

A STRANGE CORRELATION BETWEEN THE SUN-EARTH-MOON POSITIONS AND "NUMBER 19"

Halim Sayoud
<http://sayoud.net>

1. Introduction

There is an interesting question in astronomy: If you saw the Full Moon above a specific constellation tonight, when could you expect to see another Full Moon in Exactly the same position among the stars again?

In other words, if we observe the moon in a specific region and on a specific date; when could we observe it again, in the same position in the heaven (the constellation) and with the same phase (shape)?

To respond to that question, we need to introduce a crucial element from astronomy: the 19-year time cycle. Precisely every 19 years, the sun, earth and moon come back to the same location relative to each other. Hence if (X_1, Y_1, Z_1) and (X_2, Y_2, Z_2) are the 3D coordinates of the Earth and Moon, respectively (figure 1), with regards to the Sun center, then those two triplets of coordinates should have constant values for every period of 19 years.

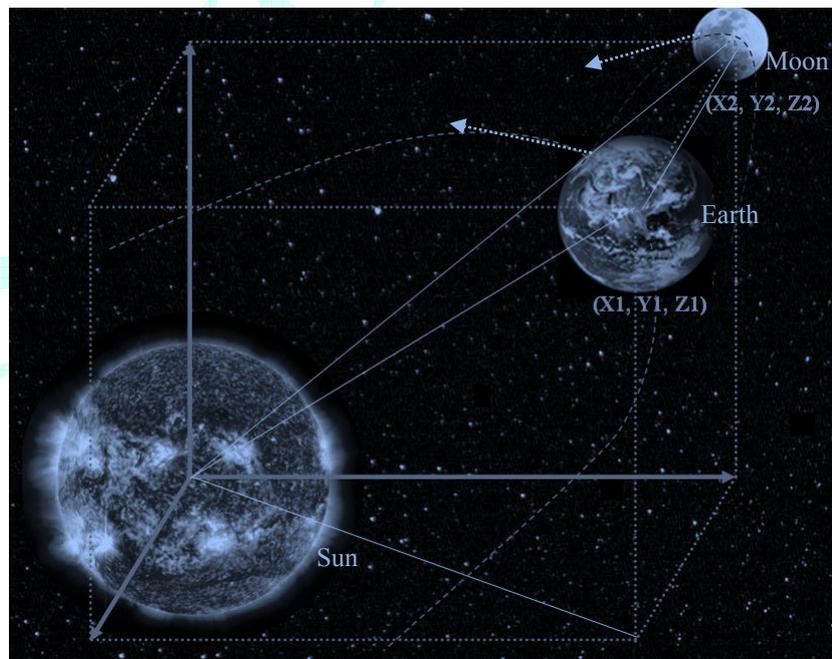


Figure 1. Every 19 years, the sun, earth and moon come back to the same relative location.

2. The Metonic Cycle and the 19 years-period

The Greek astronomer Meton discovered that the dates of the phases of the Moon repeated exactly (in the same celestial position) after a period of 19 years (see figure 2). Mathematically, one can notice that 19 tropical years (due to the earth rotation around the sun) contain 6,939.60 days while 235 synodic months (rotation period of the moon around the earth by keeping the same phase) contain 6,939.69 days. Furthermore, since it is almost equal to 20 eclipse years, 6,932.4 days, it is possible for a series of four or five eclipses to occur on the same dates 19 years apart (*ref. Particle Physics and Astronomy Research Council, Royal Greenwich Observatory, Information Leaflet No. 5: 'The Metonic Cycle and the Saros'*). See an example of a recent solar eclipse captured on March 20, 2015, in figure 3.

Mathematically we can retrieve that common period, by graphically representing the Modulo (or the deviation from the integer value) of the multiples of the ratio of the equatorial year duration to the synodic lunar month duration (see figure 4).



Position and phase of the moon on the day "D"



Position and phase of the moon on the day "D + 19 years"

Figure 2.a (left) and 2.b (right) showing the position and phase of the moon at two dates separated exactly by 19 years: As we can see, the positions and phase are the same. *Nasa courtesy (modified images).*

Note:

1 synodic lunar month = 29.5306 days

1 equatorial year = 365.2425 days



Figure 3. The solar eclipse of March 2015. ESA courtesy.

