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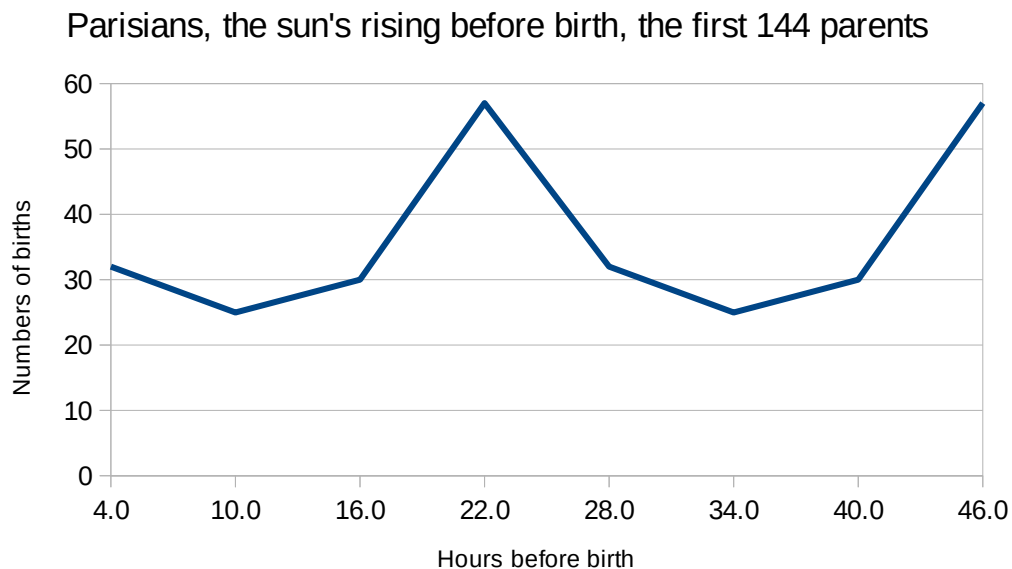
Introduction

This is the third of a series of investigations into the timing of birth by planets. The data were gathered in the 1960s from a Parisian hospital and nearby registry offices by the Gauquelins, to find out whether or not parents and children favor the same planets. They are used here to investigate the timing as such and the effects on it of solar activity. Fathers were listed in chronological order, and their wives were often born in the same years, so the joint list is mainly chronological too.

The method consists in measuring planets' intervals from the eastern horizon at birth, since planets used as timers are likely to occur at regular intervals. The scale has 24 one-hour zones, and effects are measured in terms of variance. A scale of one-hour zones may seem to be imprecise, but a limit to precision is also set by the data. If births are noted to the nearest minute, only 1 birth in 60 is likely to be on the hour, whereas 8 of the first 10 births listed are.

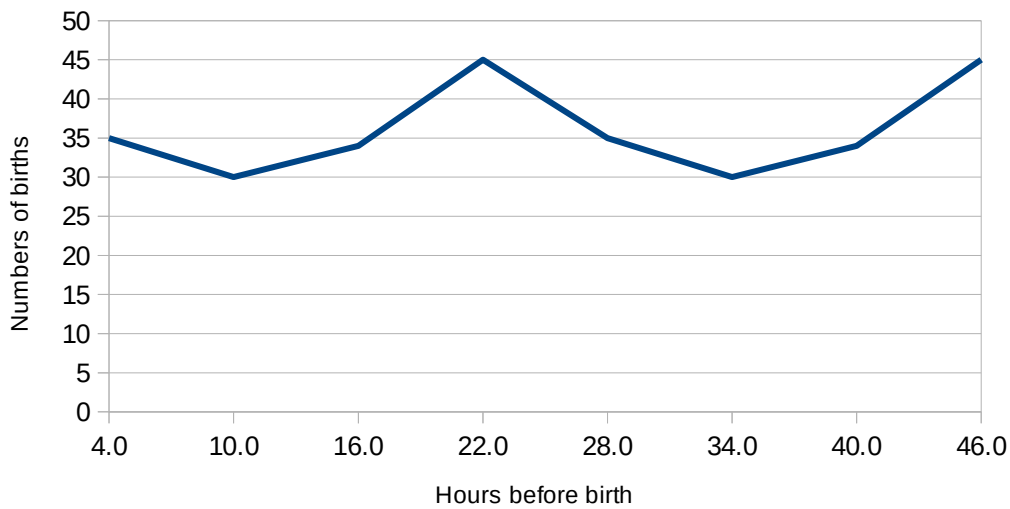
Sunrise

The greater the number of data, the less feasible it is to show all the results singly, but results for the sun are relevant, in showing that births timed by it are unlikely to be timed by its visible rising, since the effect varies from period to period. The median years of the six periods are roughly 1884, 1889, 1891-2, 1893-4, 1895 and 1896. The first period includes a solar maximum, the second a solar minimum and the fourth another maximum. Here are the results for the first period:



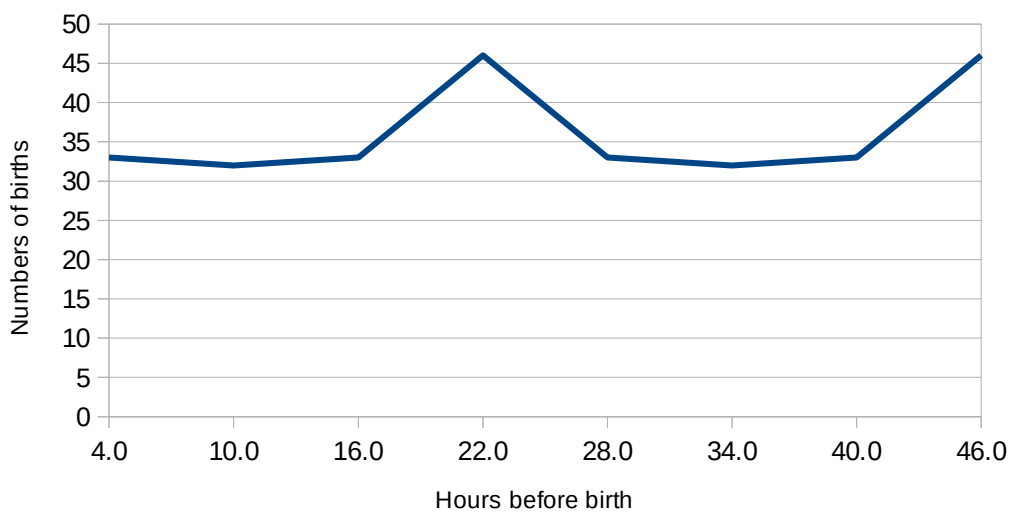
The p value is 0.00255, which rates as very unlikely, so this is good evidence of timing, but may the timing be due to the sun's visible rising? In fact there were more births in the hours *before* sunrise than in the hours *afterward*, but the sun's visible rising may set a biological timer, letting sunrise be foreseen the next day, so more evidence is needed. Here are the results for the second period:

