NEW 2009 by Mikhail Petin

World Dual Calendar

3 calendars in one:
- lunar-solar (new),
- solar (new),
- solar Gregorian.

mon	tue	wed	thu	fri	sat	sun	lunaday
23	24	25	26	27	28	29	30
20.12.08	21.12.08	22.12.08	23.12.08	24.12.08	25.12.08	26.12.08	27.12.08

Note: 21.12.08, ... 15.03.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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Http://CalendarPetin-Meton.narod.ru

NEW 2009

The World PETIN - METON *Calendar*

Lunation 1

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
28.12.08	29.12.08	30.12.08	31.12.08	01.01.09	02.01.09	03.01.09	-
8	9	10	11	12	13	14	15
04.01.09	05.01.09	06.01.09	07.01.09	08.01.09	09.01.09	10.01.09	11.01.09
16	17	18	19	20	21	22	-
12.01.09	13.01.09	14.01.09	15.01.09	16.01.09	17.01.09	18.01.09	-
							-
23	24	25	26	27	28	29	30
19.01.09	20.01.09	21.01.09	22.01.09	23.01.09	24.01.09	25.01.09	26.01.09

Note: 18.01.09, ... 25.01.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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NEW 2009

The World PETIN - METON *Calendar*

Lunation 2

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
27.01.09	28.01.09	29.01.09	30.01.09	31.01.09	01.02.09	02.02.09	-
8	9	10	11	12	13	14	15
03.02.09	04.02.09	05.02.09	06.02.09	07.02.09	08.02.09	10.02.09	11.02.09
16	17	18	19	20	21	22	-
11.02.09	12.02.09	13.02.09	14.02.09	15.02.09	16.02.09	17.02.09	-
							-
23	24	25	26	27	28	29	-
18.02.09	19.02.09	20.02.09	21.02.09	22.02.09	23.02.09	24.02.09	-
							-

Note: 15.02.09, ... 22.02.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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NEW 2009

The World PETIN - METON *Calendar*

Lunation 3

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1 25.02.09	2 26.02.09	3 27.02.09	4 28.02.09	5 01.03.09	6 02.03.09	7 03.03.09	-
							-
8 04.03.09	9 05.03.09	10 06.03.09	11 07.03.09	12 08.03.09	13 09.03.09	14 10.03.09	15 11.03.09
16 12.03.09	17 13.03.09	18 14.03.09	19 15.03.09	20 16.03.09	21 17.03.09	22 18.03.09	-
							-
							-
23 19.03.09	24 20.03.09	25 21.03.09	26 22.03.09	27 23.03.09	28 24.03.09	29 25.03.09	30 26.03.09

Note: 15.03.09 ... 22.03.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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NEW 2009

The World PETIN - METON *Calendar*

Lunation 4

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
27.03.09	28.03.09	29.03.09	30.03.09	31.04.09	01.04.09	02.04.09	-
8	9	10	11	12	13	14	15
03.04.09	04.04.09	05.04.09	06.04.09	07.04.09	08.04.09	09.04.09	10.04.09
16	17	18	19	20	21	22	-
11.04.09	12.04.09	13.04.09	14.04.09	15.04.09	16.04.09	17.04.09	-
							-
23	24	25	26	27	28	29	-
18.04.09	19.04.09	20.04.09	21.04.09	22.04.09	23.04.09	24.04.09	-
							-

Note: 12.04.09, ... 19.04.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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NEW 2009

The World PETIN - METON *Calendar*

Lunation 5

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
25.04.09	26.04.09	27.04.09	28.04.09	29.04.09	30.04.09	01.05.09	-
8	9	10	11	12	13	14	15
02.05.09	03.05.09	04.05.09	05.05.09	06.05.09	07.05.09	08.05.09	09.05.09
16	17	18	19	20	21	22	-
10.05.09	11.05.09	12.05.09	13.05.09	14.05.09	15.05.09	16.05.09	-
							-
23	24	25	26	27	28	29	30
17.05.09	18.05.09	19.05.09	20.05.09	21.05.09	22.05.09	23.05.09	24.05.09

Note: 10.05.09, ... 17.05.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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NEW 2009

The World PETIN - METON *Calendar*

Lunation 6

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
25.05.09	26.05.09	27.05.09	28.05.09	29.05.09	30.05.09	31.05.09	-
8	9	10	11	12	13	14	15
01.06.09	02.06.09	03.06.09	04.06.09	05.06.09	06.06.09	07.06.09	08.06.09
16	17	18	19	20	21	22	-
09.06.09	10.06.09	11.06.09	12.06.09	13.06.09	14.06.09	15.06.09	-
							-
23	24	25	26	27	28	29	-
16.06.09	17.06.09	18.06.09	19.06.09	20.06.09	21.06.09	22.06.09	-
							-

Note: 14.06.09, ... 21.06.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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NEW 2009

