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THE FIRST EVER MATHEMATICAL CHRISTIAN PERPETUAL FIXED SPACE CALENDAR

Re: the author has invented a perpetual automatic space IT calendar. The author used the proposed invention to create three specific calendars: 1) the space calendar for the space state of Asgardia (with a reference date from 2016 – from the date of the creation of the state of Asgardia); 2) to create the Christian space calendar UN with the traditional reference date "from the Christmas of Christ"; and 3) the universal unified lunar-solar space calendar the galactic calendar the Universe.

For the first time, this calendar has zero average error relative to the duration of the astronomical tropical solar year of Kepler and is designed to support the space activities of civilization in the era of colonization of the universe. The idea of the eternal mathematical calendar belongs to the Jewish Patriarch Hillel II Jr., who created the eternal Jewish lunar-solar calendar in 359 AD. This calendar is still valid in the State of Israel.

This medieval Jewish calendar has a lag error in relation to the reference astronomical standard of Kepler's astronomical tropical solar year, the size of which makes it unsuitable for use in the era of space colonization of the universe at speeds above the first cosmic velocity. For the first time, the author's proposed version of the perpetual mathematical fixed tropical calendar has no error in relation to the average duration of the astronomical tropical solar year of Kepler.

Therefore, it will find the widest application in the coming era of colonization of the universe at all four levels of cosmic velocities along with conventional speeds. This calendar is the basis for the unified universal lunar-solar cosmic calendar created by the author. The materials of the eternal mathematical fixed cosmic calendar are presented in detail in 36 articles on the author's website [6,7].

Abstract.
1). Mathematically calculated estimated "space" dates of Chistmas of Jesus Christ and John the Baptist – Forerunner.
2). The "space" supposed mathematical date of the Resurrection of Jesus Christ, as the key reference point time in world history. "Destroy this Temple, and I [again] will Resurrection it up in three days."

3). The proposed Christian mathematical fixed space calendar reflects the traditional values of world culture and science; it meets all the requirements of the coming era of colonization of the Universe according to the model proposed by K.E. Tsiolkovsky. In particular, it maximizes all space activities of the space civilization both on Earth and on the Moon.

Keywords. The space mathematical fixed Morozov-Kepler-Mendeleev calendar; mathematical "space" dates of the Chistmas, Crucifixion, and Resurrection of Jesus Christ; the coincidence of the date of Christmass with the date of the creation of the Julian calendar in Rome by G.J. Caesar. K.E. Tsiolkovsky's model of colonization of the Universe. The year of the Resurrection of Jesus Christ as the key reference standard point in world history.

I. Introduction

The year ends in 2025. More than fifty years have passed since the last Moon landing (the Apollo 17 mission took place in 1972). At the same time, today the Moon is one of the main goals of world cosmonautics.

So far, everything is difficult with a manned flight to the Moon - none of the countries is at the stage of development of the lunar program at which we can expect the guaranteed launch within the next few years.

We still don't even have a universally recognized "lunar time", although the US government set such a task for NASA back in 2024. *In Russia, the Government does not even set such a task for Roscosmos.* The author of the article proposed a purely mathematical fixed lunar-terrestrial Christian calendar that works in automatic mode.

The calendar of this mathematical fixed type has been in operation since 359 AD. This is the mathematical Jewish fixed calendar of Patriarch Hillel II the Younger. So far, no Christian calendar of this mathematical fixed type has been proposed.

The author expresses his own private opinion. His most accurate to date space calendar is the fixed mathematical system built by

1) based on the *principle of Morozov's calendar equivalence*, and

2) based on the *principle of the Morozov calendar constant*, it has been successfully operating on the global Internet for more than 9 years. [6,7]

Its average annual error relative to the duration of the tropical Kepler-Mendeleev solar year is *zero*.

It displays both the circular stepped Earth time and the linear smooth Lunar time equally well.

It is intended by the author for the purposes of colonizing the Universe. Anyone can familiarize themselves with it and put it into practice.

II. The history of the issue

Hieromonk Matthew Vlastar's "*Alphabetic Syntagma*" was written in 1335. It describes the state of the Julian calendar, introduced in the Roman Empire in 46 BC at the time of the earthly life of Jesus Christ.

The error of the Julian calendar was *675 seconds* per year relative to the duration of the tropical Kepler-Mendeleev solar year. One full day of the Julian calendar lag was formed over a period of *128 years*: [86400 (sec/day) / 675 (sec/year) = 128 (years/day)].