Table 1. Harmonic Correspondence between the Equatorial Year and Synodic Lunar Month

Number of equatorial years =N	Correspondance in terms of number of synodic lunar months N= (365.2425 / 29.5306)	Modulo
1	12.37	0.37
2	24.74	-0.26
3	37.10	0.10
4	49.47	0.47
5	61.84	-0.16
6	74.21	0.21
7	86.58	-0.42
8	98.95	-0.05
9	111.31	0.31
10	123.68	-0.32
11	136.05	0.05
12	148.42	0.42
13	160.79	-0.21
14	173.16	0.16
15	185.52	-0.48
16	197.89	-0.11
17	210.26	0.26
18	222.63	-0.37
19	235.00	0.00
20	247.37	0.37

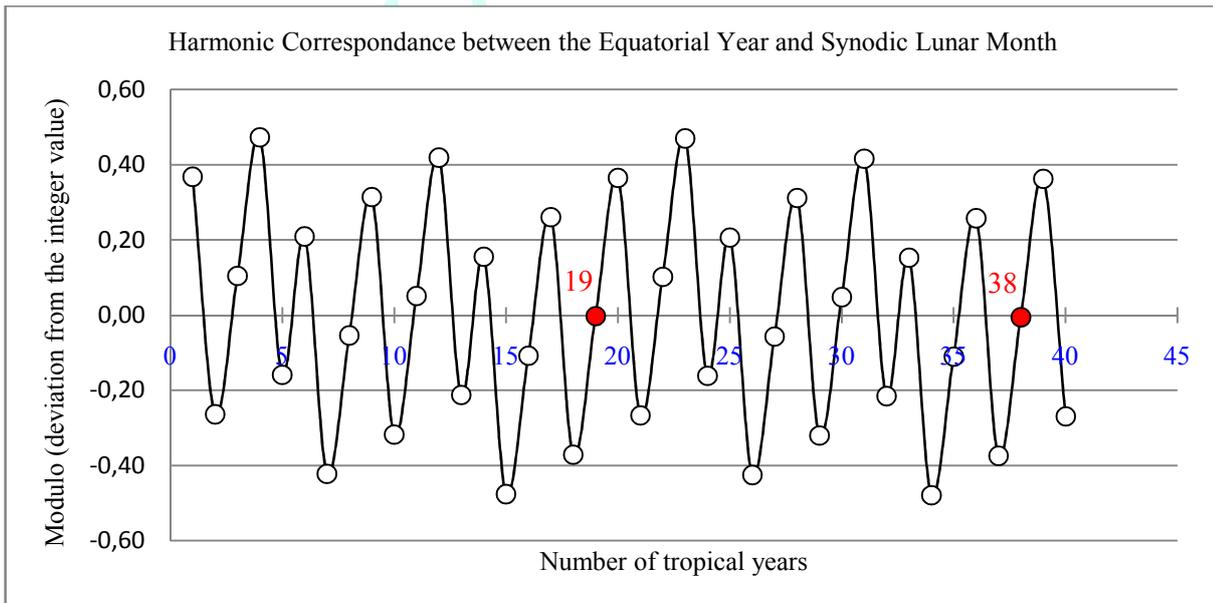


Figure 4. Harmonic Correspondence between the Equatorial Year and Synodic Lunar Month

As we can observe from table 1 and figure 4, the common multiple between the Equatorial Year and Synodic Lunar Month is equal to number 19 (i.e. periodicity of 19 years).

Consequently, if we observe the moon in a specific region and on a specific date; we could observe it again, in the same position in the heaven and with the same shape, after 19 years exactly (figure 2).

3. Discussion

From this investigation, we can deduce three important points:

-First, the strange number 19, which is present in the structure of the holy Quran (maybe as a signature of authentication), seems to be also present in the solar system. Hence the Sun-Earth-Moon triplet appears to respect the 19-based periodicity with a great harmony. In other words, if we see the full moon tonight in a specific position in the sky, then we will see it in the same shape and in the same position exactly 19 years after.

-Second, this investigation shows a failure in the astronomical theory stating that the movement of the moon around the earth and the movement of the earth around the sun are independent or uncorrelated. In fact, how could they be independent while the two movements have been strongly linked by the 19-based periodicity for thousands of years? For concreteness, let us observe the rotation of the watch needles: the two needles seem to have independent movements because the small needle moves slowly while the big one moves faster. However, if we observe their positions at 3:00 for instance (figure 4), we will retrieve the same position after exactly 24 hours later, namely 3:00.



Figure 5. The positions of the needles at 3:00 and 24 hours after are the same. This is due to the correlation between the 2 movements.

-Third, this fact proposes that it could be (perhaps) a strong relationship between the solar system and the number 19, which has also be strangely discovered in some structures of the holy Quran. This last observation proposes that the designer of the solar system and the holy scripture should probably be the same.