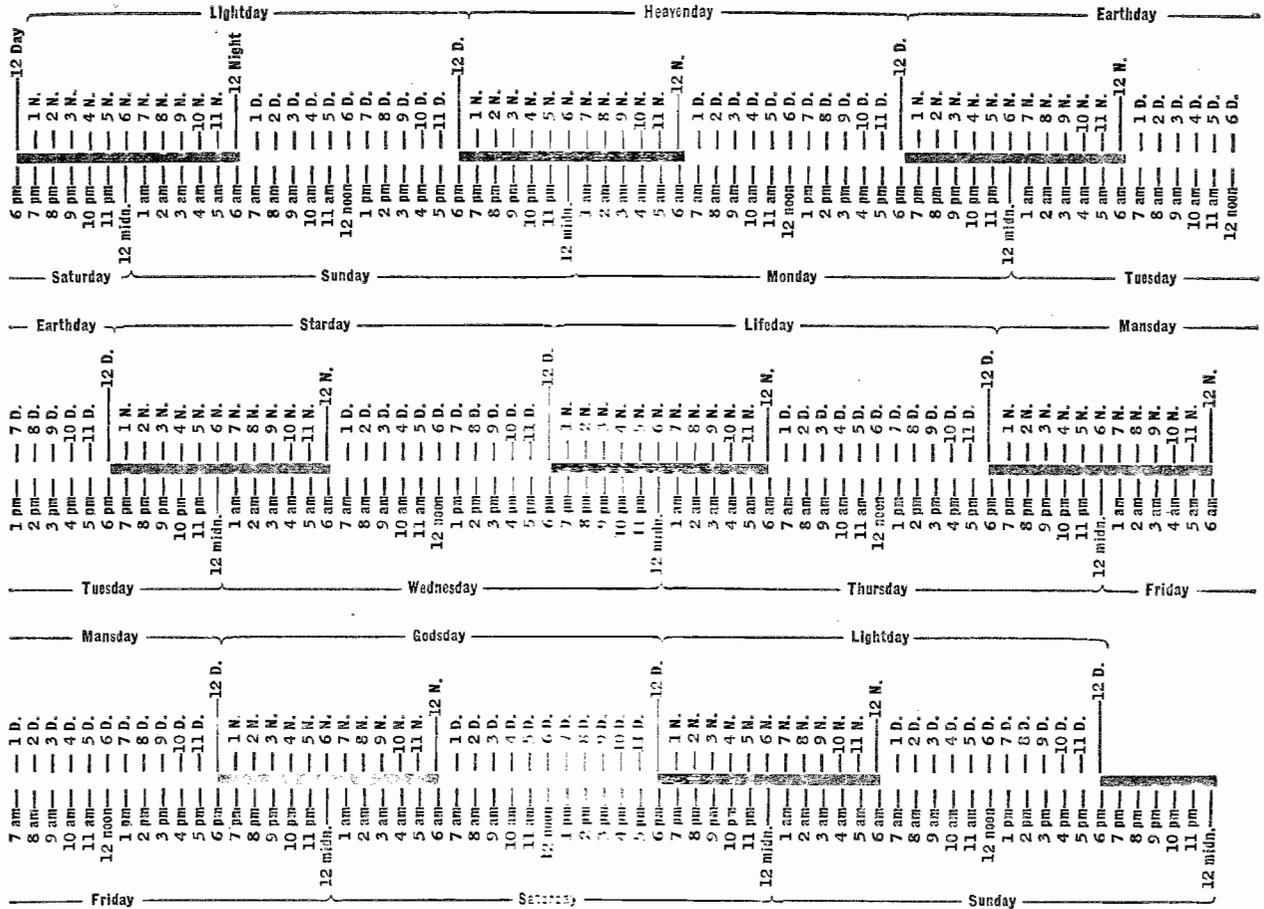
1935 A.D.											
73737	29	Sa	Jan 5 7:45am	Sa	Jan 5 7:55am	667	1 37			10	
73738	30	Su	Feb 3 6:52pm	Su	Feb 3 8:39pm	613	2 31			1 47	
73739	29	Tu	Mar 5 5:05am	Tu	Mar 5 9:23am	571	3 13			4 18	
73740	30	We	Apr 3 2:36pm	We	Apr 3 10:07pm	565	3 19			7 31	
73741	29	Fr	May 3 12:01am	Fr	May 3 10:51am	616	2 28			10 50	
73742	29	Sa	Jun 1 10:17am	Sa	Jun 1 11:35pm	712		52		13 18	
73743	30	Su	Jun 30 10:09pm	Mo	Jul 1 12:15pm	828	1 04			14 10	
73744	30	Tu	Jul 30 11:57am	We	Jul 31 1:03am	928	2 44			13 06	
73745	29	Th	Aug 29 3:26pm	Th	Aug 29 1:47pm	989	3 45			10 22	
73746	30	Fr	Sep 27 7:54pm	Sa	Sep 28 2:31am	1006	4 02			6 37	
73747	30	Su	Oct 27 12:40pm	Su	Oct 27 3:15pm	981	3 37			2 35	
73748	29	Tu	Nov 26 5:01am	Tu	Nov 26 3:59am	913	2 29			1 02	
73749	30	We	Dec 25 8:14pm	We	Dec 25 4:43pm	809	45			3 31	