Parisians, the sun's rising before birth, the second 144 parents



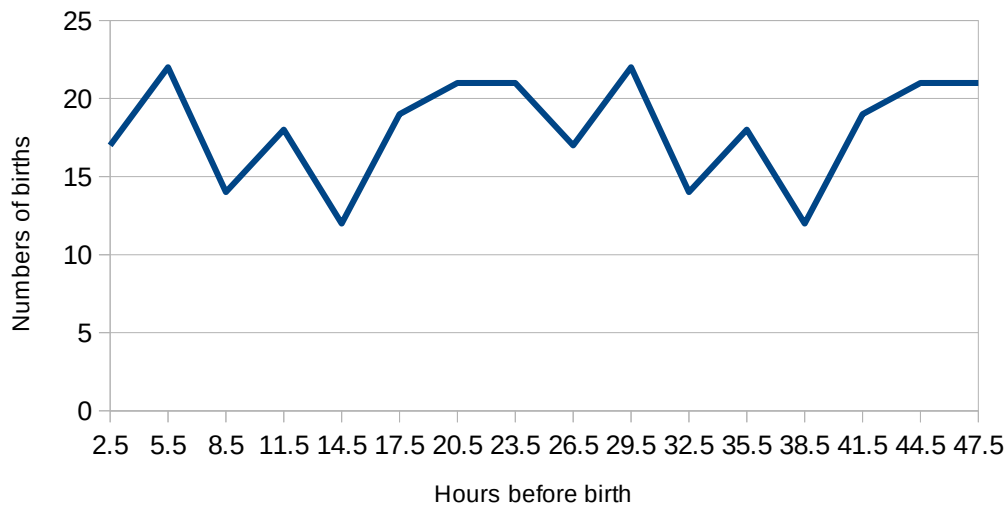
The effect now has a p value of only 0.370, which is hardly above chance. The numbers of births in each of the four zones ranged in the first period from 25 to 57 and in the second from 30 to 45, so the range has dwindled from 32 to 15. Here are the results for the third period:

Parisians, the sun's rising before birth, the third 144 parents



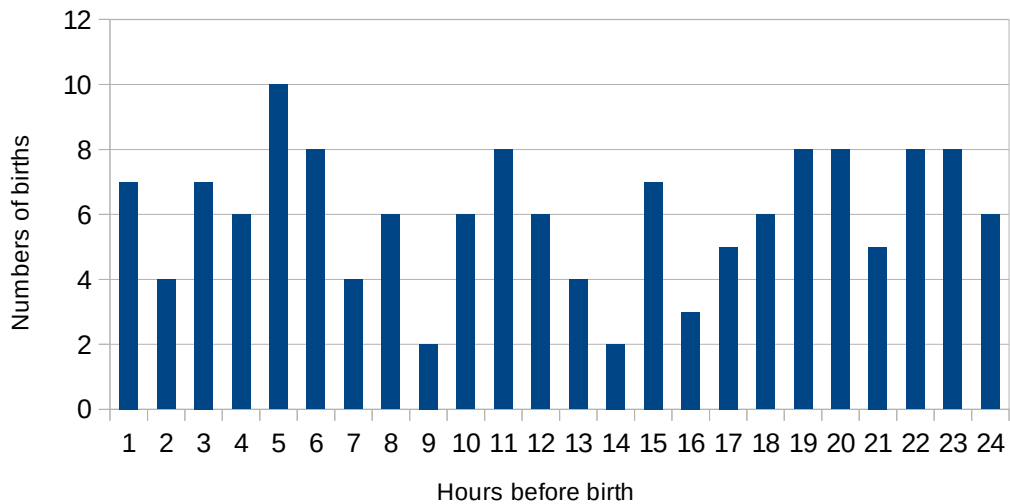
The p value is 0.359, about the same as before, and the numbers of births in each zone range from 32 to 46, so over the three periods the effect size has shrunk from 32 via 15 to 14. Here are the results for the fourth period:

Parisians, the sun's rising before birth, the fourth 144 parents



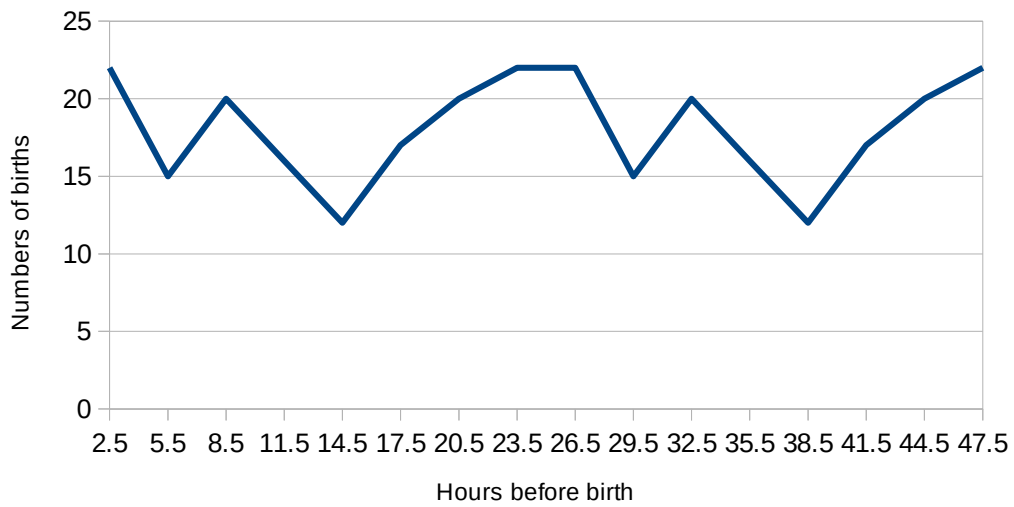
There are now 6-hour waves and a crest obscured in the middle. The range of values, from 12 to 22, is merely 10. What may have obscured the main crest? The raw results offer a clue.

Parisians, the sun's rising before birth, the fourth 144 parents



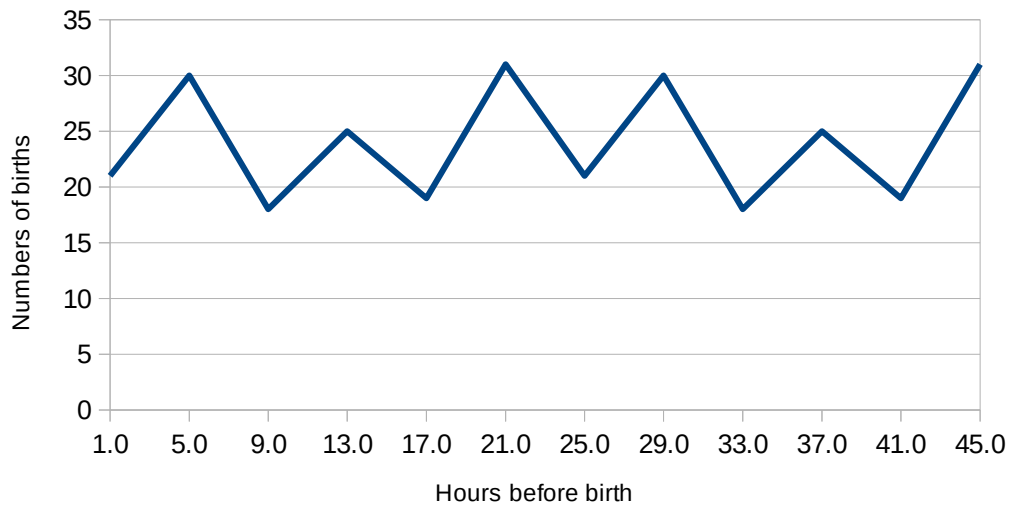
The results in the last seven zones are symmetrical, as if the sun were swinging like a pendulum over an orb at the 21-hour interval and dallying by its extremes in zones 19 & 20 on the one hand and zones 23 & 24 on the other. Mercury and Venus swing over the sun, so relatively speaking the sun swings over them. The effect for Mercury is no bigger than that for the sun:

