

SCANDAL, MURDER AND THE GAUQUELIN EFFECT

by Graham Douglas

Abstract: Two groups of extreme characters are analyzed, uncovering sharply defined patterns of VE and MO in diurnal sectors, which it is suggested show the Gauquelin Effect in concentrated form. The evidence points to an origin in heliocentric synodic cycles of the planets, while the mechanism of birth timing likely involves MO in signs or lunation phase together with sectors. Significant patterns are also found in Gauquelin sectors at the time of Pre-natal moons.

I have been wondering again about what might be learned from the birthcharts of extreme character types. Dean suggested that if the Character Traits Hypothesis (CTH) were true then such characters should provide the clearest evidence of planetary effects. Ertel rejected CTH, prematurely I believe (Douglas 2007, Muller 1993), but also provided evidence for curvilinear eminence effects, meaning that in some cases the greater the eminence the weaker the Gauquelin Effect.

Some time ago I published a study of terrorists and violent criminals in which the MA frequency showed an unusual distribution in Gauquelin sectors, and the Moon was unexpectedly strong in key sectors, given that the character traits normally associated with it do not include violence, (Gauquelin, F 1985; Douglas 1993). This latter feature has been confirmed in a recent study of serial killers by Jan Ruis (2008) using impeccable statistical technique.

Another motive for studying groups which might display very strong or unusual sector distributions is in the hope that they might show the Gauquelin Effect in a particularly clear form, allowing some further progress to be made in understanding its relation to the phases of planetary synodic cycles which were first noticed by Michel Gauquelin (1988), and which I have attempted with only partial success to incorporate into a formal model of the chain of causation of the Gauquelin Effect, (Douglas 2006, 2007, 2008).

Some New Data

With all this in mind I began to look at some characters who were notorious for their extreme public behaviour, hoping to find evidence of an

unusually strong Mars Effect, perhaps with a preference for diurnal placings by Sect, as suggested by the ancient belief in the nocturnal nature of this planet, which seems to be partially confirmed in a recent study of the Gauquelin data (Douglas 2010). Mars was believed to need cooling by the night in order to express itself as determination and strong will, and a diurnal MA was thought to be more common among those whose behaviour was rash, impulsive and violent.

However the pattern which began to emerge seemed to involve VE rather than MA, and over a period of time I collected data from the Astrodatbank website (now freely available at www.astro.com) by searching the keyword “scandalous”. A great deal of the data (N = 962 including this word) concerned people who had not been involved in scandal themselves, or had to be rejected for the low Rodden Reliability Rating of their birth data; or else were not used because it was thought that recent births are often induced to suit hospital routine, so disrupting any planetary timing.

After further consideration and searching other keywords such as “sexually outrageous” it was found possible to identify three categories of person as follows:

1. Bohemian artist types whose lifestyle or intentions provoked scandal, involving sex and often drugs (N = 89).
2. Those in the public eye who became caught up in a sex scandal only once, through an affair or by involvement with prostitution (N = 41).
3. Those only involved in financial or political corruption but not in sexual scandal. A small group involved in the French scandal of HIV-contaminated blood were included with these (N = 64).

In all three cases those involved in pedophilia or in sexual violence were excluded.

I then went on to look again at categories similar to those in my earlier study incorporating data on serial killers kindly supplied by Jan Ruis. This time I consulted the Astrodatbank site using the keywords “violent”, “brutal” and “murderer” among others. After collecting the data I identified four categories as follows:

1. Serial Killers as defined by the criteria developed by Ruis (2008)¹ (N = 67).
2. Multiple or mass murderers, war criminals and violent sex criminals (N = 83).
3. Those who only killed once (ordinary murderers) (N = 53).

¹ I am grateful to Jan Ruis for supplying this data.

4. Terrorists (N = 33).

In all 7 sets only births occurring up to 1951 with Rodden Ratings of AA, A or B were accepted. In practice only 6 Bohemians had a B rating of whom 3 had VE in a + zone VE; and one (Andy Warhol) was rejected as a B, because of the number of different birth times that have been suggested. Although almost all these people were artists of one kind or another, only 4 were painters or musicians included in the Gauquelin database (Van Gogh, Courbet, Manet and Toulouse-Lautrec), two of whom have VE+. It is therefore possible to say that the strong VE+ result is a prediction, not a test of the null hypothesis, and one-tailed statistics are applicable.

The normal classes of houses are here used for descriptive convenience but the calculations were all done with Gauquelin sectors

RESULTS

A: Bohemians N = 89.

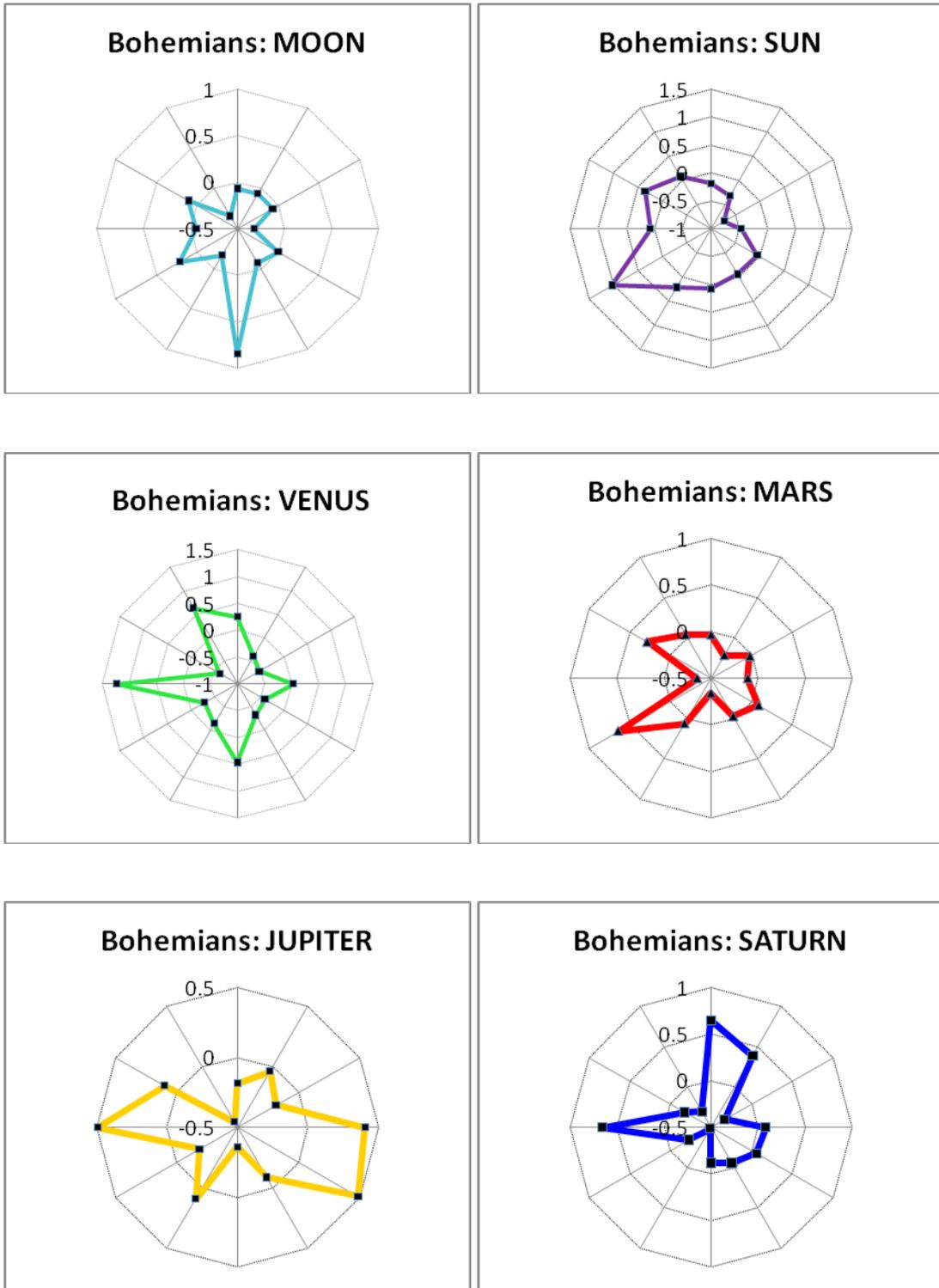


Fig.1 FDs from expected birth frequencies of 5 planets in Gauquelin Sectors for Bohemians. Note the very large FD value for VE in KS1, a typical value for the Gauquelin data would be 0.25; and notice the way MA avoids key sectors. The SO graph shows that the births follow a typical nycthemeral curve, with a sharp peak in the early morning (N = 89). KS1 is at 9 o'clock in each graph.