Moon	Days	Date	Actual Time	Mean Date	Mean Time	Compared Mins. with next			Compared with Mean		
						over	Slow	Fast	Slow	Fast	Slow
1936 A.D.											
73750	29	Fr	Jan 24 9:43am	Fr	Jan 24 5:27am	684	1 20	4 16			
73751	30	Sa	Feb 22 9:07pm	Sa	Feb 22 6:11pm	572	3 12	2 56			
73752	29	Mo	Mar 22 6:39am	Mo	Mar 23 6:35am	499	4 25			16	
73753	29	Tu	Apr 21 2:58pm	Tu	Apr 21 7:39pm	482	4 42			4 41	
73754	30	We	May 20 11:00pm	Th	May 21 8:23am	520	4 04			9 23	
73755	29	Fr	Jun 19 7:40am	Fr	Jun 19 9:07pm	604	2 40			13 27	
73756	30	Sa	Jul 18 5:44pm	Su	Jul 19 9:51am	722		42		16 07	
73757	29	Mo	Aug 17 5:46am	Mo	Aug 17 10:35pm	860	1 36			16 40	
73758	30	Tu	Sep 15 8:05pm	We	Sep 16 11:19am	929	3 55			15 13	
73759	30	Th	Oct 15 12:43pm	Fr	Oct 16 12:03am	1102	5 38			11 18	
73760	30	Sa	Nov 14 7:07am	Sa	Nov 14 12:47pm	1123	5 59			5 40	
73761	29	Mo	Dec 14 1:50am	Mo	Dec 14 1:31am	1032	4 28			19	

CALCULATION TABLES

Seconds in Minutes		Seconds in Mean Lunations	
1	60	1	2,551,442.864976
2	120	2	5,102,885.729952
3	180	3	7,654,328.594928
4	240	4	10,205,771.459904
5	300	5	12,757,214.32488
6	360	6	15,308,657.189856
7	420	7	17,860,100.054832
8	480	8	20,411,542.919808
9	540	9	22,962,985.784784
10	600	10	25,514,428.64976
11	660	11	28,065,871.509736
12	720	12	30,617,314.369712
13	780	13	33,168,757.229688
14	840	14	35,720,200.089664
15	900	15	38,271,642.949640
16	960	16	40,823,085.809616
17	1,020	17	43,374,528.669592
18	1,080	18	45,925,971.529568
19	1,140	19	48,477,414.389544
20	1,200	20	51,028,857.249520
21	1,260	21	53,580,300.109496
22	1,320	22	56,131,742.969472
23	1,380	23	58,683,185.829448
24	1,440	24	61,234,628.689424
25	1,500		