Parisians, Mercury's rising before birth, the fourth 144 parents



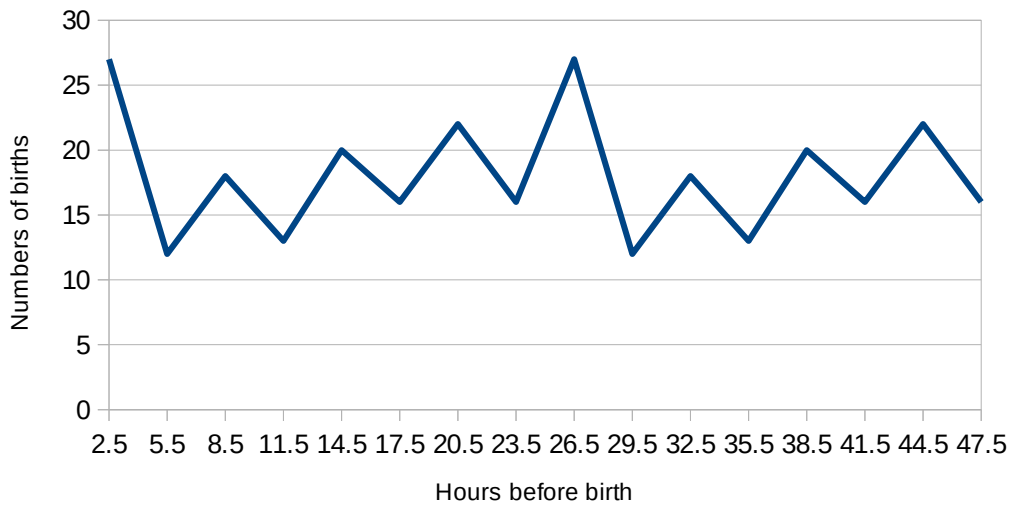
So, by process of elimination, the planet with the dominant effect ought to be Venus:

Parisians, Venus' rising before birth, the fourth 144 parents



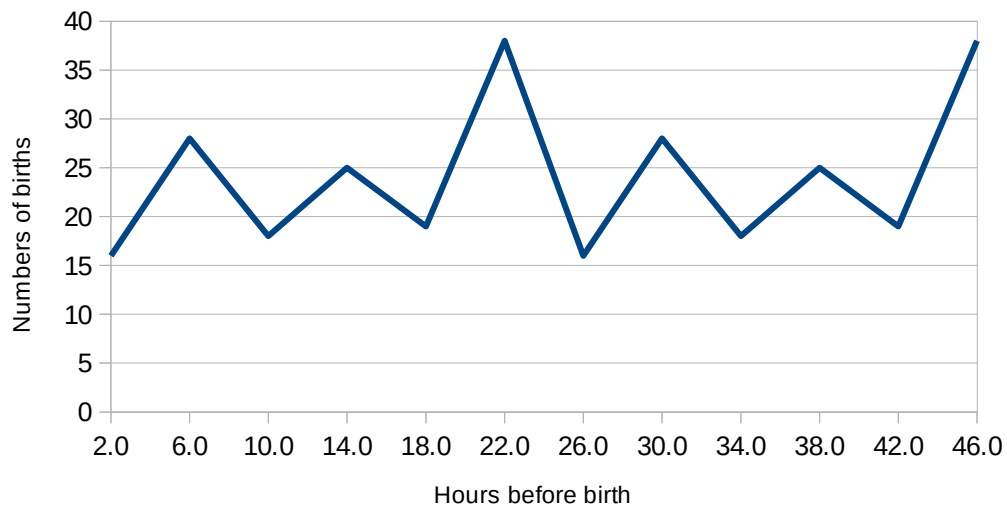
Indeed, the values for Venus range from 18 to 31, which is 13, compared with 10 for the sun and Mercury. The main crest is at 21 hours before birth, tallying with the trough for the sun. What happens to the effect for the sun in the fifth period?

Parisians, the sun's rising before birth, the fifth 144 parents



As in the fourth period, there are 6-hour waves, but the range of values has increased from 10 to 15. What happened in the sixth period?

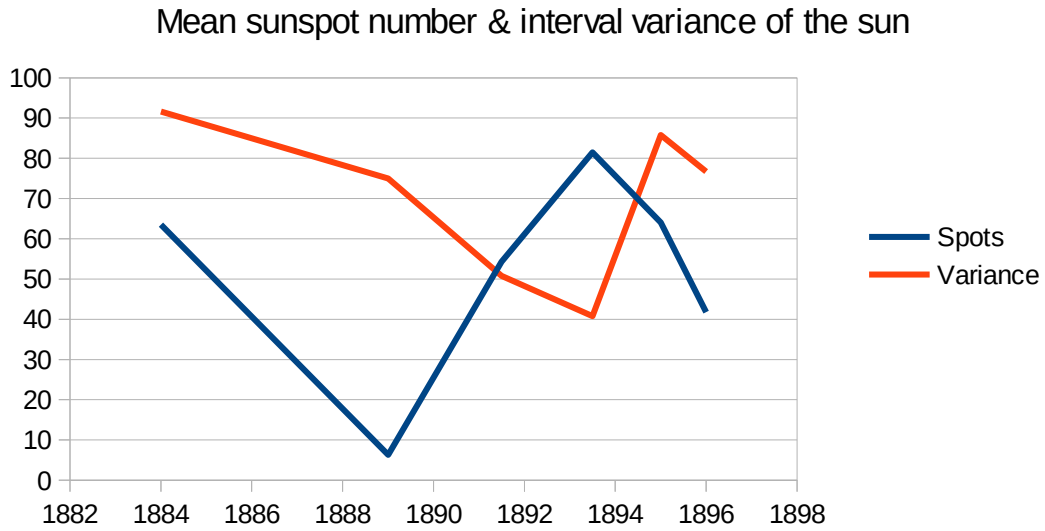
Parisians, the sun's rising before birth, the sixth 144 parents



In terms of size and frequency, the effect is returning to what is was. The range of values has increased from 15 to 22, and the frequency has dropped from 4 cycles a day to 3. Moreover the main interval to rising is once again 22 hours. The significance of the original effect implies that the sun is often used as a timer, and the variations following it imply that the timing is not due to its visible rising. But what are the results for each of the planets over the xix periods?