The World PETIN - METON Calendar

Lunation 7

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
23.06.09	24.06.09	25.06.09	26.06.09	27.06.09	28.06.09	29.06.09	-
8	9	10	11	12	13	14	15
30.06.09	01.07.09	02.07.09	03.07.09	04.07.09	05.07.09	06.07.09	07.07.09
16	17	18	19	20	21	22	-
08.07.09	09.07.09	10.07.09	11.07.09	12.07.09	13.07.09	14.07.09	-
							-
23	24	25	26	27	28	29	30
15.07.09	16.07.09	17.07.09	18.07.09	19.07.09	20.07.09	21.07.09	22.07.09

Note: 12.07.09, ... 19.07.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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NEW 2009

The World PETIN - METON *Calendar*

Lunation 8

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
23.07.09	24.07.09	25.07.09	26.07.09	27.07.09	28.07.09	29.07.09	-
8	9	10	11	12	13	14	15
30.07.09	31.07.09	01.08.09	02.08.09	03.08.09	04.08.09	05.08.09	06.08.09
16	17	18	19	20	21	22	-
07.08.09	08.08.09	09.08.09	10.08.09	11.08.09	12.08.09	13.08.09	-
23	24	25	26	27	28	29	-
14.08.09	15.08.09	16.08.09	17.08.09	18.08.09	19.08.09	20.08.09	-

Note: 09.08.09, ... 16.08.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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http://Calendar/Petin-Meton.narod.ru/index.htm

NEW 2009

The World PETIN - METON *Calendar*

Lunation 9

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
21.08.09	22.08.09	23.08.09	24.08.09	25.09.09	26.09.09	27.09.09	-
8	9	10	11	12	13	14	15
28.08.09	29.08.09	30.08.09	31.08.09	01.09.09	02.09.09	03.09.09	04.09.09
16	17	18	19	20	21	22	-
05.09.09	06.09.09	07.09.09	08.09.09	09.09.09	10.09.09	11.09.09	-
							-
23	24	25	26	27	28	29	30
12.09.09	13.09.09	14.09.09	15.09.09	16.09.09	17.09.09	18.09.09	19.09.09

Note: 06.09.09, ... 13.09.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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http://Calendar/Petin-Meton.narod.ru/index.htm

NEW 2009

The World PETIN - METON *Calendar*

Lunation 10

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon 1 20.09.09	Hilal 2 21.09.09	3 22.09.09	4 23.09.09	5 24.09.09	6 25.09.09	7 26.09.09	-
8 27.09.09	9 28.09.09	10 29.09.09	11 30.09.09	12 01.10.09	13 02.10.09	14 03.10.09	15 04.10.09
16 05.10.09	17 06.10.09	18 07.10.09	19 08.10.09	20 09.10.09	21 10.10.09	22 11.10.09	-
23 12.10.09	24 13.10.09	25 14.10.09	26 15.10.09	27 16.10.09	28 17.10.09	29 18.10.09	-

Note: 11.10.09, ... 18.10.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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http://CalendarPetin-Meton.narod.ru/index.htm

NEW 2009

The World PETIN - METON *Calendar*

Lunation 11

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon	Hilal						-
1	2	3	4	5	6	7	-
19.10.09	20.10.09	21.10.09	22.10.09	23.10.09	24.10.09	25.10.09	-
8	9	10	11	12	13	14	15
26.10.09	27.10.09	28.10.09	29.10.09	30.10.09	31.10.09	01.11.09	02.11.09
16	17	18	19	20	21	22	-
03.11.09	04.11.09	05.11.09	06.11.09	07.11.09	08.11.09	09.11.09	-
							-
23	24	25	26	27	28	29	30
10.11.09	11.11.09	12.11.09	13.11.09	14.11.09	15.11.09	16.11.09	17.11.09

Note: 08.11.09, ... 15.11.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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http://CalendarPetin-Meton.narod.ru/index.htm

NEW 2009

The World PETIN - METON *Calendar*

Lunation 12

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon 1 18.11.09	Hilal 2 19.11.09	3 20.11.09	4 21.11.09	5 22.11.09	6 23.11.09	7 24.11.09	-
8 25.11.09	9 26.11.09	10 27.11.09	11 28.11.09	12 29.11.09	13 30.11.09	14 01.12.09	15 02.12.09
16 03.12.09	17 04.12.09	18 05.12.09	19 06.12.09	20 07.12.09	21 08.12.09	22 09.12.09	-
23 10.12.09	24 11.12.09	25 12.12.09	26 13.12.09	27 14.12.09	28 15.12.09	29 16.12.09	

Note: 06.12.09, ... 13.12.09 - are Sundays - Old in the 7-day week (astronomically wrong).