The date of the equinox fell at that time in 46 BC on *March 18, 46 BC*. However, by the beginning of the First Ecumenical Council in 325 AD in the city of Nicaea, this date had already shifted to March 21, which necessitated a reform of the calendar, which was managed only in 1582, creating a quasi-solar the Gregorian calendar with an annual error of *27 seconds* in relation to the duration of Kepler's tropical solar year, calculated by him in 1627 based on the materials of his teacher *Tycho Brahe* [1546-1601], the last astronomer before telescopic astronomy.

The Gregorian calendar is gaining an error lagging behind the duration of the real astronomical tropical year of Kepler, measuring 1 day, for 3200 years: [86400 (sec/day) / 27 (sec/year) = 3200 (years/day)].

Therefore, the Christian Church has a problem with accurate, unambiguous and uniform dating of Christian and Jewish Easter for the purposes of the same type of worship around the globe.

III. The mathematical algorithm of Gauss

1). *The problem was solved by the famous mathematician Gauss in 1800*. According to the algorithm of the "king of mathematicians" Gauss, created by him in 1800, all Christian seminaries and academies of the world calculate the first anniversary of the Christian Easter, that is, the date of the first anniversary of the *Resurrection* of Jesus Christ.

This year is the year 754 from the date of the founding of the city of Rome generally accepted by historians; or 777 from the date of the beginning of the first Olympic Games in the city of Olympia on the Peloponnese peninsula in Greece; or 5509 from the date of the biblical Creation of the world according to the Byzantine version; or 3761-3762 from the date of the Creation of the world according to the Jewish calendar. This date allows you to calculate the date of the *Resurrection* of Jesus Christ.

2). The year of the very fact of the *Resurrection* of Jesus Christ is generally recognized as the **zero date** of any Christian calendar [the calculation is carried out on cycle 15: **"0000" year or the current 15th cycle of the space calendar**:

[2025-1500=525/128=4.10 cycle] + [1500/128=11.71875 cycle] =15.820 cycle.

This is the year 753 from the date of the creation of the city of Rome; or 776 from the date of the first Olympic Games; or 5508 from the Byzantine version of the biblical Creation of the world; or 3760-3761 according to the Jewish calendar from the Creation of the world.

The Christian calendar is the Easter calendar [“Paschalia”], it is the calendar of the sacred annual Christian Easter, calculated purely mathematically by Karl Friedrich Gauss [1777-1855].

The proposed calendar is designed as a purely civil calendar, not as the church calendar, although there is no problem using it as a universal church calendar in any religion in the world.

3). *According to the Gospel of John, Chapter 2, verse 20:*

"The Jews said to him, 'By what sign will you prove to us that you have the authority to do this?' And the Lord [Jesus Christ answered them]: "Destroy this Temple, and I will Resurrection it up in three days."

The Jews replied, "This Temple took *forty-six* years to build, and you say, 'I will Resurrection it up in three days?"" (John 2:18-20).

St. Augustine of Hippo gave the following "Interpretation of a group of verses (John 2:20-20)": "Six, nine, twelve, ten and eight together give forty—five [years].

So, add the unit itself here, it will be *forty-six*; if you take this number six times, you get *two hundred and seventy-six [days]*..., that is, nine months and six days [276/30=9.2 months or 9 months and 6 days].

And this period is calculated from the eighth day of the *April calendar*, the day on which the Lord is believed to have been conceived, because on the same day He also suffered, and up to the *eighth day of the January calendar*, the day on which He was born.

So, it is reasonable to say that the Temple was built in *forty-six years*, because *it designated His body*, so how many years it took to build the Temple, the same number of days it took to perfect the body of the Lord (John 2:19-21)."

Jesus Christ was 46 years old at the time of his Crucifixion. This means that He was born in 707 from the creation of the city of Rome [753-46=707]; or in 730 from the first Olympiad [776-46=730]; or in 5462 from the date of the biblical Creation of the world according to the Byzantine version; or in 3714-3715 according to the Hebrew version from the date of the Creation of the world.

4). The husband of Elizabeth, the aunt of the mother of Jesus Christ, Mary, was the priest Zachary of the Levite family. He was a Cohen, that is, the direct descendant of Aaron, the brother of the prophet Moses, who, along with their sister, *the prophetess Mariam*, organized the Exodus of Jews [Jewish or "Old Testament" Passover] from Egypt on the full Moon of Nisan 14, according to various estimates, either in 1441 or in 1446 BC, which was the direct consequence Eruptions of the Tira *super-volcano* on the island of Santorini in the Aegean Sea.