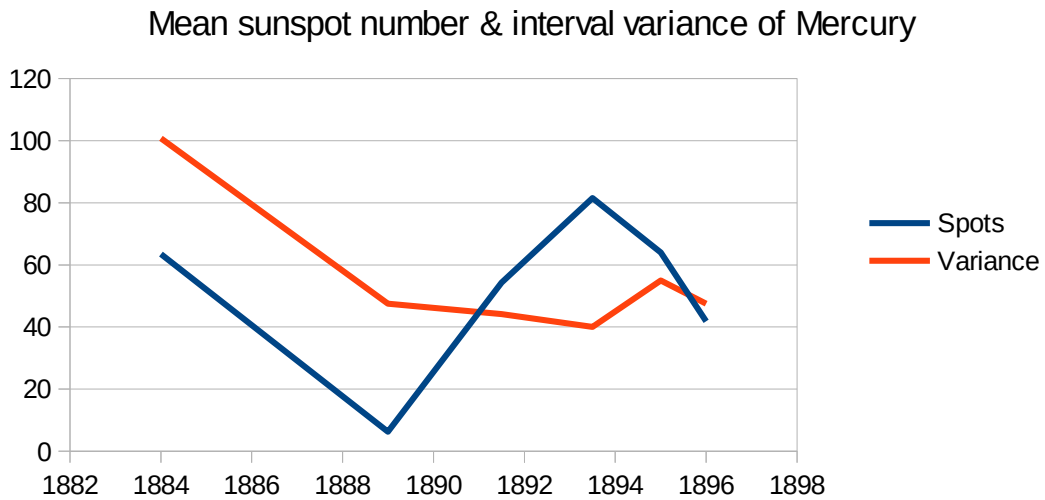
Sunspots and effect sizes

Sun



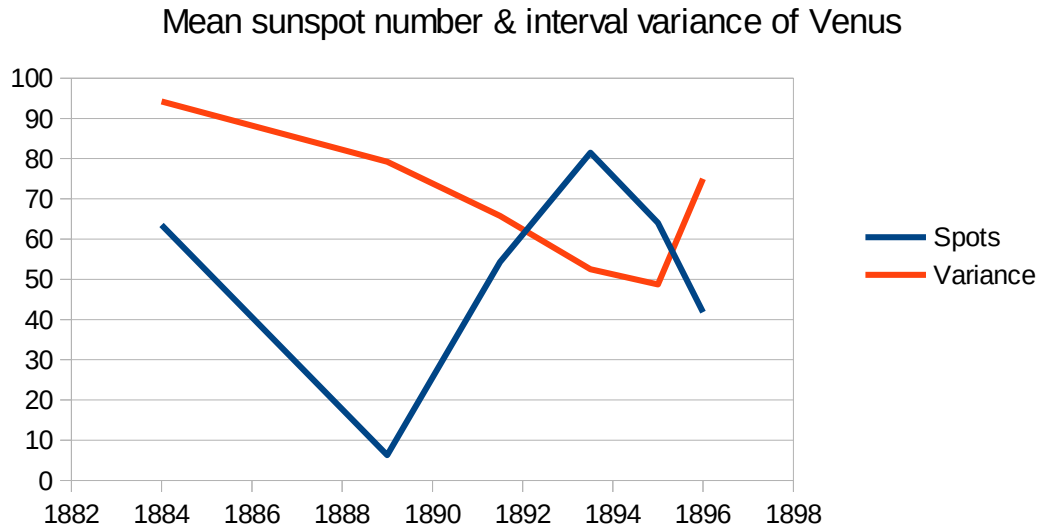
The covariance is -127.4.

Mercury



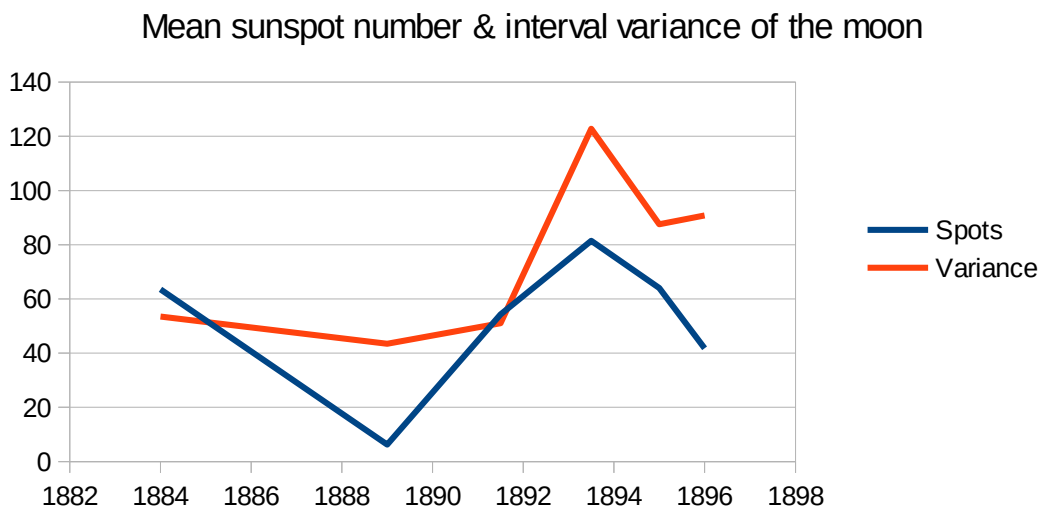
The covariance is 79.9.

Venus



The covariance is -162,5.

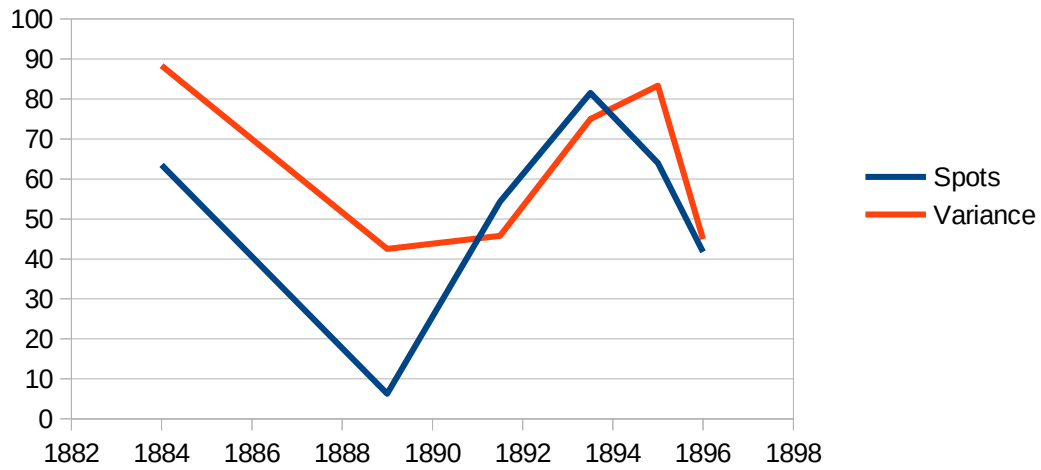
Moon



The covariance is 422.7.

Mars

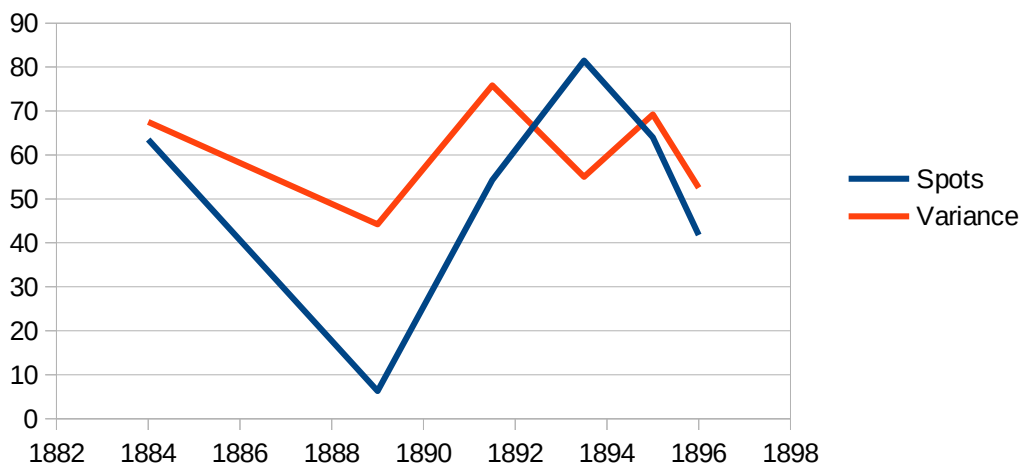
Mean sunspot number & interval variance of Mars



The covariance is 328.3.