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http://Calendar/Petin-Meton.narod.ru/index.htm

NEW 2010

The World PETIN - METON *Calendar*

Lunation 1

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Lunaday
New Moon 1 17.12.09	Hilal 2 18.12.09	3 19.12.09	4 20.12.09	5 21.12.09	6 22.12.09	7 23.12.09	-
8 24.12.09	9 25.12.09	10 26.12.09	11 27.12.09	12 28.12.09	13 29.12.09	14 10.01.09	15 11.01.09
16 01.01.10	17 02.01.10	18 03.01.10	19 04.01.10	20 05.01.10	21 06.01.10	22 07.01.10	-
23 08.01.10	24 09.01.10	25 10.01.10	26 11.01.10	27 12.01.10	28 13.01.10	29 14.01.10	30 15.01.10

Note: 03.01.10, ... 10.01.10 - are Sundays - Old in the 7-day week (astronomically wrong).

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http://Calendar/Petin-Meton-Hanol-lunaday.htm

Introduction

In 1834 the Italian priest Marco Mastrofini (1763 - 1845) offered to create the World and "eternal" calendar and has shown, that its invariance can be achieved only by application of so-called "special days ", i.e. such which would not be days of week or month. Marco Mastrofini offered to establish a calendar year in 364 days, i.e. in 52 full seven-day weeks, and to place 365-th day of a year at the end of December of each year, considering it "special" or "out of week".

It was offered to enter one more «special» day in a leap year and to place it in the middle of a year, between the last day of June and the first day of July, or behind the first «special» day.

In 1888 French astronomer Gustav Armelin has developed a calendar, in which the calendar year of 364 days was divided into 12 months with four equal quarters with 91 days in each one. As number 91 is multiple to number 7, it turned out that each quarter had 13 weeks and each quarter began with the same day of week. The 365-th day of a year was considered «out of week», it was before the first of January and it was called the New Year Day.

The Armelin`s project has received the first premium of the French astronomical society, but as the World calendar was not accepted.

Since the first years of the twentieth century there were a lot of new projects of the world calendar.

Introduction

In 1923 the International calendar reform committee was created at League of Nations in Geneva. During its existence the committee has considered and published a huge quantity of projects which have been received from different countries of the world from national committees on reform of a calendar, scientific organizations and private persons.

In 1937 the committee has initiated two projects of calendars for discussion in League of Nations - the French one with 12-months and the Swiss one with 13-months having 28 days in each month. The Swiss project was rejected, but the French one was approved by 70 countries (even earlier in 1922 the project of such calendar was approved by the International astronomical union). However the resistance of the church and the beginning of the second world war have prevented the realization of calendar reform.

In 1953 the calendar reform problem was discussed again in the UNO under the initiative of the Indian delegation which has offered «to ratify for the whole of the world a new, uniform and constant calendar, astronomically coordinated with the movement of the Earth around the Sun which would be more correct, scientifically reasonable and favourable, as compared with the Gregorian calendar».

In 1954 the project of a new 12-month's calendar was approved by the 18-th session of Economic and Social Council of the UNO and was recommended for consideration at the General Assembly of the UNO. In it the calendar year was divided into 4 quarters with 91 days in each quarter. It was offered to name the «out of calendar» day (the day before the 1st of January) as Peace and Friendship of the peoples Day, while the «out of calendar» day of a leap-year (between June 30 and July 1) – a Leap day.

The great difficulties in achievement of general approval by all countries of the given calendar project however were found out (1956). They are explained by the influence of church in a number of states. The Governments of the USA, Great Britain, the Netherlands, Indonesia and some other countries have refused to accept the project of a new calendar, explaining the decision by religious reasons.

It is necessary to note, that the project of the given reform was directed on elimination of lacks of only solar Gregorian calendar. It was offered to improve only its internal structure.

In this connection it is expedient to touch some questions of structure of a solar calendar.

The supporters of that or other variant of the solar calendar structure pay little attention to the essence, the reasons of durability and historical prospect of such time units as month and week.

It has been two thousand years since the time of Julian solar calendar creation (46 BCE), when the month has ceased to be connected with a revolution of the Moon. By turning from an astronomical-calendar into a simple one, the month has successfully passed this long test and was kept as the necessary time unit convenient for fixation the seasonal phenomena in nature and the appropriate economic and household measures in society.

Being the twelfth part of a solar year, the month has turned from a lunar measure of time into solar, has become a solar seasonal month. The month as a time unit is also used and in those spheres of life and activity of people, which are not connected or a little connected to the seasonal phenomena. For example, in industry the monthly operative planning, account and reporting, calculation of the cost price, drawing up of intermediate balances and so on is conducted. Many financial and calculating operations, including those with salary, various time-tables, monthly periodicity of the majority of issued magazines - all this and much another confirms expediency and necessity of such time unit as the month.

The week as well as the month has also arisen on the basis of the astronomical phenomenon. Besides the week has passed through thousands of years as the norm of work and rest: six days to work, the seventh one - to have a rest. The church perception of a week in Jewish, Islamic, Christian and other religions has only fixed this norm.

In the Julian calendar the seven-day week was introduced by Roman Emperor Constantine in the 4th century CE, who had probably modeled the week on the Christian sabbatical cycle (see web-site: http://www.personal.ecu.edu/mccarhy/constantine.html).