Volcanic ash and a huge tsunami destroyed the place of compact residence of Jews and Hyksos in the fertile Nile Delta in *Lower Egypt*.

The Jews were not allowed into Upper Egypt by the Egyptians hostile to them, led by Pharaoh Thutmose III. Therefore, the Jews made an Exodus from Lower Egypt through the “Reed Sea”. It was a large Reed "sea" or Reed "swamp" with thickets of reeds – the source material for making papyrus in Egypt, which was located between the Red Sea and the Mediterranean Sea in the Salt Lakes region. Today, this place is occupied by the Suez Canal.

At the time of the outflow of water due to the huge tsunami, the Jews crossed the opened bottom of the Reed Sea to the Sinai Peninsula, where there were sources of clean drinking water for people and animals at the foot of Mount Sinai. Probably, the history of modern Israel began with this critical moment of the eruption of a super-volcano on the island of Santorini?

Priest Zachary served in the Jerusalem Temple as part of the Avian (Aryan?) "threads" [i.e., "queues"]. Each section [change of priests] served in the Temple for two weeks a year according to the lot of choosing the dates of service. At the same time, each section began the service and always ended it exactly on Saturday.

Priest Zachariah belonged to the eighth order, which served from the end of the eighth week. Zachary was the head of the entire eighth Cohen priesthood. By the order of King David, all Jewish Cohen priests were gathered into 24 groups [divisions or shifts or queues]. Each such section served at its exact time [two consecutive weeks], which was determined between them by lot.

The astronomical beginning of the year in the Jewish calendar begins with the *vernal equinox*, from *1 Nisan* (approximately from April 1). In 45 BC, eight weeks are two months (April and May), each with four weeks. A total of eight weeks Avian (or Aryan?) *"queues"* worked her two weeks in the first two weeks of June. In the second half of June, Zachary returned home. Elizabeth's pregnancy could not have occurred earlier than this period.

9 months later, John the Baptist-Forerunner was born, which took place no later than March *25, 46 BC* [in a non-leap year, and March *24* in the leap year], which will be the date of ***28 Aries 46 BC*** according to the space calendar. This is the deadline for the mathematical calculation of the Gauss algorithm.

The future "Mother of God," the Virgin Mary, ≈15 years old, came from Nazareth of Galilee to the city of Ein Karem, which was the suburb of Jerusalem, to help her aunt, who was six months pregnant and who was a 58-year-old woman giving birth late.

Mary was the virgin and was betrothed to widower Joseph Carpenter (the Betrothed), who was about 80 years old at the time. He released Mary to help Elizabeth, leaving her in the care of her husband, priest Zachariah, who first introduced Mary to the Second Jerusalem Temple at a young age of 3 and was well

known to her. After Elizabeth successfully gave birth to John the Baptist- Forerunner, the "Virgin Mary" returned to Nazareth, being already three months pregnant.

Exactly six months later, she also gave birth to her son, who was eventually named "Jesus Christ." This event mathematically took place according to the "cosmic" calendar around the date ***28 Libra 46 BC*** (September 09 in a non-leap year; and September 08 in a leap year according to the Gregorian calendar).

At first, the born child was considered "premature," but Joseph the Carpenter (the Betrothed) did not recognize him as his legitimate son. Therefore, the Orthodox Jews in Nazareth began to call him "illegitimate" [i.e., "bastard"].

When Jesus Christ turned 12 years old, in 34 BC, Joseph the Betrothed-Carpenter took him, the very intelligent boy, to the Second Temple in Jerusalem to study with Nasi himself, Hillel I the Babylonian (the Eldest) [75 BC – 10 AD], a direct descendant of King David.

Subsequently, Hillel I the Elder received the status and took the position of head of the Sanhedrin, to which, according to Talmudic sources, he was appointed 100 years before the destruction of the Second Jerusalem Temple (that is, in 30 BC).

Hillel I the Elder created his own professional school of "Pharisee teachers", named after him "Beth Hillel" (Hillel house).