Ceres

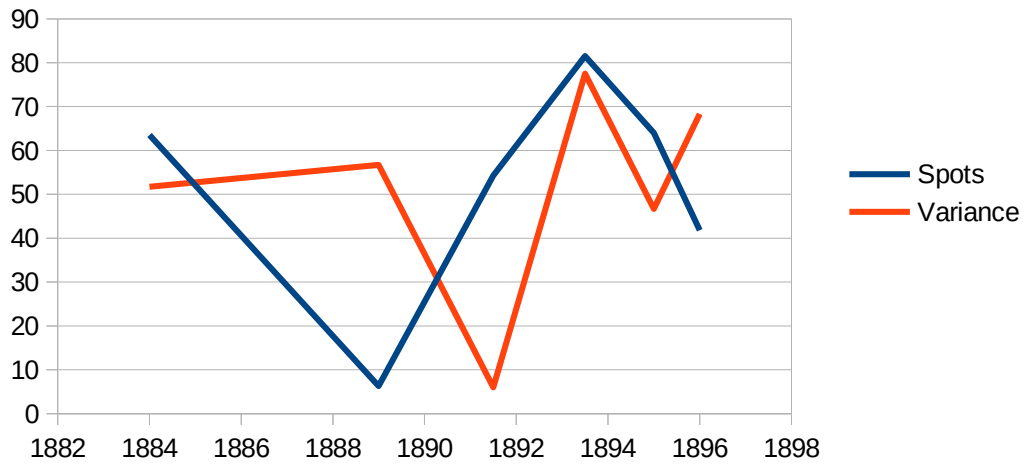
Mean sunspot number & interval variance of Ceres



The covariance is 147.4.

Jupiter

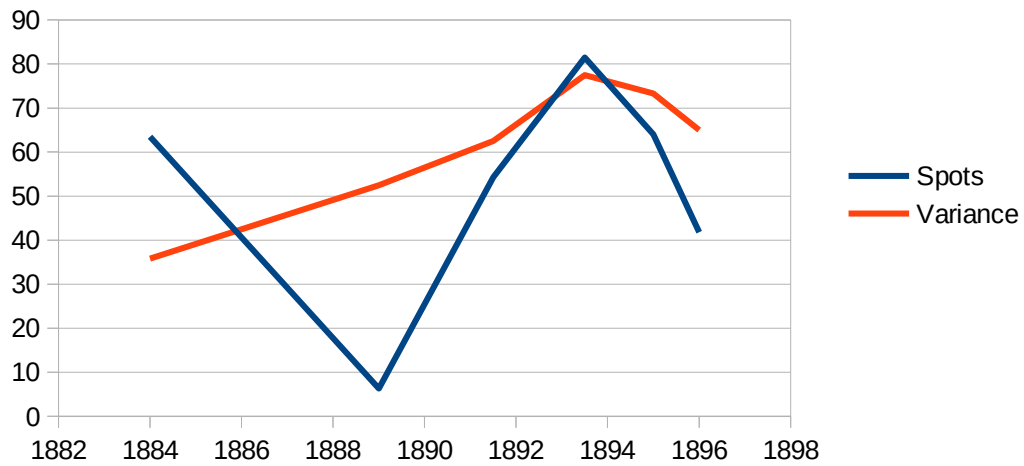
Mean sunspot number & interval variance of Jupiter



The covariance is 33.0.

Saturn

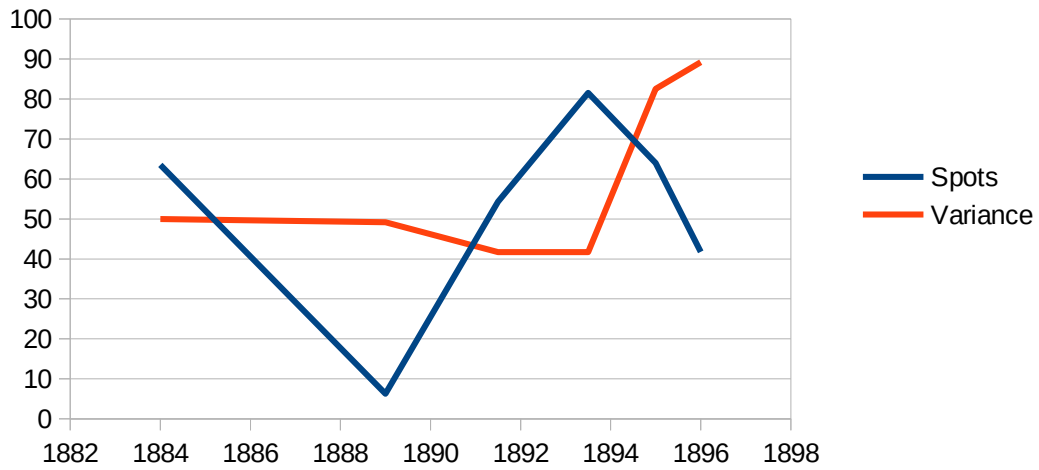
Mean sunspot number & interval variance of Saturn



The covariance is 116.0.

Chiron

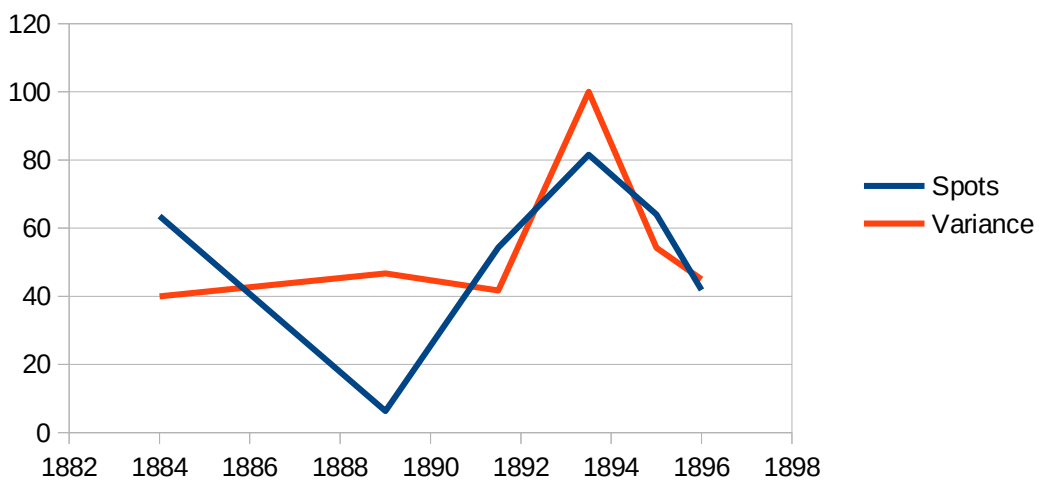
Mean sunspot number & interval variance of Chiron



The covariance is -38,63.