The modern scientific and technical revolution has resulted in rapid increase of labour productivity in the national economy, which led to transition to two days off per week. However, this change has not resulted in reduction of a seven-day week. The week duration has preserved for the future.

For the sake of justice it is necessary to tell, that theoretically it is more correct to add to the church 7-day week the 8-th weekday (additional "sacred" day of rest) - Lunaday (on month dates 15 and 30). In this case the same date of each month will fall for the same weekday and will coincide with the same phase of the Moon.

For example, date 1 of each month will coincide with a weekday - Monday and a Moon's phase – New Moon, date 15 of each month will coincide with a weekday - Lunaday and Moon's phase - Full Moon etc.

The periods - month and week - have historically arisen owing to the observation over the changes of the Moon phases and its position about the Earth. The Moon within a year, in comparison with the Sun more often (approximately in 12 times) changes its position concerning the Earth. The Moon like the Sun influences an electromagnetic field of the Earth, add and flow phenomena, weather, growth of plants, biorhythms of the vegetative and animal world, medical health and religious way of life of the people etc.

However, in solar calendars the opportunity to determine simply the position of the Moon (phases of the Moon), proceeding from numbers of month or days of week, is absent. It is an essential defect, which makes solar calendars less perspective for daily application, especially as the Global Calendar.

Obviously, the principles of the further improvement of a calendar should consist not only in elimination of solar calendar defects, but also in preservation the astronomical-calendar meaning of such components of calendar structure, as the terrestrial day, lunar month and week, solar year.

The project of the new World Dual Calendar (solar + lunar-solar) created on the basis of the mentioned above principles by further improvement of internal structure of a lunar-solar calendar is shown in the given book.

RESUME

The solar Gregorian calendar, which practically functions now as a World calendar is nevertheless perceived nowadays by the most of our planet population only as Western or Christian calendar.

The analysis a history of creation of the Gregorian calendar and of its lacks shows the influence on it of certain subjects and phenomena. For example, one can assert that there is the following dependence:

An industrial cycle (work, rest) - a calendar - Nature (the Sun, the Moon, the Earth).

In recent times (IV-th century CE) Christian Church exerted an influence on the calendar: a mythical industrial cycle (7-day week) was introduced into the calendar, which is present in the calendar at the present time.

There observed in Nature the cycles connected with the seen movement of heavenly bodies (the Sun, the Moon, the Earth). These natural cycles are reflected in a calendar. They are the calendar basis and are used for counting of long time intervals. For example, the seen Sun movement defines the seasonal solar year in the calendar, the Moon movement - the month (lunation), the Earth rotation - the sutki (day + night).

A mythical 7-day week is absent in nature.

A calendar problem, in particular, lies in the fact that in the IV-th century CE the Roman Emperor Constantine has wrongly introduced a 7-day week into the solar (Julian) calendar. Unfortunately, this mistake was not corrected in 1582 by Rome Pope Gregory XIII and by the author (reformer) Christother Clavius while making the Julian calendar reform.

The mistake of Emperor Constantine is in the inequality between the duration of a CALENDAR month and the average duration of the NATURAL lunar cycle (29,5305888531 sutki).

Strictly speaking, the duration of one week should be equal to:

29, 530 588 853 : 4 = 7,382 ... sutki.

Further, taking into account the idea, that in any calendar there can be only the integers (fractional numbers should be approximated to the nearest integers) it is necessary to consider, that:

I week = 7, 38 x 1 = 7, 38 = 7 sutki, i.e. 7
I + II week = 7, 38 x 2 = 14, 76 = 15 sutki, i.e. 7+8
I + II+III week = 7, 38 x 3 = 22, 14 = 22 sutki, i.e. 7+8+7
I+II+III+IV week = 7, 38 x 4 = 29, 53 = 30 (or 29) sutki, i.e. 7+8+7+8(or 7).

Thus, the conclusion follows: For conformity the CALENDAR months and the NATURAL lunar cycles, the following conditions should be:

- the calendar months (lunations) should have structures - 7+8+7+8 (30 sutki) and 7+8+7+7 (29 sutki), grouped in the Meton-cycles known from the ancient times (before the Julian and Gregorian calendars).

The Gregorian calendar is rather accurate and widespread but besides an erroneous 7-day week it has a number of lacks:

- the duration of months is different (from 28 up to 31 days),
- the months of different duration alternate randomly,
- the quarters of a year have different duration (from 90 to 92 days),
- the first half-year period is always shorter than the second one (three days - in an ordinary year and two days - in a leap year),
- the years and months begin with different week days,
- 10 - 11 weeks "are split ", i.e. one part of them belongs to one month, the other part belongs to the other month,
- the number of working days in different months of the same year is various (23-27 days at a six-day working week and 19-23 days at a five-day working week),
- the dates of months are not coordinated with week days as well as the with Moon phases,
- the calendar is not convenient for women (in a female calendar the periods of the women biorhythms are close to the periods of lunar cycles),
- a non-Christian part of the Earth's population (5 billion persons from 6 billion of the total number of people on the Earth) criticizes the Gregorian calendar (see web-site - http://www.icacci.org/english/pages/home.html),
- the initial date in a calendar is only a myth, a legend, but not the fixed astronomical phenomenon.