A: Bohemian Scandalous Professionals

In these and all subsequent graphs, unless stated otherwise, are shown the Fractional Deviations from expected values (FDs), calculated as follows:

$$FD = (\text{Observed birth Frequency} - \text{Expected Birth Frequency}) / \text{Expected Birth Frequency}$$

The expected values were obtained from the amalgamated Gauquelin professional data (N = 15934) after shuffling in such a way that the time, place and year of birth were unchanged while days and months were exchanged randomly. The resulting birth frequencies per sector were then scaled down to the total for each sample. In each graph KS1 is the point at 9 o'clock so the AS-DS line is not horizontal.

The expected value for VE in Cadent Houses is very close to the fraction $E = 1/3$ giving $\chi^2 = 12.08$ (Df = 1), $p = 0.00051$, and using the extended Key Sectors with $E = 14/36$, $\chi^2 = 19.65$, $p < 10^{-5}$. Since this result is predictable from the Gauquelin data we can treat the test as a 1-tailed Goodness of Fit test in which case these p values can be divided by 2. To appreciate just how strong this result is, the Effect Size calculated by Cramer's $\phi = 0.47$, and 0.375 by the Kappa factor. The Gauquelin data never reached above 0.06. We can note that sectors KS1 and KS4 contain many more births than Sectors 7 and 10, as is also the case with the Gauquelin professional data.

The other distributions were not predicted and MA, JU are not significantly different from a null distribution by χ^2 with Df = 11, but it is consistent with a strong VE that we can expect a weak MA so that a low frequency of births in Gauquelin sectors is predicted. The MA frequency in Cadent houses is 23 out of 89, ($23/89 = 0.26$), giving a χ^2 with (Df = 1) of 1.99 and using extended sectors the result is only 1.35, but it is striking how MA avoids KS1 and has peaks on each side of it. There is also a small SA excess in cadent houses (χ^2 , (Df = 1) = 3.89), and a suggestion of a 2nd harmonic for JU, and when sectors 1,2,7,8 for JU are combined the χ^2 result (Df = 1) is 4.47, $p = 0.034$.

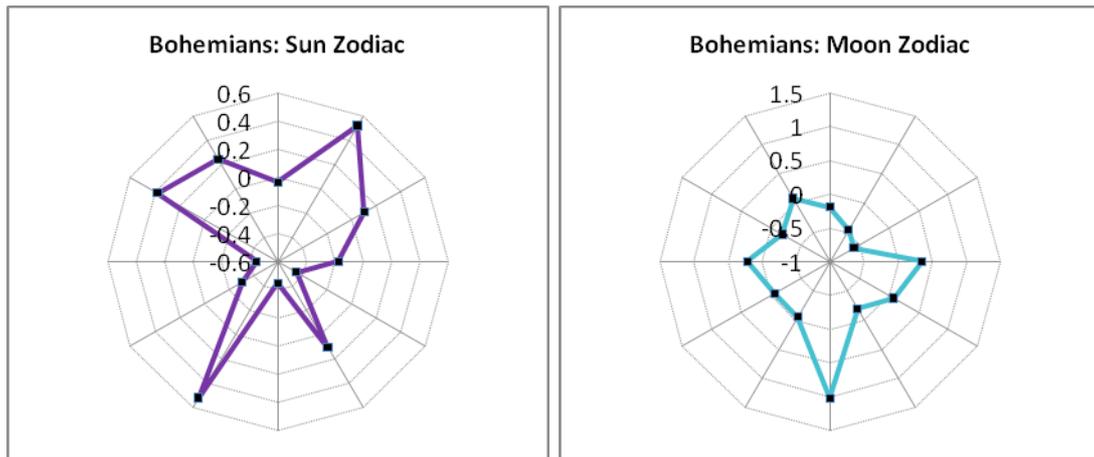
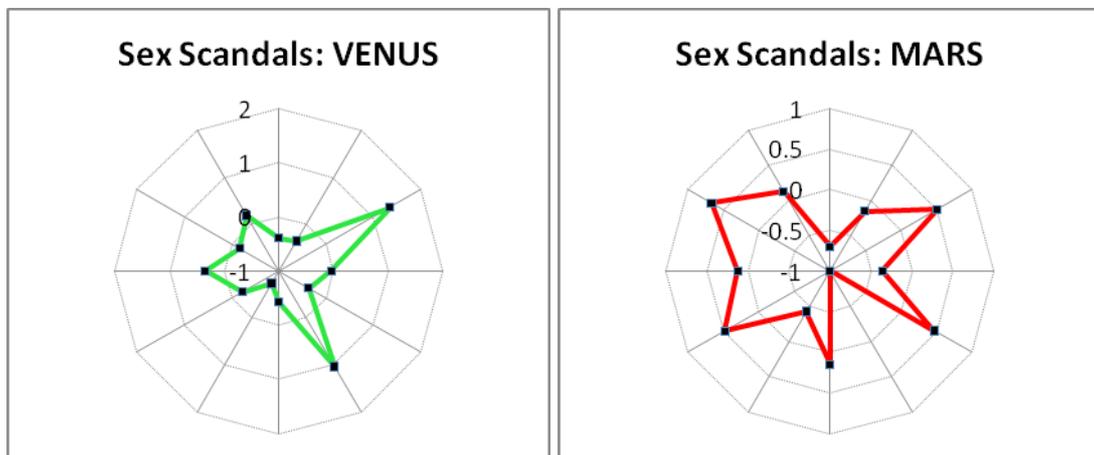


Fig. 2 Showing the Sun and Moon Distribution in zodiac signs as fractional deviations from the *mean* frequency. The large Moon peak is in Cancer.

The Sun and Moon distributions in the zodiac are shown in Fig. 2. The Moon distribution was tested against the Null Hypothesis (equal probabilities in all signs) by χ^2 (Df = 11, Yates Corrected) = 11.38 which is not significant, and the Cardinal Signs are somewhat over-populated, χ^2 (Df = 2) = 5.42, $p = 0.066$ by interpolation from tables (Dean and Mather 1977: 105), although this is not strictly an *a priori* test. The sun is also potentially interesting because of the known seasonal variation in magnetic storm frequency, which peaks near the equinoxes. The pattern here is not striking but shows a slight preference for the solstices when there are less storms, as well as an excess in Mutable signs, which Ruis (2008) noted among Serial Killers.

B: Sex Scandals N = 41



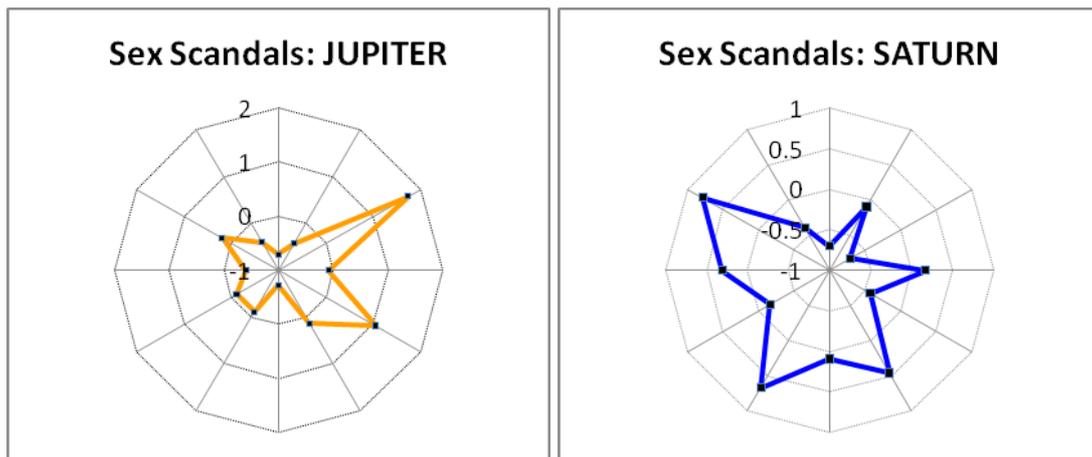


Fig. 3. Public figures involved in sex scandals. Note the very large FD for VE again, this time in sector 6 as if the Bohemian graph has been rotated through 5 sectors. The 4 - fold symmetry is retained and the JU graph in this case is very similar to VE except that there is a peak in sector 8 instead of 9.