Thus, he became the founder of the Nesia dynasty — all the subsequent heads of the Sanhedrin (with the exception of Rabbi Johanan ben Zakkai, who held this post immediately after the destruction of the Second Jerusalem Temple) were his descendants. [1] He was personally invited in 30 BC to serve in the Jerusalem Second Temple by King of Israel Herod I the Great [74/73 – 4 BC].

No other references to Joseph the Carpenter have been found in the Holy Scriptures. Jesus Christ received the most brilliant education of his time personally from Hillel I the Elder. He knew the Jewish Torah perfectly.

The question of the biological father of Jesus Christ is still open. Scientific genetics in humans and higher animals denies the fact of "immaculate conception," which biologically means "parthenogenesis." It was believed, for example, that his biological father could be the alleged "Roman soldier Panther (Pandira)."

In nature, parthenogenesis is noted only in female birds (turkeys and the California condor). The appearance of male birds through parthenogenesis is completely excluded. These can only be exclusively parthenogenetic females.

But is it impossible, at least theoretically, to exclude certain special circumstances and the existence of some kind of "artificial" insemination system without loss of virginity? From the point of view of modern scientific genetics, Jesus Christ could not have been born parthenogenetically. But who his biological father was remains unknown to this day. There is no historically reliable information on this topic.

However, this scientific statement has nothing to do with Orthodox Christian theological faith. Here we are talking about the real biological person, about Jesus

Christ, and not about a church clerical philosophical dogma, which by definition cannot be the science and therefore cannot be challenged by definition.

Clerical dogmas represent their own specific values on their own. They have their own serious historical basis for their own internal development.

Theology has a deep logic and exists as a philosophical "thing in itself", as a separate independent branch of philosophy and the history of philosophy. *But this is not the topic of this Article.*

Did someone allegedly take the life of Priest Zachariah in 44 BC, right during his divine service in the Jerusalem Temple 2 years after the birth of Jesus Christ? He was about 52 years old. Did the mother of Jesus Christ, Mary, pass away around 12 AD at the age of about 73?

In 46 BC, in the year of the Christmas [Nativity] of Jesus Christ, the Emperor and Chief Pontiff of Rome [pagan Pope] Gaius Julius Caesar [who considered himself a descendant of the goddess Venus] introduced a new "Egyptian" or "Alexandrian" calendar in Rome.

Two famous mathematical astronomers who worked at the Library of Alexandria, Konon of Samos and Archimedes of Syracuse, calculated this amazing calendar and for the first time introduced a corrective leap year into its structure. Every fourth year of the calendar has become such the *leap* year.

Pharaoh Ptolemy III Euergetes, in his Canopic Decree, testified on a stone about the introduction of this wonderful calendar in Egypt from *March 7, 238 BC*.

192 years later, in 46 BC, Rome's Chief Pontiff and Emperor, G.J. Caesar, made this calendar the state calendar of the Roman Empire, known today as the "Julian" calendar, named after him.

In 13 BC, at the age of 33, Jesus Christ was probably baptized by John the Baptist-Forerunner in the Jordan River and became a full member of his community of Essene Jews?

46 years after the adoption of the new national calendar, the *Romans* Crucified Jesus Christ, accusing him of trying to seize power in Israel and declare himself its king and Messiah.

It was 753 years after the creation of the city of Rome. Therefore, the year 753 from the creation of the city of Rome was accepted by Christians as the base year **zero ["0000" year]** according to the space calendar; and therefore, and as a result of this event, we have:

12 Taurus, “**0000”** - space Thursday [space "Last Supper", April 6 in a non-leap year and April 5 in a leap year];

Taurus 13, “**0000”** - space Friday [space Crucifixion of Jesus Christ, April 7 in a non-leap year and April 6 in a leap year];

Taurus 14, “**0000”** - space Saturday and at the same time the Jewish Passover [Exodus of Jews from Egypt, April 8 in a non-leap year and April 7 in a leap year];

Taurus 15, "**0000"** - the space Resurrection of Jesus Christ and the Christian Easter [April 9 in a non-leap year and April 8 in a leap year]. "Destroy this Temple, and in three days I [again] will Resurrection it up."

IV. The Death of John the Baptist-Forerunner

John the Baptist-Forerunning, the uncle of Jesus Christ, was killed in the prison of the Macherus fortress on the ***18th day of Libra*** [August 30 in a non-leap year; and August 29 in a leap year; the month "1 That" according to the Egyptian calendar] in the leap year 5 BC [*-0004 year*].