How can all these lacks be eliminated?

A New World Calendar should:

- be a double calendar, i.e. a solar (seasonal) and a lunar-solar one.
  Note. Such official STATE calendars (but with a 7-day week) exist now, for example, in Israel, UAE, Saudi Arabia etc,
- have structures of months: 7+8+7+8 (30 days) and 7+8+7+7 (29 days),
- have the initial date in a calendar as the astronomical phenomenon instead of myths, legends about the birthdays of prophets etc.,
- be precisely synchronized (an accuracy -/+ 1.5 day) in relation to natural solar and natural lunar cycles,
- be acceptable for any religion,
- etc.

For the last 200 years the calendar experts have created a lot of projects of calendars with a 7-day week. But all of them are as though «the curve mirrors» which are not convenient to use.

The unique project of a calendar («with a flat mirror», i.e. 7+8+7+8 and 7+8+7+7) is placed on sites:
http://CalendarPetin-Meton.narod.ru/index.htm
http://Petin1Mikhail.narod.ru/index.htm

The new World Dual Calendar (solar + lunar-solar) has a number of advantages in comparison with the solar Gregorian or other calendars:

- it is not required to introduce the "special" dates. Dates 15 and 30 of the lunar months are the same usual integral days of the week, as all others,
- the duration of months is unified - 29 and 30 days,
- the structure of months – constant and easily remembered,
- the lengths of lunar years are reduced from six values up to three: 354, 355, 384 days,
- the quantity of working days in each month is constant (24 days at a 6-day working week and 20 days at a 5-day working week)
- the months, quarters of years and years begin and finish at the same days of a week,
- the dates of months and days of a week are synchronized with phases of the Moon (with the rotation of the Moon around the Earth), which allows to take into account the workers efficiency in productions connected with the biorhythms, arising under the influence of the Moon,
- the new calendar is more convenient for women, than the Gregorian Calendar,
- all calendar cycles:
  - the sutki (day + night),
  - the lunation (lunar month),
  - the solar year,
  - the Meton cycle (19 solar years),
  - the Grand Meton cycle (6479 solar years) - correspond to the natural rotation periods of heavenly bodies (the Sun, the Moon, the Earth) relative to each other,
- each Grand Meton cycle is attached to the precise heavenly time reference points of time (orientirs), i.e. the moments of the mutual position of the Sun, the Moon, the Earth when **the Southern solstice, the solar eclipse, midday** are simultaneously observed and when **the solar eclipse will be repeated** through the lunation period.

  Such next in turn combination of mutual positions of the mentioned above heavenly bodies had taken place on December 20, 1786 with the subsequent repeated solar eclipse on January 19, 1787, see the web-site: http://eclipse.gsfc.nasa.gov/SEcat5/catalog.html .
- correction of discrepancy of lunar and solar years concerning the calendar structure and also between themselves is simple; it can be carried out by high precision compensating methods.

Terms and symbols,

used in the calendar

Natural cycles:

- natural solar sutki (day + night) - a time interval between two consecutive same culminations of the natural Sun centre at daily rotation of the Earth around its own axis.

Owing to non-uniformity of the year movement of the Earth on an orbit, and also non-perpendicular of Earth axis to a plane of its orbit the natural solar sutki duration are changeable within one year.

- natural tropical year = 365,242192 natural solar sutki - a time interval between two consecutive passages the centre of the natural Sun through the East equinox's point at annual movement of the Earth on an orbit.

- solar Meton cycle = 19 solar years = 6939,6017 sutki - the period of time, practically equal to the lunar Meton cycle, i.e. 235 lunar sinodic months (6939,6883 sutki),
- solar Grand Meton cycle = 341 solar Meton cycles = 6479 solar years = = 2 366 404,2 sutki - the period of time, after which the Earth and the Moon (on the Southern solstice day) come back to the initial position concerning the Sun.

- mean lunation (mean lunar sinodic month) = 29,5305888531 sutki – the mean value of the time interval between two consecutive identical phases of the Moon,
- lunar year = 12 (13) mean lunations – the time intervals according to types LYA, LYB, LYC,
- lunar Meton cycle = 235 mean lunations = 6939,6883 sutki – the period of time, practically equal to the solar Meton cycle, i.e. 19 solar years (6939,6017 sutki),
- lunar Grand Meton cycle = (341 x 235 – 1) mean lunations = 2 366 404,2 sutki – the time interval, after which the Earth and the Moon (on the Southern solstice day) come back to the initial position concerning the Sun.

- 1 precession cycle = 25 796,178 solar years (tropical) is the period of movement the Earth axis on the cycle cone about stars (precession). In the World Dual PETIN– METON Calendar the influence of precession is taken into account by means of the solar years (tropical).