CHART FOR CHANGING OVER THE DAYS AND HOURS OF THE GREGORIAN
CALENDAR TO THE DAYS AND HOURS OF THE CALENDAR OF JEHOVAH GOD



281½. In the 74,983 lunations there were 2,214,292 days, or 10½ more. The correct day of the month is therefore September 22, which is 10½ days back from October 2, at 11:35:52 p.m. The full answer is that in the autumn of 4122 B.C. the new moon rose at, Jerusalem time, 8:23:27.504592 a.m., Sunday, September 22.

"So Teach Us to Number Our Days"

In the 90th Psalm, verse 12, in his prayer there recorded, Moses, the man of God, includes a petition, "Teach us to number our days." Surely the days of God are precious enough that once a year their number may be taken into account. Their grand total to date is considerably less than two and a quarter millions, a figure which, in these days, stated in dollars, is, in some quarters, considered small.

The year which begins in the spring of the year 1935 A.D. and ends in the spring of the year 1936 A.D. is the *Year of Ransom* (or, *Y.R.*) 1903. The year which began in the spring of the year 4028 B.C., and ended in the spring of 4027 B.C., was the year *Before Ransom* (or, *B.R.*) 4060.

Dates in March-December (inclusive) of any B.C. year are transformed into *B.R.* dates by the addition of 32 years to the B.C. date. Dates in January and February of any B.C. year are transformed into *B.R.* dates by the addition of 33 years to the B.C. date.

From the spring of 4028 B.C. to the spring of A.D.1935 is (4028+1935-1=) 5,962 years. From the spring of *Before Ransom* 4060 to the *Year of Ransom* 1903 is (4060+1903-1=) 5,962 years.

The vernal equinoxes should be numbered, year by year. They come but once a year. Counting as No. 0 the one that occurred in the spring of the year *Before Ransom* 4060 (4028 B.C.) the total number to and including the one in the spring of the *Year of Ransom* 1903 (A.D. 1935) is but 5,962. Surely it is not a laborious task to keep annual record of these gifts of God.

The Calendar of Jehovah God

The calendar of Jehovah God first appeared in the *Year Book* of Jehovah's witnesses for the year 1935, page 168. The page which there appeared is here reproduced, with some slight alterations found advisable.

CALENDAR

Jehovah's Year of Ransom 1903

	Lightday	Heavenday	Earthday	Starday	Lifeday	Mansday	Godsday
	*	*	*	*	*	*	*
Redemption	*	*	*	*	*	1†	2
First Month	3	4	5	6	7	8	9
(Exodus 12:2)	10	11	12	13	14	15	16
No. 73740	17	18	19	20	21	22	23
	24	25	26	27	28	29	

Life							1
Second Month	2	3	4	5	6	7	8
No. 73741	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30						

Visitment		1	2	3	4	5	6
Third Month	7	8	9	10	11	12	13
No. 73742	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29					

Freedom			1	2	3	4	5
Fourth Month	6	7	8	9	10	11	12
No. 73743	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30			

Vindication				1	2	3	
Fifth Month	4	5	6	7	8	9	10
No. 73744	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29		

Hope					1	2	
Sixth Month	3	4	5	6	7	8	9
No. 73745	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30

	Lightday	Heavenday	Earthday	Starday	Lifeday	Mansday	Godsday
King	1	2	3	4	5	6	7
Seventh Month	8	9	10	11	12	13	14
No. 73746	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30					

Peace			1	2	3	4	5
Eighth Month	6	7	8	9	10	11	12
No. 73747	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30			

Order					1	2	3
Ninth Month	4	5	6	7	8	9	10
No. 73748	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29		

Logos						1	2
Tenth Month	3	4	5	6	7	8	9
No. 73749	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30

Jehovah	1	2	3	4	5	6	7
Eleventh Month	8	9	10	11	12	13	14
No. 73750	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29						

Temple		1	2	3	4	5	6
Twelfth Month	7	8	9	10	11	12	13
No. 73751	14	15	16	17	18	19	20
	21	22	23	24	25	26	27*
	28†	29	30				

† This day, corresponding to Friday, April 5, 1935, is Edenic day No. 2177588, completing 311,084 weeks from the creation of Adam.