This murder was the "gift" for Herod Antipas' birthday [20 BC-39 AD] from his *second* wife, Herodias, and her daughter from her *first marriage*, Salome?

The murder was committed around the leap year 5 BC (on the eve of the death of King of Israel Herod I the Great, which followed around 4 BC [-0003], after which Herod Antipas became tetrarch of Galilee and Perea.

It was against his candidacy for the place of the new king of Israel that John the Baptist and his nephew Jesus Christ, who claimed to be the Jewish Messiah, came together. But the Romans supported the candidacy of Herod Antipas.

The Gospel of Matthew, Chapter 11, verses 2-3, is reported: "Are you the One who is to come, or should we expect someone else?"

John the Baptist wrote to Jesus Christ and handed over his leadership of the Essene community to Jesus Christ.

Three times after this date of the transfer of control of the community, Jesus Christ was with his followers at the Jewish Passover in the Jerusalem Temple as the Head of the community of Essene Jews.

During his fourth visit to the Temple in 753 years after the creation of the city of Rome for the purpose of celebrating the Jewish Passover, Jesus Christ was arrested in Jerusalem by the spies of Herod Antipas, tried by the Romans, Crucified, and after the Crucifixion on the third day He again Resurrection.

This event of the Resurrection of Jesus Christ was recognized as the key event by the pagans of the Middle Ages. It served as a trigger for the spread of *Christianity as the world religion.*

Orthodox Sadducee Jews in Israel did not recognize the fact of the Messiahship and Resurrection of Jesus Christ.

The Jewish Sadducees were supported by the Emperors of Rome, beginning with Augustus Octavian [63 BC – 14 AD] and ending with Constantine I the Great [272 – 337 AD].

The latter himself renounced Roman paganism, all the Olympic gods and the Olympic Games in their honor.

He himself was baptized and de facto made Christianity the state religion of the Roman Empire in 325 AD at the First Ecumenical Christian Council in Nicaea.

The calendar of G.Y. Caesar in Rome and Constantinople, on the one hand, and the Jewish calendar of Patriarch Hillel II and Rabbani Moshe ben Maimon [Maimonides or Rambam], on the other hand, would seem to have radically diverged historically. *But they didn't disagree on everything*.

There are three main periods in the history of the Jewish calendar:

1). *biblical*, from Moses to Ezra and Nehemiah (1500-450 BC.),

2). *post-Biblical* (before the destruction of the second Temple in 70 AD.),

3). *Talmudic*, before the completion of the compilation of the Talmud (70-500 AD.).

In *the first period*, the beginning of the months and holidays were determined solely by "the vision of the new Moon" and the state of the Sun;

in the *second period*, partly on the vision of the Moon and the state of the Sun, partly on mathematical calculations,

in the *third period*, mainly on purely mathematical calculations.

V. The idea of a mathematical fixed lunar-solar calendar by Patriarch Hillel II the Younger [nasi from 320 A.D. to 365 A.D.]

The first in history to create a permanent, fixed, purely mathematical calendar came to the mind of the Jewish patriarch *Hillel II Nesia*, nicknamed Hillel II the Younger, when he was the head of Beit Din (in the IV century AD).

This fixed mathematical calendar of Hillel II is based on several rules that allow you to accurately know [predict] the days of the year even more about how they started, without any information from witnesses about what happens to the phases of the moon in Israel.

This was important for all Jews living in the Diaspora around the world. Hillel II Jr. made calculations and by this action consecrated all future new Moons. He was ordained and had unlimited authority to consecrate new Moons, because for the mathematical consecration of the month, one does not need to be in Israel at this moment in time, one can consecrate months in advance and establish new Moons not only through testimonies, *but also through rigorous mathematical calculations*.

Hillel II took advantage of this opportunity: from his time, he consecrated and predicted all future months *until the Moshiach came* and *restored the Sanhedrin*. **He created the eternal Jewish calendar.**

This is the basis of the authority of the modern Jewish calendar until today. Hillel II Jr.'s fixed mathematical calendar solves not only the problem of months and years, but also the problem of days of the week: it is important that Rosh Hashanah does not fall on Sunday, Wednesday and Friday.

In this case, Passover will not be on Monday, Wednesday and Friday. In Hillel II Jr.'s calendar, Rosh Hashanah never falls on a Sunday, Wednesday, or Friday.

If we know on which day of the week the holy Passover begins this year, then we can easily calculate on which day of the week the civil new year Rosh Hashanah will begin next year – this will happen two days a week later than Passover.