- d - the drift of the lunar cycle relatively the solar cycle.

$$d = \frac{(6939{,}6883 - 6939{,}6017)\ \text{sutki}}{19\ \text{solar years}} = 0{,}00456\ \frac{\text{sutki}}{\text{year}}\ \left(\text{or } 0{,}0866\ \frac{\text{sutki}}{\text{Meton cycle}}\right)$$

Calendar cycles:

a) solar calendar:
- mean Sun - on the Earth's equator the fictitious point moving within the year in regular intervals with such speed, that it always passes through the Eastern equinox point simultaneously with natural the Sun,

- mean solar sutki = 1 mean sutki (further: sutki) - a time interval between two consecutive same daily culminations of the mean Sun.

- calendar tropical year (further: tropical year) = 365,242192 sutki - a time interval between two consecutive passages of the centre of the mean Sun through the Eastern equinox point.

Its duration slowly changes and equal to
365,24219879 - 0,0000000614 (T - 1900) mean solar sutki,
where: T - the current year.

- Equation of time - a difference between the mean and natural solar sutki.
The Equation of time continuously varies.

Four times in the each year, namely: about April 16, June 14, September 1 and December 25 the Equation of time is equal to zero and achieves the greatest value (on absolute size) 4 times:

About February 12 - .... + 14,3 minutes,
May 15 - .... - 3,8 minutes,
July 27 - .... + 6,4 minutes and
November 4 - .... – 16,4 minutes.

- solar month - a time interval determined, for example, by the Gregorian solar calendar,
- week = 7 (or 8) days - an industrial cycle, i.e. 5 days of work and 2 (or 3) days for rest,
- weekdays can be named, for example, in the following way: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, Lunaday. Weekdays are synchronized with phases of the calendar mean Moon,
- solar year = 365 sutki,
- solar leap-year = 366 sutki,
- an intercalary day = 1 sutki,
- solar Meton cycle MA = 19 solar years = 6940 sutki,
- solar Meton cycle MB = MA - 1 sutki = 6939 sutki ,
- solar Grand Meton cycle GMet = 6479 solar years = 2 366 404 sutki.

Note. In the World Dual PETIN-METON Calendar the rules of the solar (seasonal) calendar correspond to the rules of the Gregorian Calendar.

b) lunar-solar calendar:
- sutki - the period of time equal to the mean solar sutki,
- week (short) = 7 sutki,
- week (long) = 8 sutki,
- weekdays can be named, for example, in the following way: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, Lunaday,
- lunation (long) = 7+8+7+8 = 30 sutki = LA - a time interval between two consecutive identical phases of the calendar mean Moon cycle (=29,5305888531 days), approximated to an integer to the greater side,
- lunation (short) = 7+8+7+7 =29 sutki = LB - a time interval between two consecutive identical phases of the calendar mean Moon cycle, approximated to an integer to the smaller side,
- weekdays are synchronized with the phases of the calendar mean Moon.

- lunar year (short) = LA+LB+LA+LB+LA+LB+LA+LB+LA+LB+LA+LB =
= 354 sutki = LYA,
- lunar year (leap) = LA+LB+LA+LB+LA+LB+LA+LB+LA+LB+LA+LA =
= 355 sutki = LYB,
- lunar year (long) = LYA + LA = 384 sutki = LYC,
- lunar Meton cycle (long) = 235 natural lunations =
=LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYC+LYC+LYC = 6940 sutki = MA,
- lunar Meton cycle (short) = 235 natural lunations =
=LYA+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYC+LYC+LYC = 6939 sutki = MB,
- correcting lunar Meton cycle = (235 - 1) natural lunations =
= LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYB+LYA+LYC+LYA +
+ LYC+LYC+LYA = 6910 sutki = Moon,
- base lunar cycle = MA+MB+MA = 20 819 sutki = MetABA,
- lunar Hipparh cycle =3 MetABA + MA = 2 MetABA =
= 111 035 sutki = HA
- lunar Petin cycle = 4 HA = 444 140 sutki = PA,
- lunar Palmen cycle = HA + MetABA + Moon + MA =
= 145 704 sutki = Palmen
- lunar Grand Meton cycle =3 PA + Palmen + 2 PA =
= 2 366 404 sutki = GMet.

- accuracy of a lunar-solar calendar (+/- 1,4 sutki) – the maximal time misalignment between the moment of the top culmination of the centre of the natural mean Moon and midday of any calendar Date on the chosen long time interval.