In the data for those who became involved in sex scandals without leading a publicly Bohemian and scandalous life in general there are also very distinctive planetary patterns (Figs 3 and 4), and the VE result is particularly interesting as it retains the 4-fold symmetry of the Bohemians but is now placed in the Angular houses with a large peak in sector 6. It could be viewed as rotated clockwise by 5 sectors if we focus on the large peaks, but in terms of house types, a move from cadent to angular is most simply described as a rotation by one house *anti*-clockwise relative to the Bohemian group. Since this pattern was not predicted it is reasonable to do a χ^2 test for the three divisions of houses into Cadent, Succedent and Angular, giving 6.49 with $Df = 2$, and $p = 0.02$ by interpolation from tables.

The JU pattern is 2 large adjacent peaks and 2 small ones opposite them resembling VE in both datasets, and MA seems to display a 2nd harmonic component. It begins to seem that all 4 planets are distinctively placed, not just the one usually viewed as the Gauquelin planet for a particular profession, and it is useful to recall the structural relation which exists among the planets (Irving 1995, Douglas 1996).

In view of the interesting shift of the 4-fold pattern for VE from Cadent to Angular houses it is useful to make a Contingency test to compare these two groups. When this was done with the 3 house categories (Cadent, Succedent, Angular) with $Df = 2$, the χ^2 value was 6.67, giving $p = 0.035$, and when only

2 categories were used (Cadent and The Rest) with Df = 1, the result was 5.17, p = 0.023.

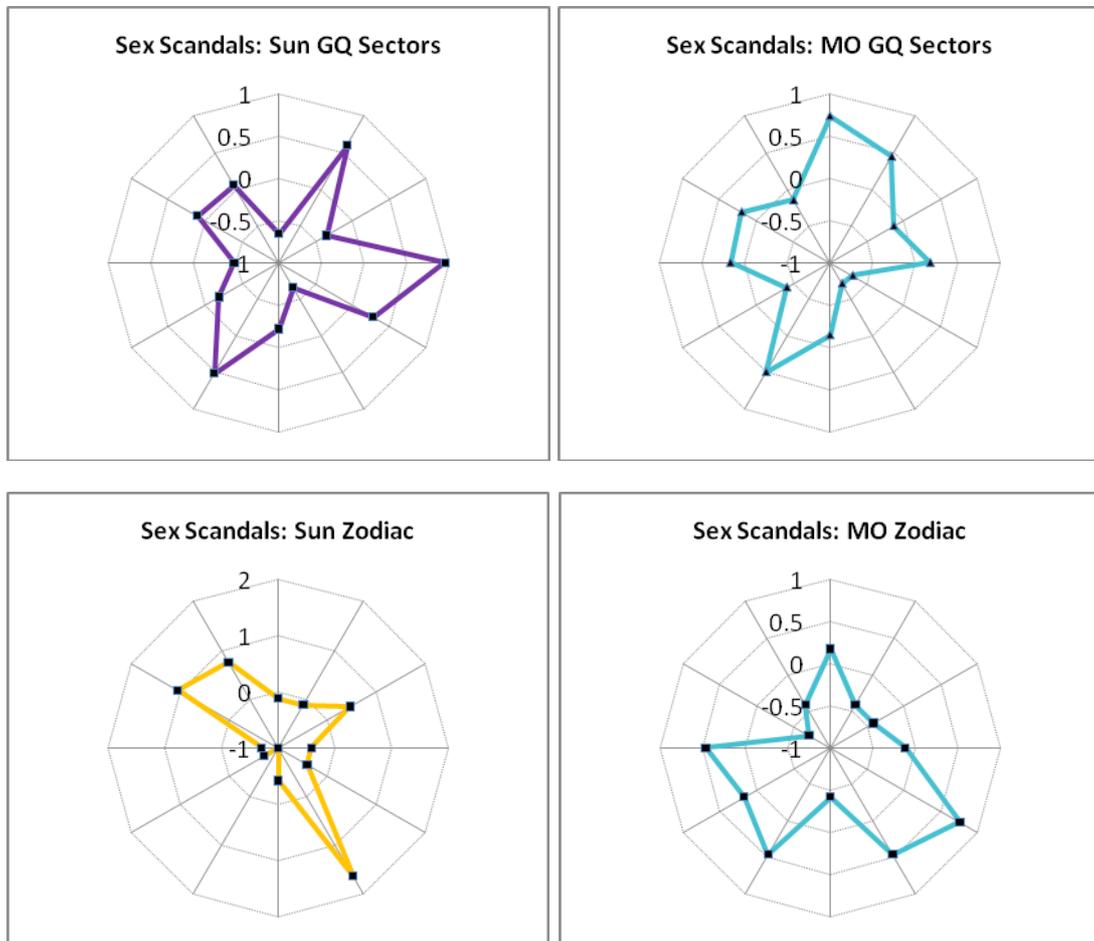


Fig. 4 Showing the FDs for Sun and Moon distributions in Gauquelin Sectors; and in the zodiac for Sex Scandals as FDs from the mean frequency per sign.

The patterns shown by the sun and to a lesser extent, the moon in Gauquelin sectors are more striking than for the Bohemian group, suggesting that a 4-fold distribution of the sun may be related to the Gauquelin Effect, at least for VE in one sample. The main peaks are in the succedent houses, and a χ^2 test (Df=1) value of 5.90, $p = 0.012$, shows the excess is significant. It is puzzling that the corresponding graphs for Bohemians are not so marked by symmetry although their VE graph is stronger.

The zodiac distributions shown in Figs. 2 and 4 also reveal a prevalent 4-fold symmetry in 3 cases out of 4, with the Moon focused on cardinal signs but without the prominent peak in Cancer. The sun for the Sex Scandal group has symmetry focused on the axes of the fixed signs, (χ^2 (Df = 2) was 6.49 giving

$p = 0.05$, and 5.90 ($Df=1$), $p = 0.02$), although there is no simple preference for either equinoctial or solstitial seasons, but it may be significant that the sun transits the fixed signs 1 month after the cardinals and that the peaks in Aquarius and Leo are more prominent.

Finally two graphs of the phases of the MO in relation to its North Node are presented in Fig. 5. Some 4-pointed star patterns are discernible in both cases, and in the Bohemian case they are mostly aligned along the phases immediately following the Conjunction, opposition and squares. A χ^2 calculation ($Df=1$) gives values of 4.40 comparing all 4 peak phases with the rest, and 4.16 comparing just the 2 biggest peaks at the squares with the rest. The p values are below 0.05 in both cases.

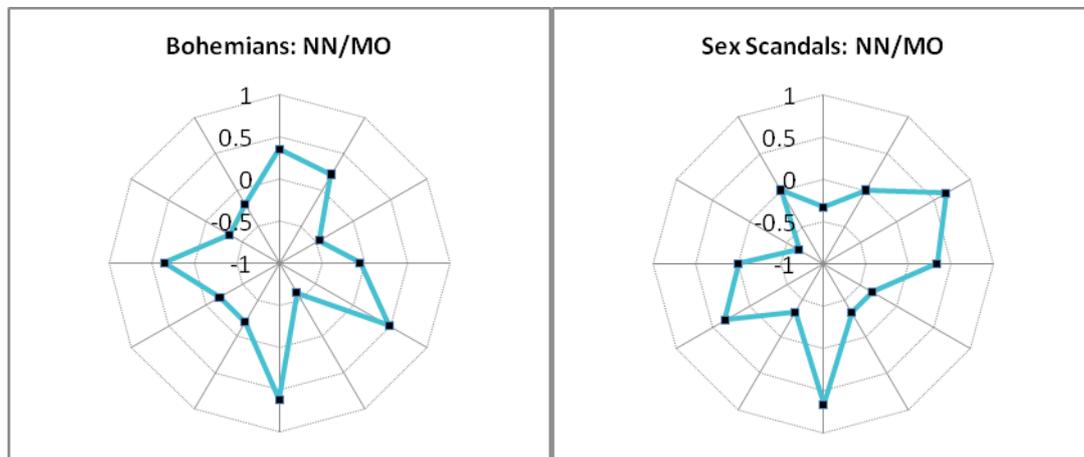


Fig. 5 The FDs distribution across the MO/NN cycle.