Uranus

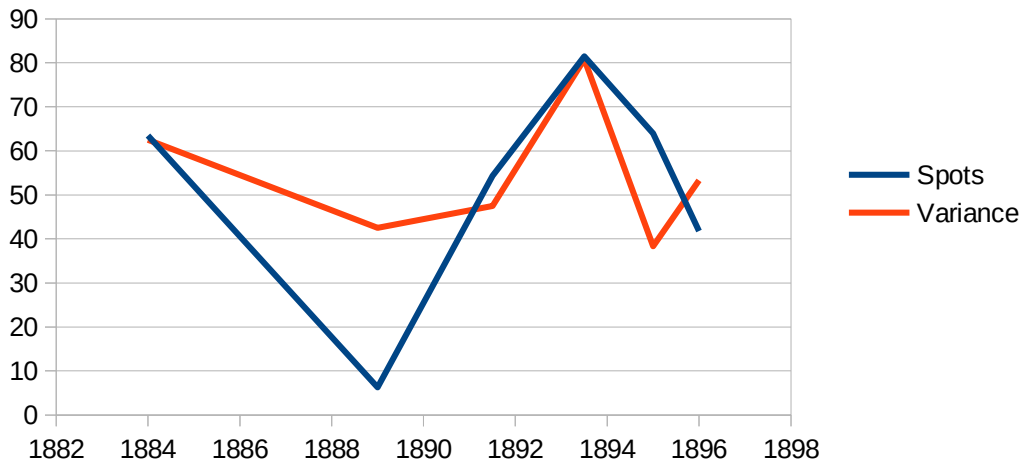
Mean sunspot number & interval variance of Uranus



The covariance is 266.0.

Neptune

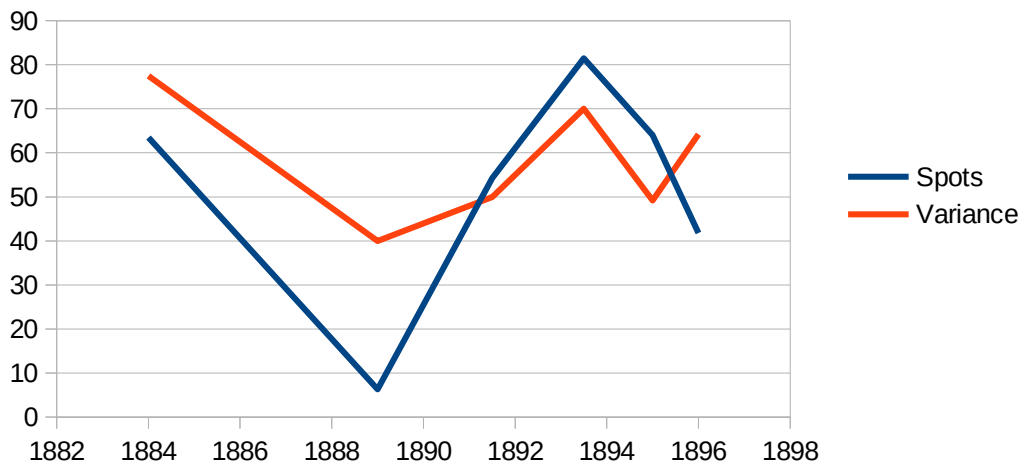
Mean sunspot number & interval variance of Neptune



The covariance is 203.0.

Pluto

Mean sunspot number & interval variance of Pluto

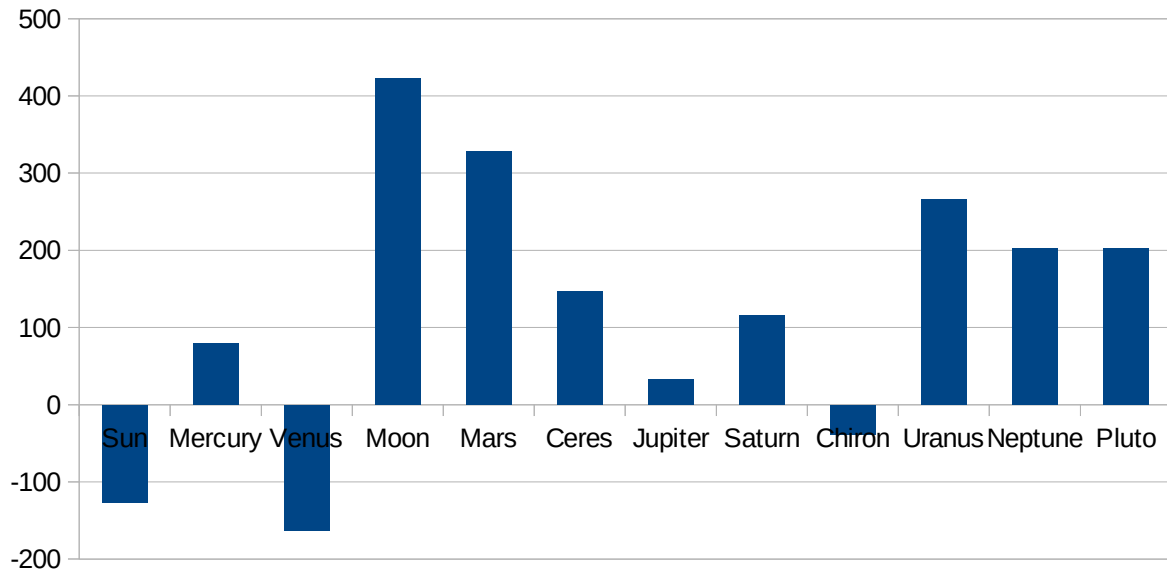


The covariance is 202.32.

The whole system

The results for the whole system are summed up below, where 'effect size' alludes to the extent to which an orb favors certain intervals to the horizon, as measured by variance.

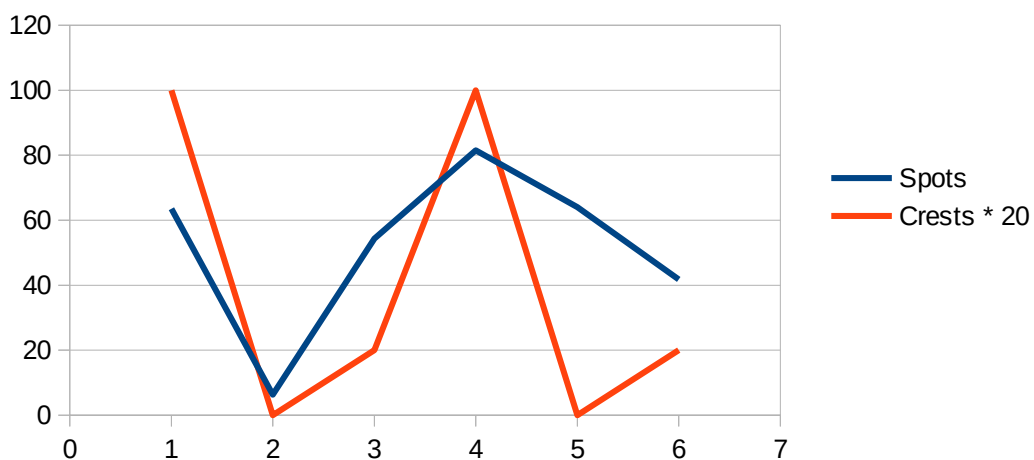
Covariance of sunspot numbers & effect sizes



