

# **THE ABSOLUTE CALENDAR**

## **Method of ABBASSA**

### **I- THE CALENDAR (Historical Sight) :**

#### **1- Introduction :**

Calendar, system of measurement of time for the needs of the everyday life. Time is divided into days, in weeks, in month and years. These divisions rest on the earthmovings around the Sun or of the Moon around the Earth. One day is the average time of a rotation of the Earth on its axis. The year is the time of revolution of the Earth around the Sun; it is qualified according to cases' of sidereal year or tropical year. This one consists of 365 days, 5 hours, 48 minutes and 45.5 seconds. The duration of the month was calculated before by the time passed between two full moons, or by the number of days of the revolution of the Moon around the Earth (30 or 29 days). Thus, The lunar year counts 354 days, that is to say a 11 days 1/4 variation with the solar year. The Gregorian calendar is founded, except for some variations, over the tropical year. One month approximately lasts it twelfth one of year (from 28 to 31 days); the number of days is adjusted so that the solar year lasts twelve months exactly. For more information concerning the names of the 12 months or their succession, we will refer to the articles dealing with each one of them. The concept of week results from the tradition Jewish-Christian imposing one day of rest every seven days.

The variants between the various calendars use from Antiquity to our days are the consequences of the inaccuracy of the first determinations of the one year duration and its indivisibility by unspecified an other unit : day, week or month. The first calendars based over the lunar months ended up more not corresponding to the seasons: sometimes it was necessary to intercalate a whole month to put in phase the lunar months with the solar year.

#### **2 - Ancient Calendars :**

Babylonians of Antiquity had adopted a calendar made up 12 lunar months of 30 days each one, to which they added if necessary additional months to preserve a correspondence with the seasons of the year. The Egyptians replaced the lunar calendar by a calendar based over the solar year. It lasted 365 days and was divided into 12 months 30 days each one, at the end of which we added 5 days. A moon-solar calendar at 354 days was used in ancient Greece ; the Greeks were the first to intercalate the additional months according to scientific principles', at the end of a particular cycle.

### **3-Roman Calendar :**

The first Roman calendar, introduced about the VII<sup>th</sup> century B.C., separated in 10 months a year of 304 days which started with March. The months of January and February was added later, but we still had to intercalate another month about a year on two, because the months made only 29 or 30 days. The days were indicated by a method which consisted in counting with the other way starting from three dates pivot: calends at the beginning of the month, ides in the medium and the nones, which fell the ninth day before the ides. This calendar became hopelessly confused when the Roman leaders with whom returned the responsibility of fix the days and the months to be added misused their authority to prolong their mandate or to change the date of the elections.

In 46 B.C., ( 708 year of Rome ), Jules Cesar decided, on the councils of the Greek astronomer Sosigen , to establish a new calendar. This calendar, known under the name of Julian calendar, fixed the duration of a normal year at 365 days and that a leap year, every 4 years, at 366 days – the redoubled day being that of February 24<sup>th</sup>. Cesar also brought back the beginning of the year to the 1<sup>st</sup> January (instead of the 1<sup>st</sup> March).

The Julian calendar remained until the middle of the XVI<sup>th</sup> century.

### **4-Gregorian Calendar :**

The Julian calendar made last the year 11 minutes and 14 seconds more than the solar year. This difference accumulated so much and so that in 1582 the vernal equinox ( see Ecliptic ) fell 10 days before the calendar date. To make so that the equinox falls around March 21, as in 325 B.C., ( year of the first council of Nice, which had founded the principal rules of the ecclesiastical compute), the pope Gregory XIII issued that 10 days, that year, were to be removed from the calendar. Therefore the year was then too strong, and, during centuries, this difference brought a delay which reached ten days into 1582; to catch up with it, the pope Gregory XIII ordered that Thursday October 04<sup>th</sup> 1582 was immediately followed Friday October 15<sup>th</sup>. He instituted a new calendar, called since Gregorian calendar, by removing every secular leap year, except for those of which the year was divisible by 400. Thus, 1600 was a leap year, but 1700 and 1800 were normal years.

However remains a slight error of one day over 4000 years. At present, the Gregorian calendar has a lead 13 days over the Julian calendar.

The Gregorian calendar was slowly extended to all Europe. Nowadays, it is used in most of the Western world, like in certain Asian countries. When it was adopted in Great Britain in 1752, a correction of 11 days proved to be necessary; thus, the day following on September 2<sup>nd</sup>, 1752 was on September 14<sup>th</sup>. Great Britain also adopted the 1<sup>st</sup> January like first day of the year. Russia adopted the Gregorian calendar in 1918 and Greece since 1923 whole while preserving the Julian calendar for the celebration of certain religious festivals.

To mitigate the defects of the Gregorian calendar in which, according to the years, the same dates do not correspond to the same days of the week since it makes follow months unequal lengths, of many proposals were made to define a more practical calendar : calendar fixes of 13 months equal, universal calendar of four identical quarters, etc. Until now, none of them was adopted.

## **5 -Religious Calendars :**

The Gregorian calendar is before a whole Christian calendar. The calendar of the Church indicates the holy days, the festivals of the saints and the festivals religious, as well as the dates of the civil calendar which correspond to them. Certain festivals take place on fixed date, like Christmas, and others on mobile date, as those which depend on the day fixed for the celebration of Easter. After the Reform, the Church German Lutheran like the Church of England and other churches Anglicans retained the Roman calendar. The Episcopal Protestant Church stuck only to the festivals drawing their origins from the Holy Scriptures. The principal festivals of the Christian calendar are, in the order, the Advent, Christmas, the Epiphany, the Good Friday, Easter, the Rise, Pentecost and the Trinity.

The Jewish calendar, derived from the old Hebrew calendar, remained unchanged since 900 A.C. It is the official calendar of the Hebrew State and there remains the religious calendar of the Jews of the whole world. The Jewish calendar is moon-solar and its months last alternatively 29 and 30 days. One month additional is inserted every 3 years while being based on a cycle of 19 years called cycle of Meton.

The Moslem calendar as for him is calculated as from year of 622, the shortly after the Hijir, or exodus of the prophet Mahomet (Mohamed) of Mecca towards Medina. The Islamic year comprises 12 months lunar and belongs to a 30 years cycle in which the 2<sup>nd</sup> 5<sup>th</sup> 7<sup>th</sup> 10<sup>th</sup> 13<sup>th</sup> 16<sup>th</sup> 18<sup>th</sup> 21<sup>st</sup> 24<sup>th</sup> 26<sup>th</sup> and 29<sup>th</sup> years are leap and count 355 days, the others being years at 354 days. We can calculate at one day close the Gregorian date starting from the Moslem date thanks to the following rule : to multiply the year of the Moslem year by 0.970224 and to add 621.5774. The number obtained on the left of the comma gives the year and the decimal part multiplied by 365 is the day of the year.

In the Chinese calendar, a cycle of 19 years divides by 12 common years for 12 lunar months and 7 years for 13 months.