C: Financial and political scandals N = 64.

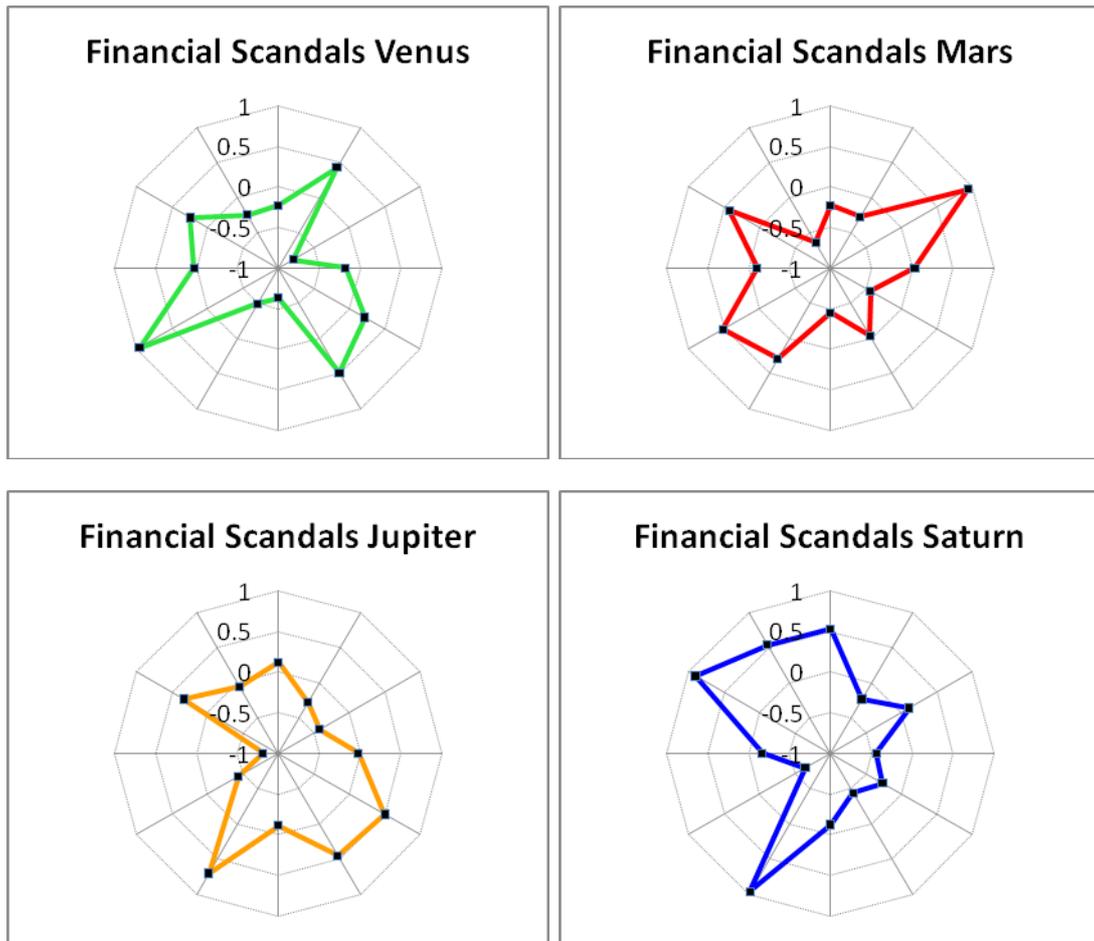


Fig. 6. People involved in Financial and Political Scandals (N = 64). The VE graph has lost a lot of its symmetry and is now spread over succedent as well as angular houses.

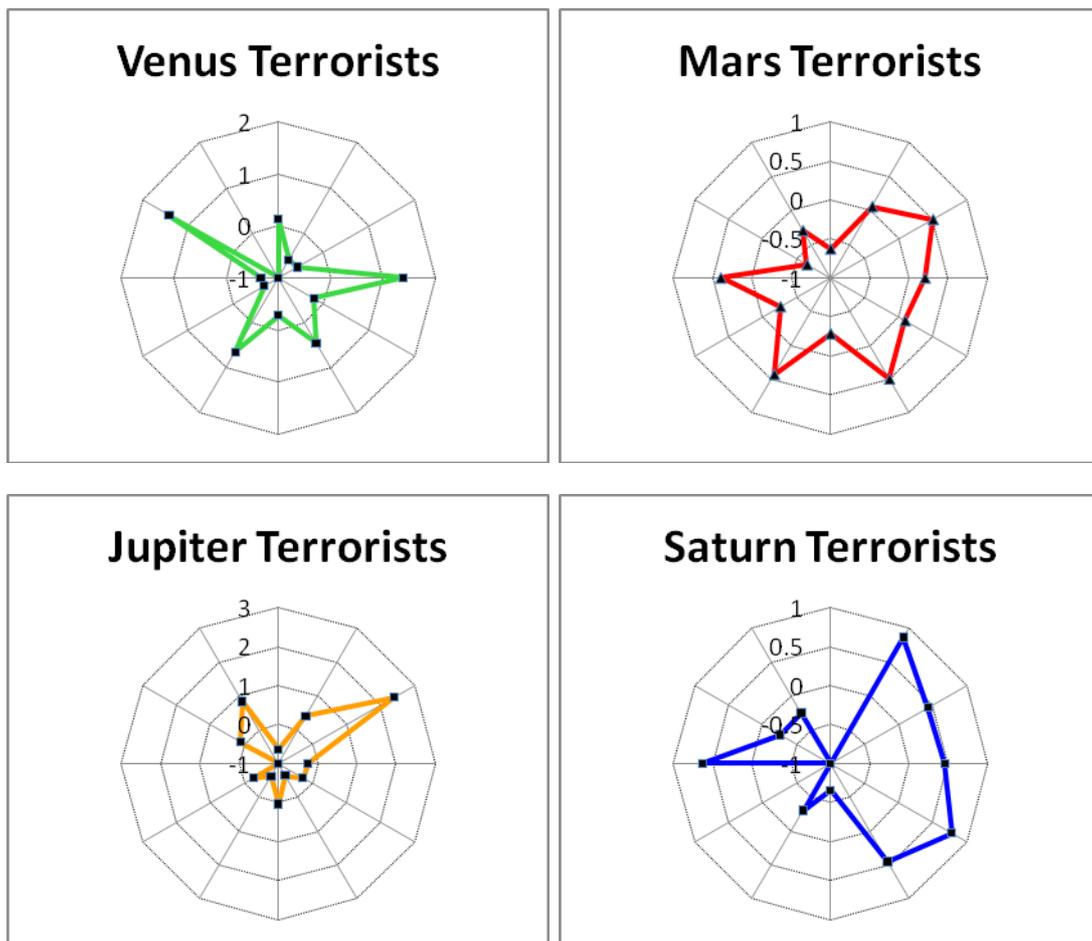
While a lot of the structure found in the previous groups has been lost among the data for those involved in Financial or Political scandals, there remain some suggestions of 2nd and 4th harmonic patterns.

VIOLENT CRIMINALS

A: Terrorists N = 33.

The patterns visible in this small sample again feature two types seen in the VE data: the 2 strong peaks 3 sectors apart in both VE and JU and the 2nd harmonic in SA.

The Moon result resembles a typical Gauquelin pattern for writers but the peaks are not large enough to be significant by χ^2 due to the small size of the sample. When a χ^2 test is carried out on the VE distribution for the 3 types of houses, with $Df = 2$, VE reaches 3.82 which is not significant, and JU gives 5.64 close to the figure of 6.0 required to reach $p = 0.05$. The VE pattern shows a peak in the succedent houses (15/33) which is not surprising, but the lowest frequency (6/33) is for VE in Angular houses not the cadent houses as might be expected. However VE is notably absent from KS1 where MA is fairly strong.