* Vernal equinox No. 5963, which is the last day of Jehovah's Year of Ransom 1903, occurs on this day.

‡ Jehovah's Year of Ransom 1904 begins with this day, corresponding to Sunday, March 22, 1936. It is Edenic day No. 2177940.

NOTE: *Lifeday, Redemption 14, 1903 Y.R.*, really begins at 6:00 p.m. of Wednesday, April 17, 1935 A.D., and was so shown in the calendar as originally published in the 1935 *Year Book*.

Lightday, the first day of the week, is commemorative of the great gift of light in creative epoch No. 1. (Genesis 1:3) For a full account of the work of this and the other creative days, see the Watch Tower publication *Creation*. Concerning this work a gentleman in Paterson, N. J., whose brother is a clergyman, said, "When I obtained possession of this book I hated God; when I had read it I loved Him."

Heavenday, second day of the week, is commemorative of the gift of an atmosphere, necessary to sustain the life of breathing creatures.—Genesis 1:8.

Earthday, third day of the week, is commemorative of the making of the beautiful home which God made for man and other breathing creatures.—Genesis 1:10-12.

Starday, fourth day of the week, is commemorative of the unfoldment of the magnificent pageantry of the heavens, suns, moons and stars inconceivable in number and beauty; the matchless spectacle of the universe. (Genesis 1:16) "Praise ye him, sun and moon: praise him, all ye stars of light."—Psalm 148:3.

Lifeday, fifth day of the week, will ever be commemorative of the great epoch in which the Creator first bestowed upon earthly creatures the unspeakable boon of life.—Genesis 1:20-22.

Mansday, sixth day of the week, will ever remind man of the gracious act of God in making the human creature and will remind him of the time when he was not in existence. (Genesis 1:26, 27) It was not at all necessary to the happiness of God that such a creature as man should ever have lived.

Godsday, seventh day of the week, reminds man for ever of the source of all his joys and hopes and the eternal resting place of his love.—Genesis 2:2, 3.

The hours of the day, as God arranged them, are six hours ahead of those days which man starts at midnight (and by which he rudely assumes to rend each beautiful night in twain). The hours of night are 12; the hours of daylight are 12. The first hour of the 24-hour period begins with the hour 12:00 D. (or, Day), and ends at 1:00 N. (or, Night). The sixth hour ends at midnight, 6:00 N. The twelfth hour is the last hour of the night, and there, 12:00 N., begins the daylight period of the day. It stands midway between midnight and the succeeding noon, which point, 6:00 D., is properly called the close of the 6th hour of the day. The 9th hour of the

day ends at 9:00 D., commonly designated 3:00 p.m. The day ends with the 12th hour, at 12:00 D.

"Man Became a Living Soul"

"The secret things belong unto [Jehovah] our God: but those things which are revealed belong unto us, and to our children for ever." (Deuteronomy 29:29) None may say at just what time "Jehovah God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul" (Genesis 2:7, *A.R.V.*), but this series of articles contains the strong evidence that it was in the spring of the year 4060 *Before Ransom* (4028 B.C.).