The use of mathematics in calculating calendar dates **instead** of a specific astronomical observation of the phases of the Moon at the latitude of Israel in Jerusalem was approved by a decree of Patriarch Hillel II Jr. in 359. The beginning of the chronology corresponds to October 7, 3761 BC according to the Gregorian calendar. [2]

The months and new year of Rosh Hashanah always begin exactly on the mathematical new moon, so that each date falls on the same phase of the moon. And the holidays of Passover and Sukkot are always held on the mathematical full Moon.

In 359, Patriarch Hillel II the Younger introduced *the purely mathematical fixed Jewish calendar*, which was improved several times and finally adjusted in 1178 by the famous Jewish theologian Maimonides [Moshe ben Maimon (1135-1204)], a physician and adviser to Sultan Saladin, who conquered Jerusalem from the Crusaders in 1187. [3]

In addition, it is very easy to determine in advance on which days of the week all holidays for the coming year will begin, knowing on which day of the week Passover will begin. To do this, pairs are formed from the letters of the alphabet: the first letter from the last (aleph – tav), the second from the penultimate (beth – shin), and so on, up to the sixth from the beginning and from the end. The letters of the first half of the alphabet mean the first six days. Passover, and the letters from the second half of the alphabet hint at one of the holidays. These holidays begin on the same day of the week as the corresponding Passover day.:

Aleph – the first day of Passover | Tav – Tisha b'av (9 Av)
Beth – the second day of Passover | Shin Shavuot
Gimel – the third day of Passover | Reish Rosh Hashanah
Dalet – the fourth day of Passover | Kuf – Simchat Torah
The fifth day of Passover | Tzaddik – Yom Kippur
Vav – the sixth day of Passover | Pei Purim

Beit Din not only decides whether the year will be a leap year, but also precisely sets the beginning of the month. When the Jews were ready to leave Egypt, God revealed himself to them and gave them the commandment of Passover and another commandment.:

"And the Lord spake unto Moses and Aaron in the land of Egypt, saying, This month is for you [Nisan] the beginning of the astronomical months of the year; it is the first of your months of the year" (Shmot, 12:1-2).

This means that the month, which until now depended on the rotation of the moon, is now our responsibility and in our power. Thus, the Beit Din decides when the previous month ends and the next begins, that is, it sanctifies the month.

And although Beit Din knows exactly when the next month begins from an astronomical point of view, the commandment of the consecration of the month requires waiting until the witnesses who saw the "new Moon" come. Only after their arrival can the beginning of any month be proclaimed.

If the witnesses do not come, the Beit Din waits until the afternoon prayer of the next day and after that does not receive any more witnesses, and proclaims the new month the next day – on the thirty-first day of the previous month. The moment of the new moon is very important so that everyone knows on what day the holidays are coming.

In order to get the witnesses to come and give evidence, large feasts were held for them. After checking the testimonies and the Beit Din's decision, the month was consecrated, and **the entire nation had to be informed about the consecration of the month.**

At first, this was done with the help of telegraphy torches: people with signal torches stood on the tops of the highest mountains, and after Beit Din's decision in Jerusalem, they lit a torch, gave them a conditional signal, which was received by another person on the next mountain and passed on. And so, the news spread throughout Israel.

But this system was easy to intercept: Samaritans began to send signals earlier than the new month was announced in order to misinform Jews. Therefore, instead of torchlight signals, they decided to send messengers.

Thus, the Jewish calendar became permanent, purely mathematical, predictable in advance, and exists for many years ahead, regardless of the specific state of the Moon and Sun. [4]

According to Judaism, the first astronomical month of the year in the calendar is the resultant spring month of Nisan, from which all religious holidays are counted. This is the astronomical (religious) Jewish New Year.

But the first civil month is the resultant autumn 7th month (Tishrei - Libra), when the civil new year Rosh Hashanah is celebrated. *Thus, the Jewish calendar has taught two New Years:*

1) by the date of the vernal equinox; and

2) by the date of the autumnal equinox.

The entire Jewish calendar is based on the definition of the first new Moon (the new Moon of the Universe), which, according to Jewish calculations, took place on *Monday, October 7, 3761 BC*, at 5 a.m. and 204 p.m. (that is, 17 hours 11 minutes 20 seconds).

In Jewish calendar calculations, one hour is divided into 1080 parts (a multiple of all single—digit divisors except 7), and each part is divided into 76 moments.