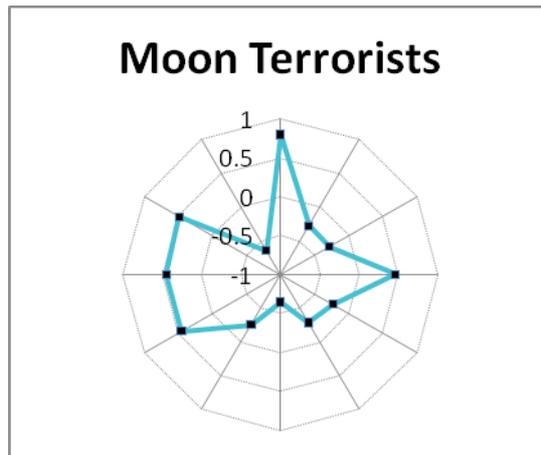
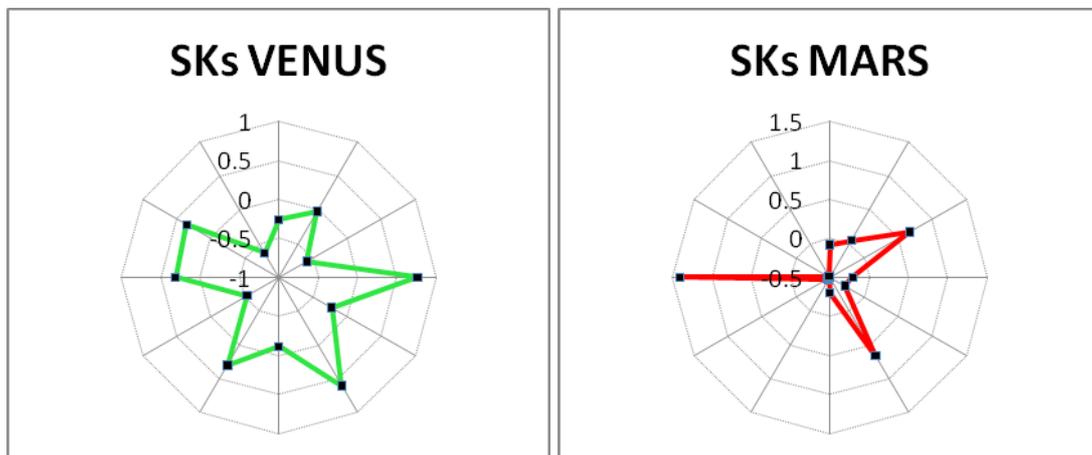


Fig.7 Terrorists N = 33 . In this case VE avoids KS1, MA is less distinctive, but JU and SA seem to have a 2 strong peaks each with JU resembling VE or JU in other groups. The Moon graph unexpectedly resembles a Gauquelin pattern for writers.

B: Serial Killers N = 67.



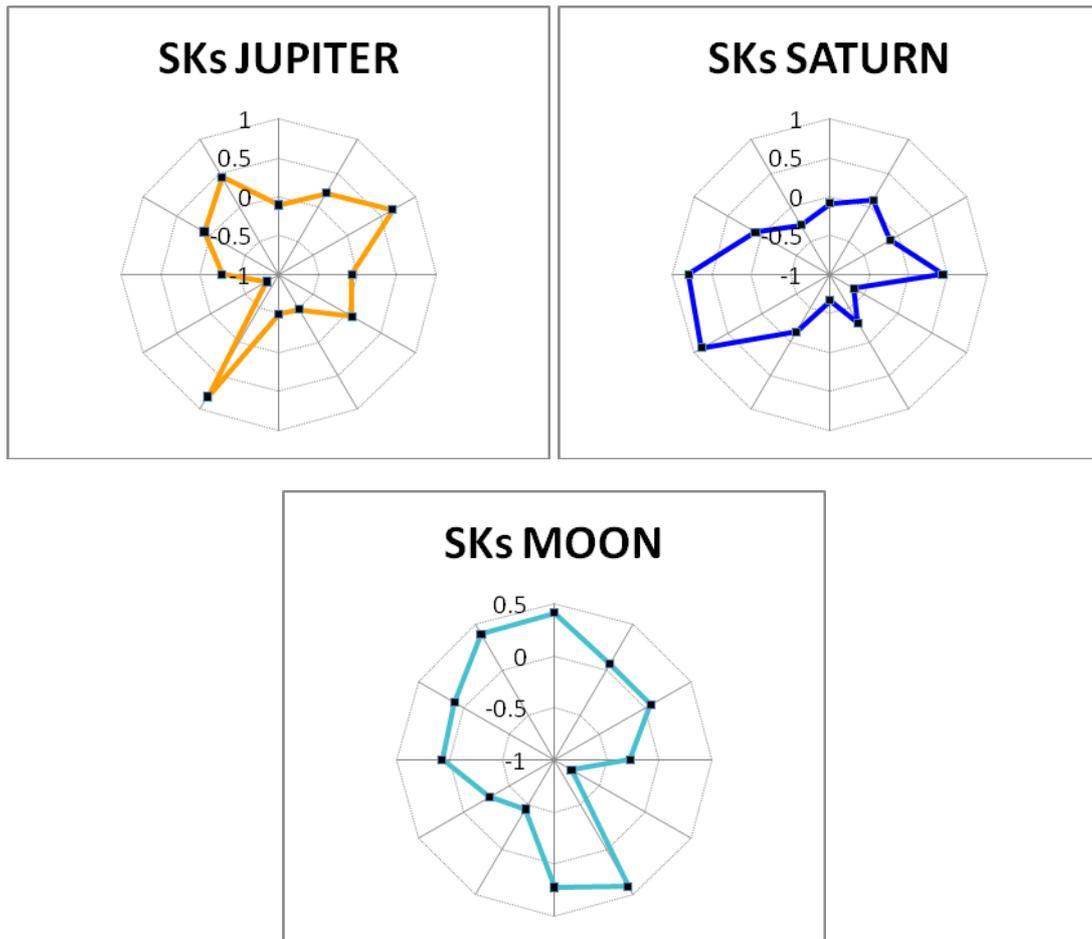


Fig. 8 Serial Killers N = 67. While there is less 4-fold symmetry, the MA peak in KS1 is very large and predictable, but other killer groups do not show it. The Moon shows some preference for the meridional axis including KS4 and Sector 10.

A statistical analysis following the methods used above does not yield any significant results for this group, because the strong peaks do not conform to a preference for any one type of astrological house. However the result for MA is so striking and predictable that it is worth doing a χ^2 test for KS1 alone, which yields a value of 11.1 (Df = 1), $p < 0.001$. As we shall see, only the Serial Killers produce this pattern for MA. Although it cannot be claimed as a null hypothesis test a χ^2 test was also done for the SA pattern with a view to possible replication on other samples. In this case there are 17/67 births with SA in sectors 1+7, a distribution which gives χ^2 (Df = 1) of 4.04, $p < 0.05$.

C: Mass murderers, violent sex criminals and war criminals N = 83.