The evidence has already been presented that the vernal equinox that year was at 3:41 D., *Lifeday, Temple 28, 4060 B.R.* (3:41 p.m., Thursday, March 21, 4028 B.C.). The new moon appeared about 29 hours subsequently. 3:55 N., *Godsday, Temple 30, 4060 B.R.* (3:55 p.m., Friday, March 22, 4028 B.C.). If it subsequently appears that Jesus, the Second Adam, was born into the world about the ninth hour of the night (heretofore called three o'clock in the morning) would it be unreasonable to reverently hold the thought that the first Adam was completed about the same hour? That he was created sometime before sundown of that day certainly seems to be suggested by the reference to the "sixth day" in Genesis 1:31. These two events, equinox and new moon, rarely come so close together as they did on this occasion, and they come in the order that one would expect, if the creation of man occurred midway between them.

Concealed from clear vision behind the mists, the first moon shining over Adam was moon No. 0, month Redemption, and it may have been that even before that first month was ended he had need of the hope contained in God's mysterious statement to the great adversary, "I will put enmity between thee and the woman, and between thy seed and her seed; it shall bruise thy head, and thou shalt bruise his heel." (Genesis 3:15) There is no record as to the number of the days of innocence and happiness in Eden.

Using the Six-Thousand-Year Calendar

Glance now at the six-thousand-year calendar. Note the letter "H" in the year 3793 B.C. (3825 B.R., 235th vernal equinox). The year is the year of the birth of Enos, Adam's grandson. The Scriptures say that "*then* began men to call

themselves by the name of Jehovah". (Genesis 4: 26, margin) Then, while Adam had yet to live 695 years, hypocrisy had already begun in the earth. Adam at this time was but 235 years of age.

Glance again at the six-thousand-year calendar and note the letter "M" in the year 3341 B.C. (3373 B.R., 687th vernal equinox). Adam at this time was 687 years of age, but still had 243 years before he finished his course. Methuselah was born in this year. It is as certain as anything can be that Methuselah and Adam knew each other intimately for at least two hundred years. What the one knew, the other learned; what God had told the one, Adam, was (one would think) certainly told by him to the other, Methuselah. There is but one link necessary to connect Methuselah with Abraham; he (Shem) was contemporaneous with them both.

Using the six-thousand-year calendar again, note the "A" in the year 3098 B.C. (3130 B.R., 930th vernal equinox), the time of Adam's death; note the "E" which indicates that the godly Enoch was translated only 57 years later. It would be good to connect all the lettered points by ruled lines, so that explanations of the calendar may be made readily to friends. It will be

apparent that Adam had the privilege of living with Enoch 308 years, long enough for them both to learn much.

Note the "S1" in the year 2470 B.C. (2502 B.R., 1558th vernal equinox); this is the year of Shem's birth. From then until the "D" (for the Deluge and Methuselah's death) in the year 2373 B.C. (2405 B.R., 1655th vernal equinox), a period of over 97 years, Shem had abundant opportunities to learn all Methuselah knew.

Referring to the table containing list of "Lunations Ushering in the Years or Periods Which Contain the Most Important Events of History", it shows a new moon rising at 3:21 D., Earthday, Edenic day No. 604846, precursor of God's month No. 20482, 1656th vernal equinox, 2404 B.R. (9:21 a.m., Tuesday, March 26, 2372 B.C.).

But as the account of the Flood is the first place in the Scriptures where months are mentioned, and the question of when and how the months are to be reckoned arises, it is desirable that not only the days of the lunations, but the hours as well, should be determined as accurately as possible. To this end, use is made again of the eclipse cycles.

(To be continued)

"THIRTY DAYS HATH SEPTEMBER"

So begins the old rhyme intended to help children remember the number of days in each calendar month. But very few people give any thought to the question of *why* the months are arranged as they are, or why they are named the way "Christendom" has them. Who fixed it all up, anyway? and why should the whole world follow the arrangement? What authority is there for it all? Read "THE SECOND HAND IN THE TIMEPIECE OF GOD", a series of articles beginning in this issue, and you will appreciate why a new calendar should be adopted by those who would honor the Creator.

Incidentally, have you subscribed for The GOLDEN AGE? If not, begin now, with this issue, so that you may have every number in which these absorbingly interesting articles will be run.

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