Maximums & minimums

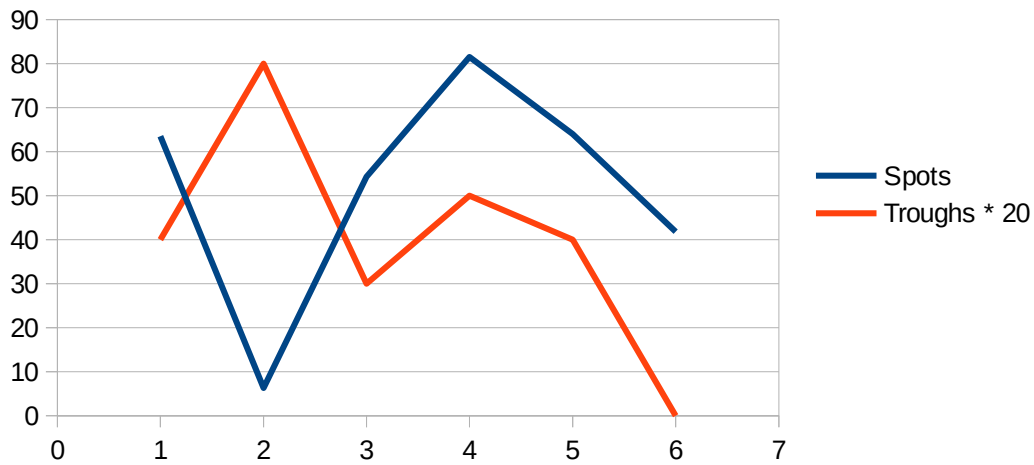
Another way to sum the results up is to compare the extremes of variance with the extremes of solar activity, to find out whether or not they tally. This can be done by noting for how many planets the variance was greatest in period 1, for how many in period 2 and so on, then by noting for how many planets it was smallest in each period. The numbers can then be scaled up to be compared on a graph with the numbers of sunspots. Periods of most variance can be called crests, since they appear on the graphs above as the highest points of the red lines, and periods of the least variance can be called troughs. On the x-axes of the graphs below, the numbers stand for the periods given above.

Numbers of sunspots & numbers of crests



The covariance has a positive value of 661.0, showing that effects tend to be greatest when the number of sunspots is greatest, so the covariance with troughs should be negative.

Numbers of sunspots & numbers of troughs

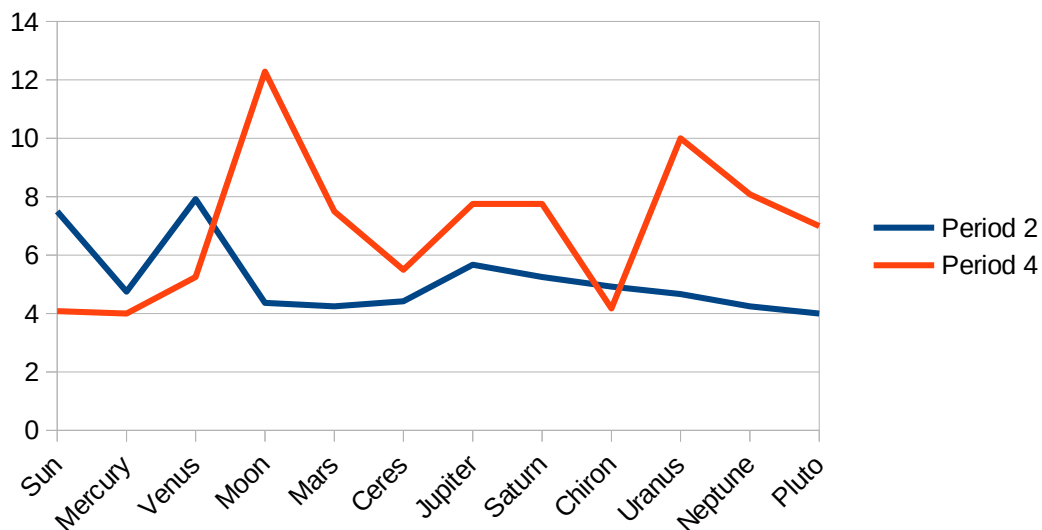


Indeed the covariance is now -191,3., but its size is only a third of what it was, mainly because there are two effects, not one. On the left of the graph the covariance is negative and on the right positive. Why does it change? To have more insight, it may be useful to compare the effect sizes of planets with each other in different periods. The six periods investigated cover one solar minimum (in period 2) and two solar maximums (in periods 1 & 4), so the effect sizes in period 4 may be compared with those in periods 1 & 2.

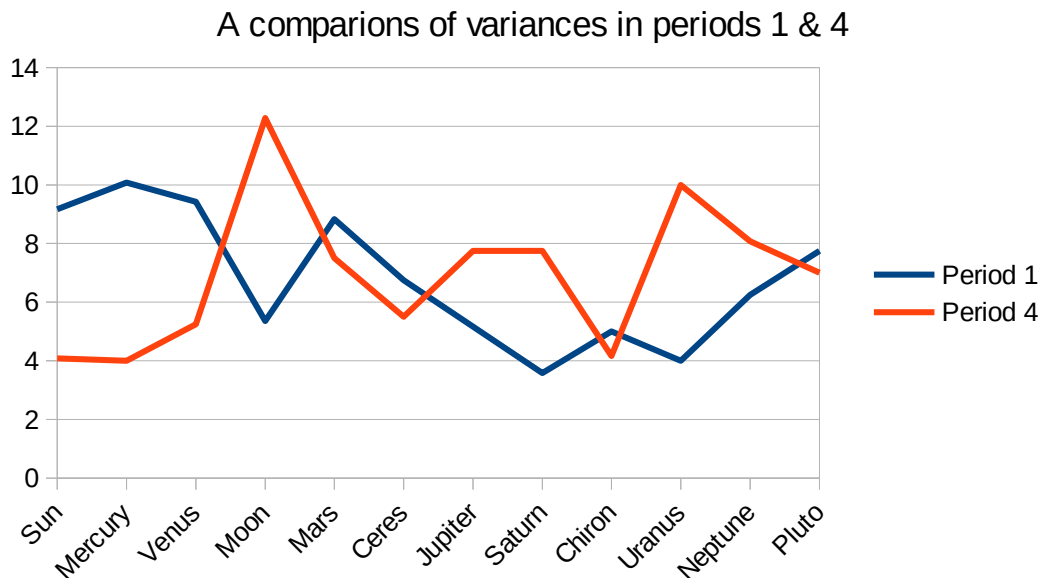
Variance

Here is a comparison of the minimum in period 2 with the maximum in period 4.

A comparison of variances in periods 2 & 4



The covariance is -1.28. Here is a comparison of the maximum in period 1 with the maximum in period 4.



The covariance is -2.95. In other words the main extremes of variance are not between minimum and maximum but between maximum and maximum, as if the variance cycles were mostly twice as long as the sunspot cycles. What may this be due to?