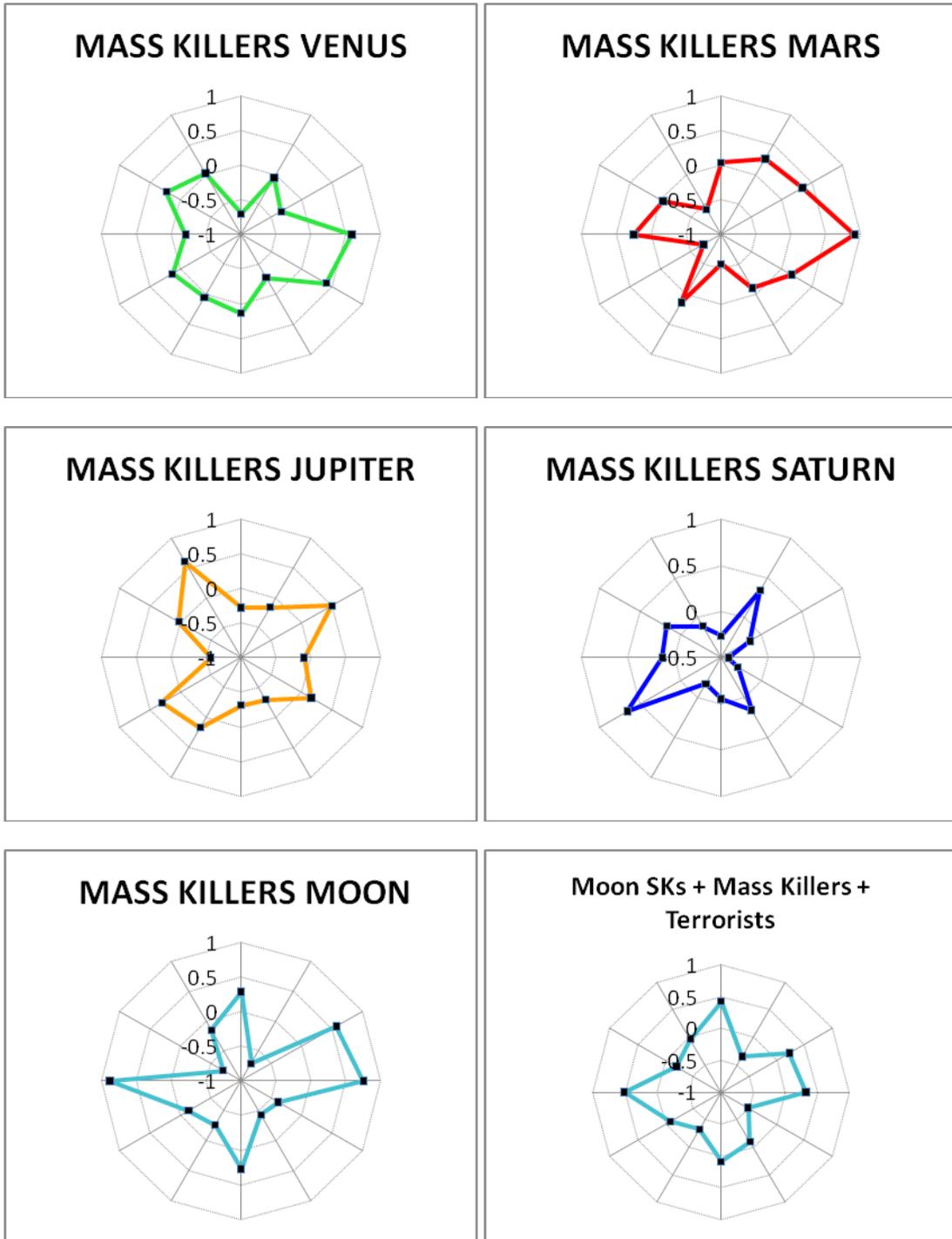


Fig.9. Mass Killers including War Criminals. Note the very characteristic MO pattern, persisting in the combined data which is displayed next to it.

The MO result for mass killers is very striking and highly significant, with a χ^2 result of 12.36 (Df = 1), $p < 0.001$, and for the extended Gauquelin sectors: 14.18, $p = 0.00017$ by interpolation. MA now peaks in sector 7 instead of KS1.

In Fig. 10 the zodiac distributions for SO and MO are shown, which can be compared with the corresponding graphs in Figs. 2 and 4. It is remarkable that the graphs seem to be related by a rotation of one sign, clockwise for the SKs relative to the Mass killers and Terrorists in the case of the MO and anticlockwise for the SO in the sequence: Mass killers < SKs < Terrorists. The summed SO results are also shown.

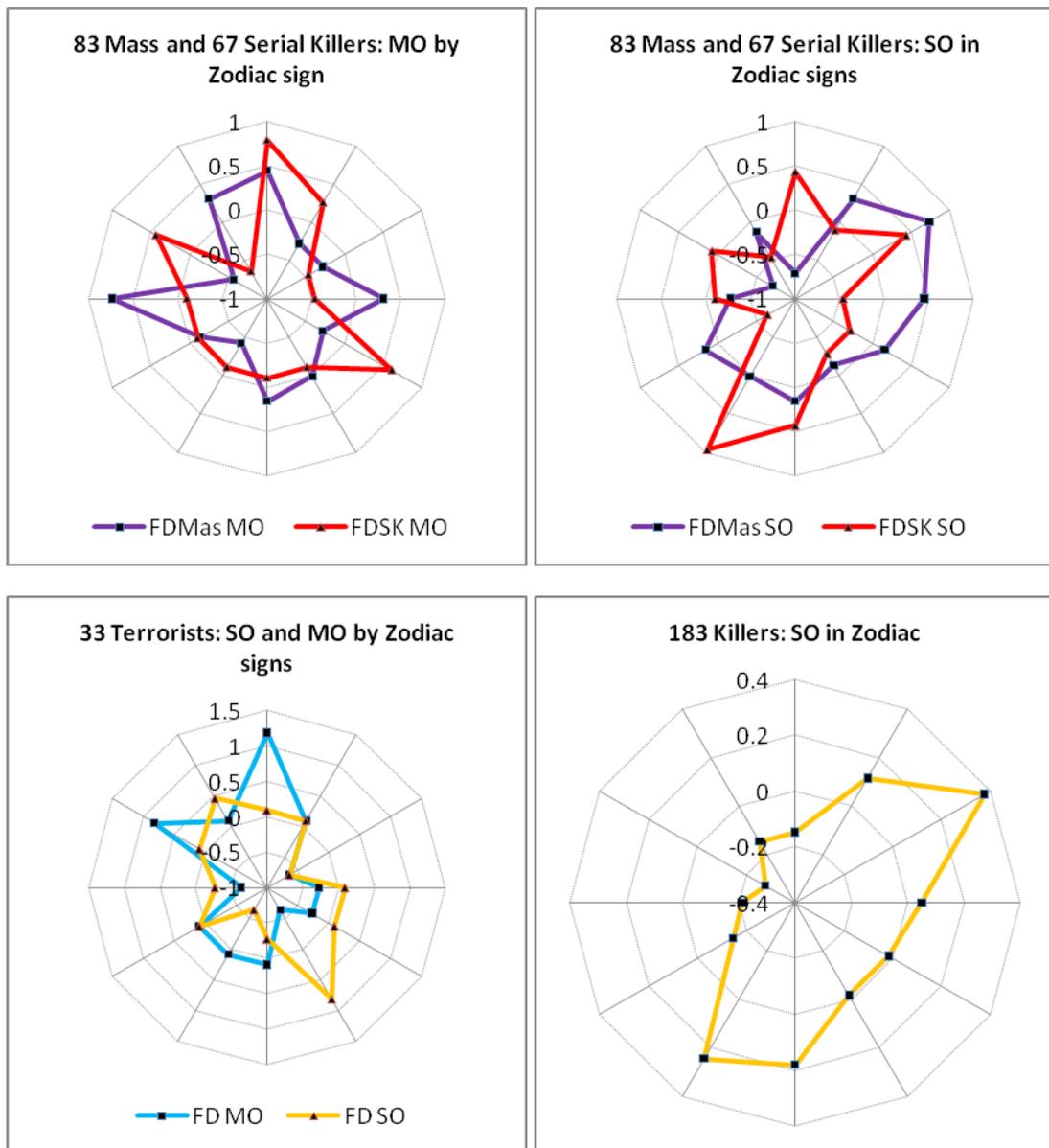
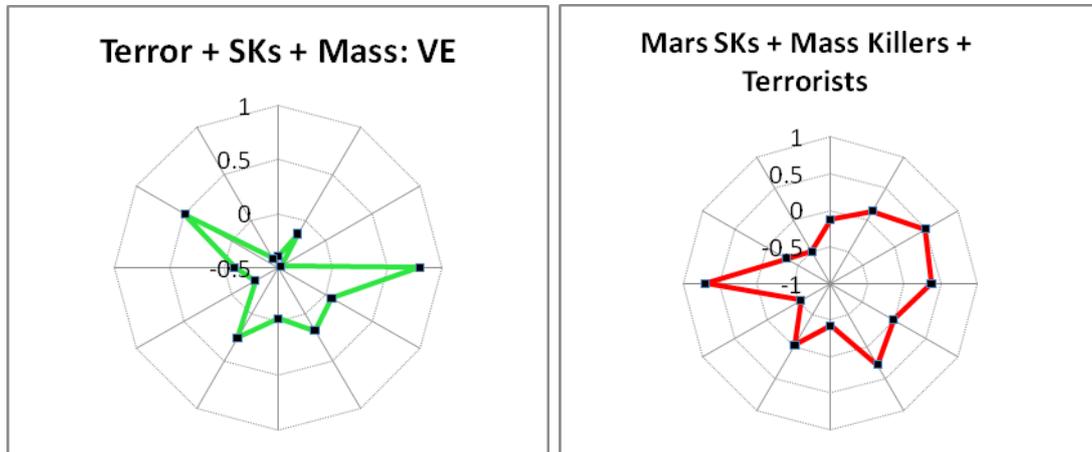


Fig. 10. Showing the Distributions of SO and MO in the Zodiac with AR at 9 o'clock.