The alternation and the duration of the lunations for the Meton cycle MB-12 (1996 - 2014 CE)

Table 1 - part 1

Calendar cycles		The duration of the lunation for the lunar year, *day*							
Meton	Gregorian	1-LA	2-LB	3-LA	4-LB	5-LA	6-LB	7-LA	8-LB
1-LYA 22.12.95	1996	30	29	30	29	30	29	30	29
2-LYA 10.12.96	1997	«	«	«	«	«	«	«	«
3-LYC 29.11.97	1998	«	«	«	«	«	«	«	«
4-LYC 18.12.98	1999	«	«	«	«	«	«	«	«
5-LYB 06.01.00	2000	30	29	30	29	30	29	30	29
6-LYA 26.12.00	2001	«	«	«	«	«	«	«	«
7-LYC 15.12.01	2002	«	«	«	«	«	«	«	«
8-LYA 03.01.03	2003	«	«	«	«	«	«	«	«
9-LYB 23.12.03	2004	30	29	30	29	30	29	30	29
10-LYA 12.12.04	2005	«	«	«	«	«	«	«	«
11-LYC 01.12.05	2006	«	«	«	«	«	«	«	«
12-LYC 20.12.06	2007	«	«	«	«	«	«	«	«
13-LYB 08.01.08	2008	30	29	30	29	30	29	30	29
14-LYA 28.12.08	2009	«	«	«	«	«	«	«	«
15-LYC 17.12.09	2010	«	«	«	«	«	«	«	«
16-LYA 05.01.11	2011	«	«	«	«	«	«	«	«
17-LYA 25.12.11	2012	30	29	30	29	30	29	30	29
18-LYA 13.12.12	2013	«	«	«	«	«	«	«	«
19-LYC 02.12.13	2014	«	«	«	«	«	«	«	«

Table 1 - part 2

The duration of the lunation for the lunar year, *day*					A comparison of the lunar cycles, *day*		
9-LA	10-LB	11-LA	12-LB / 12-LA	13-LA	Calendar	Natural	Misalignment
30	29	30	29	-	354	354, 367	+0, 367
«	«	«	«	-	354	354, 367	+0, 367
«	«	«	«	30	384	383, 898	-0, 102
«	«	«	«	30	384	383, 898	-0, 102
30	29	30	30	-	355	354, 367	-0, 633
«	«	«	29	-	354	354, 367	+0, 367
«	«	«	«	30	384	383, 898	-0, 102
«	«	«	«	-	354	354, 367	+0, 367
30	29	30	30	-	355	354, 367	-0, 633
«	«	«	29	-	354	354, 367	+0, 367
«	«	«	«	30	384	383, 898	-0, 102
«	«	«	«	30	384	383, 898	-0, 102
30	29	30	30	-	355	354, 367	-0, 633
«	«	«	29	-	354	354, 367	+0, 367
«	«	«	«	30	384	383, 898	-0, 102
«	«	«	«	-	354	354, 367	+0, 367
30	29	30	29	-	354	354, 367	+0, 367
«	«	«	«	-	354	354, 367	+0, 367
«	«	«	«	30	384	383, 898	-0, 102
				Total:	6 939	6 939, 688	+0, 688

The alternation and the duration of the lunar cycles for the Meton cycle PA-1 (1786 - 3002 CE)

Table 2 - part 1

Calendar cycles				The duration of the calendar lunar cycles, *day*			
Solar	Lunar						
	Petin	Hipparchus	Meton	MA-1	MB-2	MA-3	MA-4
21.12.1786 – - 20.12.3002 CE	PA-1	HA-1	1 - 3	6940	6939	6940	-
			4 - 6	6940	6939	6940	-
			7 - 10	6940	6939	6940	6940
			11 - 13	6940	6939	6940	-
			14 - 16	6940	6939	6940	-
		HA-2	17 - 19	6940	6939	6940	-
			20 - 22	6940	6939	6940	-
			23 - 26	6940	6939	6940	6940
			27 - 29	6940	6939	6940	-
			30 - 32	6940	6939	6940	-
		HA-3	33 - 35	6940	6939	6940	-
			36 - 38	6940	6939	6940	-
			39 - 42	6940	6939	6940	6940
			43 - 45	6940	6939	6940	-
			46 - 48	6940	6939	6940	-
		HA-4	49 - 51	6940	6939	6940	-
			52 - 54	6940	6939	6940	-
			55 - 58	6940	6939	6940	6940
			59 - 61	6940	6939	6940	-
			62 - 64	6940	6939	6940	-

Table 2 - part 2

A compartison of the lunar cycles					
Calendar		Natural		Misalignment	
Meton	Hipparchus	Meton	Hipparchus	Meton	Hipparchus
20 819	111 035	20 819, 065	111 035,014	+0, 065	+0, 014
20 819		20 819, 065		+0, 065	
27 759		27 758, 754		-0, 246	
20 819		20 819, 065		+0, 065	
20 819		20 819, 065		+0, 065	
20 819	111 035	20 819, 065	111 035,014	+0, 065	+0, 014
20 819		20 819, 065		+0, 065	
20 819		20 819, 065		+0, 065	
27 759		27 758, 754		-0, 246	
20 819		20 819, 065		+0, 065	
20 819		20 819, 065		+0, 065	
20 819	111 035	20 819, 065	111 035,014	+0, 065	+0, 014
20 819		20 819, 065		+0, 065	
20 819		20 819, 065		+0, 065	
27 759		27 758, 754		-0, 246	
20 819		20 819, 065		+0, 065	
20 819		20 819, 065		+0, 065	
20 819	111 035	20 819, 065	111 035,014	+0, 065	+0, 014
20 819		20 819, 065		+0, 065	
20 819		20 819, 065		+0, 065	
27 759		27 758, 754		-0, 246	
20 819		20 819, 065		+0, 065	
20 819		20 819, 065		+0, 065	
20 819	111 035	20 819, 065	111 035,014	+0, 065	+0, 014
Total PA-1:	444 140		444 140,056		+0, 056