According to tradition, at exactly 14 o'clock (that is, at 8 a.m.) on *Friday, March 1, in the year of the Creation of the world [in 5508 BC according to the Byzantine version], when the biblical Adam was created, Molad began.*

If we apply the current rule to this date, then since Rosh Hashanah cannot fall on a Friday (see below), the next day will be not only the first Shabbat, but also the first Rosh Hashanah.

This is considered Rosh Hashanah of the second year, since the six days of creation must refer to some year, which is designated as the first year. If we move in the opposite direction, then the previous Molad Tishri fell on Monday, that is, on the second day, at 5 o'clock and 204 halakim. (If we count the days from midnight to midnight, then in fact it is 11:204 halakim on Sunday evening.)

If you write 2, 5, 200, 4 Hebrew letters, you get BeHaRaD, so this Molad is known as Molad BeHaRaD. This is also sometimes called Molad Tohu ("the formless one"), as it happened when the world was still "formless and empty" (Genesis, ch. 1).

The date of this Molad and Rosh Hashanah for 1 year would have been *Monday, September 7, 3761 BC* according to the Gregorian calendar (*October 7, Julian Time*).

Note: when working with dates before our era, remember that there was no "0" year then; 1 year before our era was immediately followed by 1 year of our era. Thus, the time interval, say, from June 1, 5 BC to June 1, 5 AD, is only nine years, not ten.

The date and time of each molad, or new Moon, is calculated by adding a standard interval of 29 days, 12 hours, and 793 halakim to the date and time of the previous new Moon [29,530 days].

If you are only interested in the day of the week and the time of prayer, you can drop four weeks or 28 days and just add 1 day, 12 hours and 793 halakim. If the result is 8 days or more, subtract a week.

When compiling the civil calendar, only the month of Tishri is taken into account. Thus, to determine the calendar, it is enough to start with Molad Tishri and add 12 standard intervals (i.e. 354 days, 8 hours, 876 halakim) if it is a regular year, and 13 standard intervals (i.e. 383 days, 21 hours, 589 halakim) if it is a leap year.

Again, if we are only interested in the days of the week and the time, we can discard 50 and 54 weeks respectively and get 4 days, 8 hours, 876 halakim and 5 days, 21 hours, 589 halakim.

The calculation can be started from any known mold. To save time, if we need a date that is many years away from the known molad, we can add a molad for the 19-year cycle of Methone, 6939 days, 16 hours, 595 halakim or, excluding full weeks, 2 days, 16 hours, 595 halakim.

The use of other modafinils. Prayers in other months are of great importance for determining whether a new moon blessing ceremony can be held.

There are many rules and customs related to this, but in particular, the ceremony is usually not performed for at least 72 hours after sunset to make sure that the Moon will be clearly visible.

It should not be held more than 14 days, 18 hours and 396 halakim after the Break, since after this time (half a day before the middle of the journey from one Break to the next) The moon is considered to be waning, not waxing.

The average fixed Jewish lunar-solar molad is the interval between any two identical phases of the Moon [for example, two consecutive full moons] for an observer on Earth, on average: 29,530 days.

For space flights, the accuracy of the medieval Jewish calendar is clearly insufficient. The Jewish mathematical fixed calendar of Patriarch Hillel II has a duration of 365.2468 days = 31,557,323.52 seconds. Kepler's tropical solar year is 365.2421875 days = 31,556,925 seconds.

The Jewish mathematical fixed calendar of Patriarch Hillel II is longer than the solar tropical year of Kepler by 398.52 seconds=6.642 minutes =6 minutes 38.52 seconds.

Thus, one day [1 day] of errors in the Jewish Hillel II calendar will run up in *216.80 years*: [86400 (sec/day) / 398.52 (sec/year) =216.80 years/day].

VI. Conclusion.

The author expresses his own private opinion. His most accurate to date is the cosmic Christian calendar fixed mathematical system, built by

1) based on the principle of Morozov's calendar equivalence, and

2) based on the principle of the Morozov calendar constant, it has been successfully operating on the global Internet for more than 9 years.

Its average annual error relative to the duration of the tropical Kepler-Mendeleev solar year is zero.

It displays both the circular stepped earth time and the linear smooth lunar time equally well.

It was proposed by the author for the purposes of colonizing the universe. Anyone can familiarize themselves with it and put it into practice.

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