Taken together with the results in Figs 2 and 4 there seems to be a tendency for SO to show stronger 2nd harmonics while MO has more 4th harmonic character. The Mass Killers are the only set where there is a statistically significant variation among SO placings in the 3 classes of zodiac signs: Cardinal 39, Fixed 27, Mutable 17, so χ^2 (Df = 2) = 8.77, and $p = 0.012$. The SKs have a slightly higher frequency of births in Mutable signs, among other features discussed by Ruis (2008), and if just the 4 signs GE,CA,SA,CP are considered there is a significantly higher number of births, $N = 32$, χ^2 (Df = 1) = 6.28, $p = 0.024$.

These results are discussed below in relation to the known semi-annual variations in the frequency of geomagnetic storms.

The Combined data for Serial Killers, Mass Murderers and Terrorists (N = 183).



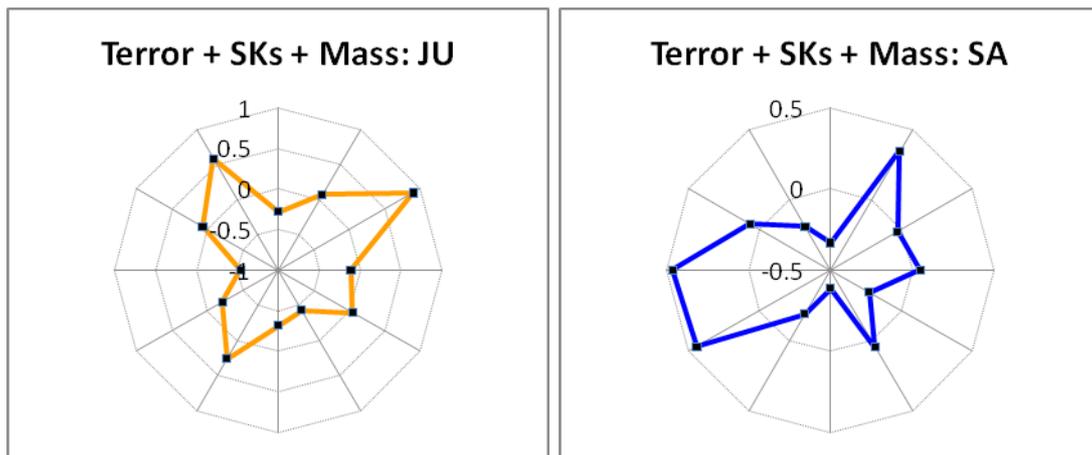


Fig. 11 showing the combined data for all 3 killer groups.

Adding all three groups shows that some symmetry remains and certain characteristics are reinforced, although only the Moon shows a typical Gauquelin pattern, which of course is extremely unexpected in such a group who don't seem to have much in common with famous writers.

There are a number of significant χ^2 results, (Df = 1 unless stated otherwise).

The Moon result is less significant than for mass killers alone for the cadent houses (10.35, $p = 0.001$), but more significant than before when extended Gauquelin sectors are used (16.56, $p < 0.0001$).

It is important to understand how strong the MO result is and a good indication is provided by a calculation of Effect Size. There are several measures in common use, so two will be given here. Cramer's ϕ is 0.30 and the Kappa factor k is 0.24. These compare with typical values for the Gauquelin data of 0.03 to 0.05. The increase has occurred in two ways: the FDs are about double that observed in a typical Gauquelin data set, and in addition the peaks in sectors 7 and 10 are comparable to those in KS1 and KS4, for the mass killers, instead of being much smaller. In the combined sample sector 7 still has a large amplitude but the peak in sector 10 is smaller.

For MA in KS1 only $\chi^2 = 8.50$, $p < 0.01$, and for interest the value for KS1 + sector 7 combined is 10.47, $p < 0.001$. The null hypothesis for the whole distribution can also be rejected as the χ^2 value is 27.50 (Df = 11), $p = 0.004$ by interpolation.

The JU distribution gave χ^2 (Df = 11) = 29.41, $p = 0.002$ by interpolation. The pattern seems to be a 3rd harmonic with some 4th mixed in.

For SA, the same calculation gave 14.01 (Df = 11), not significant, but there is a suggestion of a 2nd harmonic which is a candidate for possible replication.

GENERAL DISCUSSION AND FURTHER ANALYSIS.

A number of sharply defined patterns have emerged in a background of many significant statistical test results, and it is suggested that they provide a rare opportunity to examine the Gauquelin effect in a concentrated form. We can summarize the most important results first:

1. It has been shown that an extreme VE group has an extremely significant and classically symmetrical Gauquelin Effect for VE. This is especially important because it concerns a group who were almost entirely absent from Gauquelin's collection of artists and painters. The VE effect was also the least well attested result in the Gauquelin data, so this constitutes an important replication.
2. The VE data for those involved in sex scandals reproduces the same pattern but in the angular houses instead of the cadent, providing an ordering in which the intensity of the behaviour falls with the intensity of the VE effect, a replication of Ertel's Eminence Effect on an independent group, with a planet not studied by Ertel (1993).
3. There is a clear tendency for MA to avoid the strong sectors preferred by VE in the group of Bohemians, as well as an inverse pattern for serial killers in which a strong MA is accompanied by VE avoiding the key sectors. These results are consistent with what we already know about the contrasting natures of VE and MA.
4. There is a remarkably strong tendency for the Moon to occupy the Gauquelin sectors in the 3 most extreme groups of killers, but no excess in the group of ordinary murderers. This confirms and makes more precise the results already published on this subject by Douglas (1997, 2007) and Ruis (2008). It may also be a remarkable new example of the so-called curvilinear Eminence Effect (Ertel 1993), in which some planets seem to show first an increase and then a decrease in the intensity of the Gauquelin Effect as eminence rank increases.

This can be presented graphically using the value of the Effect Size parameter Kappa as shown in Fig. 11 for VE in the first three data sets. It is clear that the biggest change occurs with VE moving from Cadent to Angular houses accompanying the shift from Bohemians to Sex Scandal groups,

while very little happens in the Financial Scandal group or in the Succeedent houses. This seems consistent with the idea that a planet is at its strongest in cadent houses and weakest in a succedent house, which is in line with the Gauquelin research and not with astrological dogma.

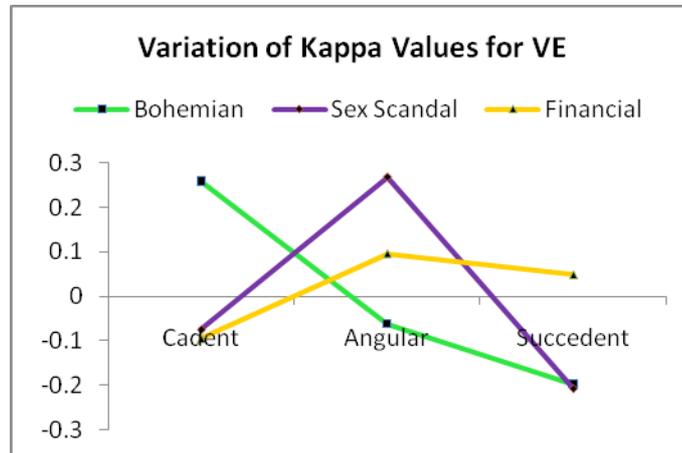


Fig.12. Effect Size Kappa Values for VE, expanded Gauquelin Sectors not used in order to show shift of effect into angular houses.

It is now time to consider the forms of the distributions which have emerged in some of the samples and see what clues they yield if we make the enabling assumption that they show the Gauquelin phenomenon in its clearest form.

The Heliocentric Synodic Cycles of the Planets.