Polarity reversal

A graph of the number of sunspots over time shows a line wavering up to a crest then wavering down to a trough, the period between two consecutive crests or troughs being about 11 years, as if there were simply a rise and fall of activity, but the process is slightly more complex:

It was not until the first half of the 20th century that scientists began to understand what causes the sunspot cycle. Researchers determined that the sunspots were a magnetic phenomenon and that, indeed, the entire sun was magnetized with a north and south magnetic pole just like a bar magnet. The comparison to a simple bar magnet ends there, however, as the sun's interior is constantly on the move.

By tracking sound waves that course through the center of the sun, an area of research known as helioseismology, scientists can gain an understanding of what's deep within the sun. They have found that the magnetic material inside the sun is constantly stretching, twisting, and crossing as it bubbles up to the surface. The exact pattern of movements is not conclusively mapped out, but over time they eventually lead to the poles reversing completely.

The sunspot cycle happens because of this pole flip – north becomes south and south becomes north – approximately every eleven years. Some 11 years later, the poles reverse again back to where they started, making the full solar cycle actually a 22-year phenomenon. The sun behaves similarly over the course of each 11-year cycle no matter which pole is on top, however, so this shorter cycle tends to receive more attention.¹

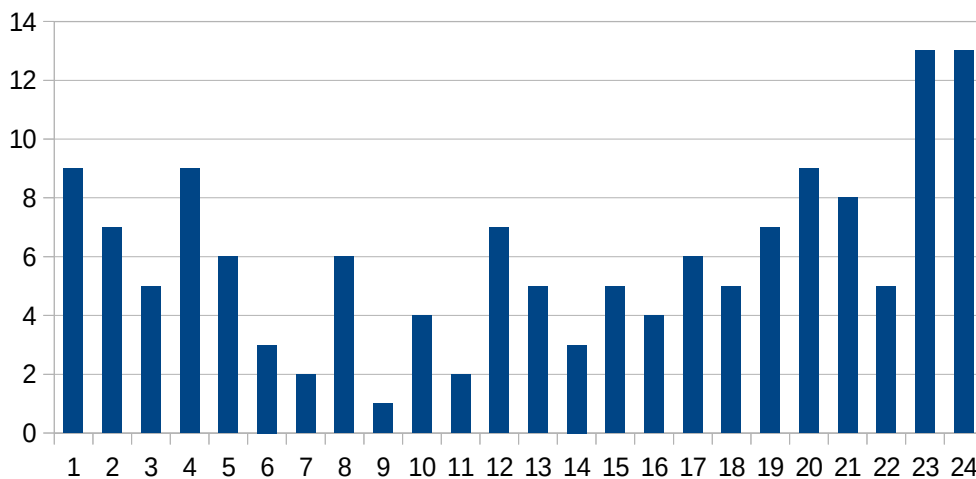
¹ NASA, Solar cycle primer, 27 Oct 2011, www.nasa.gov,

In other words the flip-flopping of the covariance between effect size and sunspot number tallies with the flip-flopping of the sunspot cycle, be it due to chance or an electromagnetic cue.

Time of exposure

The ease with which organic materials such as collagen are able to resonate with and identify atmospherics due to orbs' rising may vary with the number of sunspots, as does the quality of radio reception, owing to their interference. This can be checked by noting variations in the main interval between the rising of a timer and birth, the main interval being the zone where the planet occurred most often, or if it occurred most often in two zones, the zone flanked by higher columns. For instance, here are the raw results for the sun:.

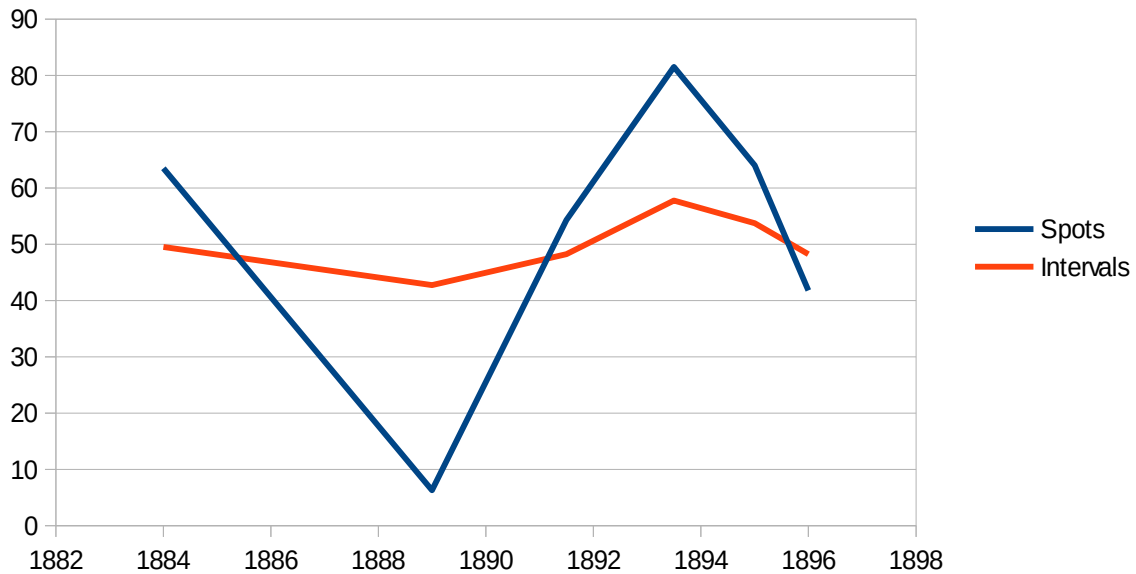
Parisians, the sun's rising in the hours before birth, the first 144 parents



The two main crests are in zones 23 and 24, but only 5 births occurred in zone 22, and 9 births in zone 25 (alias zone 1), so the main interval is 24 hours. The values for the sun through all 6 periods thereby become: 24, 21, 20, 5, 4, 22. Given the circularity of the scale, the values 5 & 4 are also 29 & 28, and the latter are more plausible in being more like the numbers before and after them.

This procedure works less well with planets beyond Mars, since their effects interfere with each other more, exaggerating the sizes of some crests. The series of values for Neptune for instance begins with 21, 9, 5, 18, showing little continuity, so results for the sun, Mercury, Venus, the moon and Mars are noted and added up for each period. The sums are then scaled down by being halved, to be of a suitable magnitude for comparison with numbers of sunspots.

Sunspots & the main interval to rising for the sun, moon, Mercury, Venus & Mars



In terms of hours the mean intervals from period 1 to period 6 are -

19.8 17.1 19.3 23.1 21.5 19.3

- but most intervals for the moon are much shorter than those for the sun and inner planets, so these figures are merely a loose guide to the separate results. The effect is uniform, the change in the interval to birth being proportional to the change in the number of sunspots both before and after the solar minimum, implying that the rates at which planets are sensed and identified depends only on the number of sunspots in all cases.

Summary

The evidence leads to the following conjectures: Effects showing the relative popularity of orbs as timers vary in 11- and 22-year cycles tallying with the time taken for sunspots to appear at a pole and drift to the equator (11 years) then to do the same from the other pole (22 years in all). The main interval between an orb's rising and birth likewise varies but only with the number of sunspots, so the covariance is always positive.