The alternation and the duration of the calendar lunar cycles for the Grand Meton cycles: GMet-1 (4694 BCE proleptic - 1786 CE) and GMet-2 (1786 CE - 8265 CE)

Calendar cycles				The duration of the calendar lunar cycles, *day*						A comparison of lunar cycles, *day*		
Solar	Lunar			1-HA	2-HA 2-MA	3-HA 3-MB	4-HA 4-MA	- 5-Mcorr	- 6-MA	Calendar	Natural	Misalign-ment
	Petin	Hippar-chus	Meton									
GMet-1	1-PA	1- 4	1- 64	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
21.12.4694 BCE –	2-PA	5- 8	65-128	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
- 20.12.1786 CE	3-PA	9- 12	129-192	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
	4-Palmen	13	193-213	111 035	6 940	6 939	6 940	6 910	6 940	145 704	145 703, 926	-0, 074
	5-PA	14- 17	214-277	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
	6-PA	18- 21	278-341	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
?									Total:	2 366 404	2 366 404, 206	+0, 206
GMet-2	1-PA	1- 4	1- 64	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
21.12.1786 CE –	2-PA	5- 8	65-128	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
- 20.12.8265 CE	3-PA	9- 12	129-192	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
	4-Palmen	13	193-213	111 035	6 940	6 939	6 940	6 910	6 940	145 704	145 703, 926	-0, 074
	5-PA	14- 17	214-277	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
	6-PA	18- 21	278-341	111 035	111 035	111 035	111 035	-	-	444 140	444 140, 056	+0, 056
									Total:	4 732 808	4 732 808, 412	+0, 412

BIBLIOGRAPHIC DATA

1. The Big Soviet Encyclopedia, volume 19, article *The Calendar*.
2. Doggett L.E. Calendars, http://astro.nmsu.edu/~lhuber/leaphist.html
3. Vikipedia, Web-site: http://en.wikipedia.org/wiki/Main_Page

4. Climishin I. A. Calendar and chronology. M. Science. 1990.
5. Volodomonov N. V. Calendar: last, present and the future. M. Science. 1974.
6. Hrenov L. S, Golub I. Y. The Time and a Calendar.M. Science. 1989.
7. Ermolaev I. P. The historical chronology. Cazan. 1980.

8. Petin M. I. The World lunar-solar calendar. Patent application 2001115063 /12 (016202) from 05.06.2001. Ruspatent, Federal Institute of the Industry property.
9. Petin M. I. The World lunar-solar calendar. Copyright 4901 от 19-06-2001. The Russian author's society.
10. Petin Mikhail. New and improved World calendar. Patent application, GB 0221440.1 from 16-SEP-2002. The Patents and Designs Journal, 23 October 2002 5918, page 5141, http://www.patent.gov.uk/patent/notices/journals/2002/5918
11. Scott Flansburg John. The improved calendar. Patent WO0103942, publication date: 2001-01-18.

12. Petin M. I. The Global lunar-solar calendar. M. Izvestia of Institutes, the Geodesy and Air photography, 6. 2002.
13. Petin M. I. The Global lunar-solar calendar. M. Izvestia of Institutes, the Geodesy and Air photography, 3. 2004.
14. Petin M. I. The accuracy of the Global PETIN-METON Calendar. M. Izvestia of Institutes, the Geodesy and Air photography, 1. 2005.

15. The Global PETIN-METON Calendar. 2001. Web-site: http://mikhlud.narod.ru .
16. The Global PETIN-METON Calendar. 2003. Web-site: http://PetinMikhail.narod.ru .
17. The Global PETIN-METON Calendars 2005-2007. 2004. Web-site: http://CalendarPetin-Meton.narod.ru .
18. The Tables-calendars of the Global PETIN-METON Calendar. 2005. Web-site: http://CalendarPetin-Meton.narod.ru/table-calendars.htm
19. The Bible -Calendar - Nature. 2005. Web-site: http://GlobalCalendar.narod.ru
20. The World Dual (solar + lunar-solar) PETIN-METON Calendar. 2006. Web-site: http://CalendarPetin-Meton.narod.ru/DualPETIN2.htm
21. The World Dual (solar + lunar-solar) PETIN-METON Calendars. 2007-2010. Web-site: http://CalendarPetin-Meton.narod.ru/index.htm

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