I have referred to the conjunction cycles of the planets in several publications, but only found rather weak confirmation of their presence in the Gauquelin data. I still believe they must play a part in the mechanism of the Gauquelin Effect, if only because it is hard to conceive of any other way that the action of the planets on solar activity can be expressed. I take it as axiomatic that the planets can have no relevant *direct* effect on gestation and birth: the only plausible explanation must involve the sun.

The graphs to be presented now are remarkable in their clarity and in how closely they resemble the ones shown above, for VE in both Bohemians and the Sex Scandal groups.

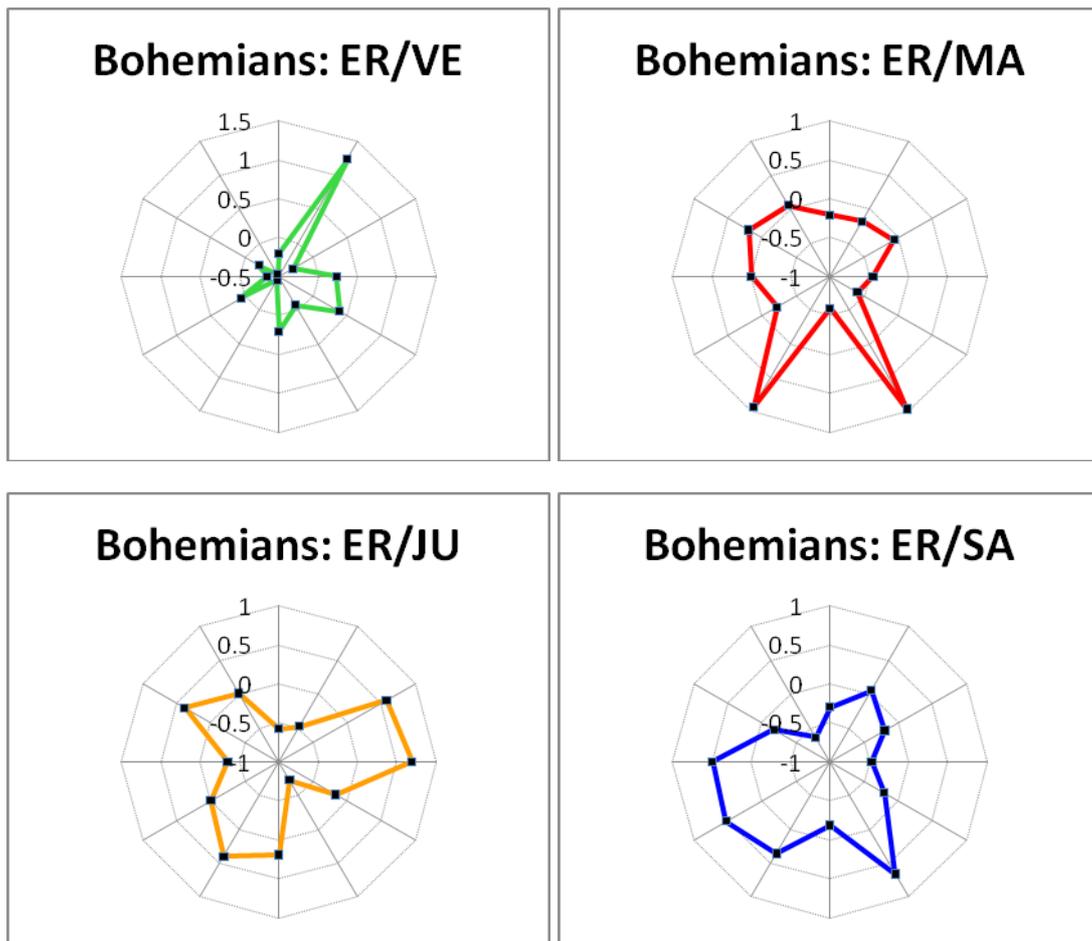


Fig. 13A.FDs for the Bohemian group, plotted across the heliocentric phases of the ER/Planet conjunction cycles, with ER clockwise of each planet.

The patterns can be assessed statistically against the null hypothesis by a χ^2 test with $Df = 11$. For VE in Bohemians the result is 14.5 Yates Corrected, not significant; without Yates Correction, which is not universally accepted, the result is 16.8, still insignificant. The result for Sex Scandals is only 9.9 with Yates Correction and 14.7 without.

Besides the statistical analysis some of the patterns and their interrelations are quite suggestive. Thus the ER/VE pattern for Sex Scandals has a T-Square pattern which is also seen in the distributions for *both* Venus in Gauquelin Sectors and Sun in zodiac signs shown in Figs. 3 and 4. Since ER in heliocentric coordinates is simply the reverse of SO in geocentric a connection is suggested by these graphs which may help to explain the Gauquelin Effect.

Another suggestive pattern is a degree of mirror symmetry between 3rd harmonic patterns which exists between ER/JU and ER/SA in the Bohemian

group, while for the Sex Scandals the relationship appears to be a shift from a 2nd to a 3rd harmonic. However it is well to be cautious since the patterns have also varied as the samples have accumulated. With these small samples a pattern which seems striking may shift into something quite different with the addition of just a few extra data points.

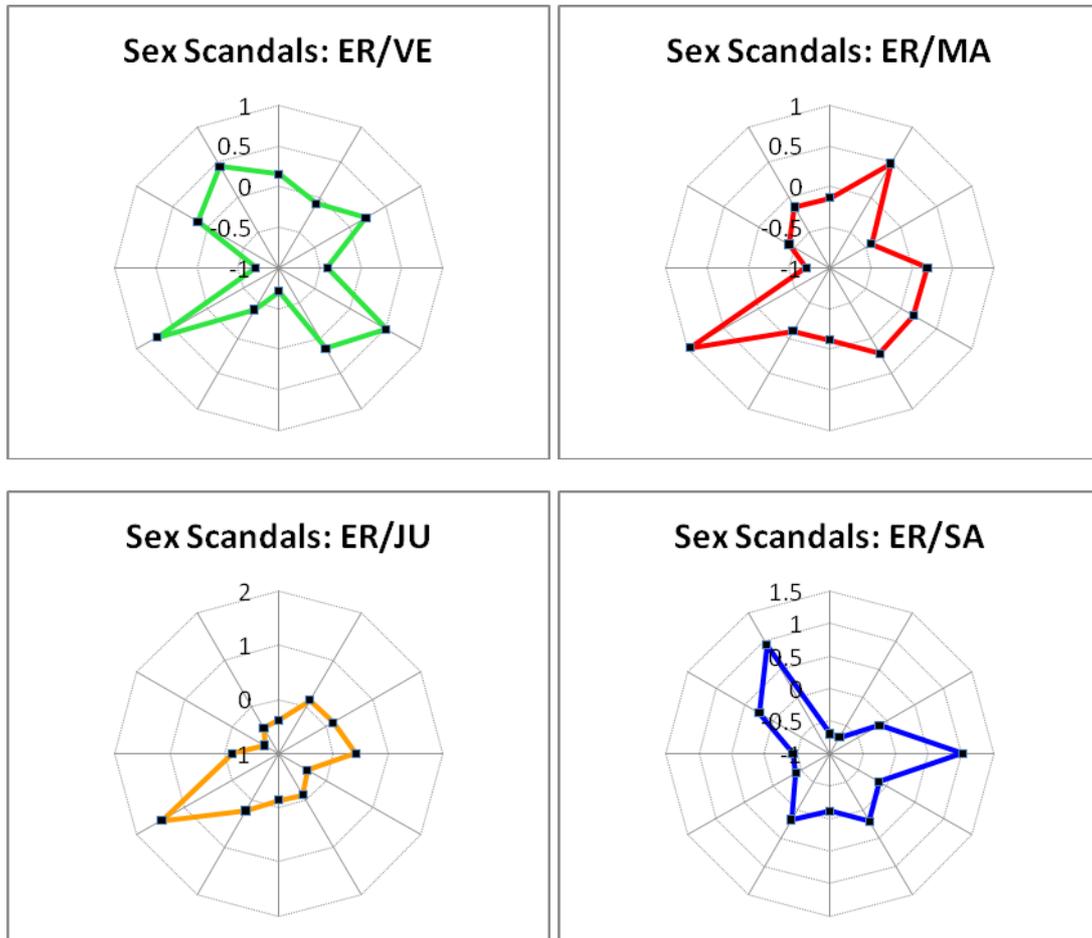
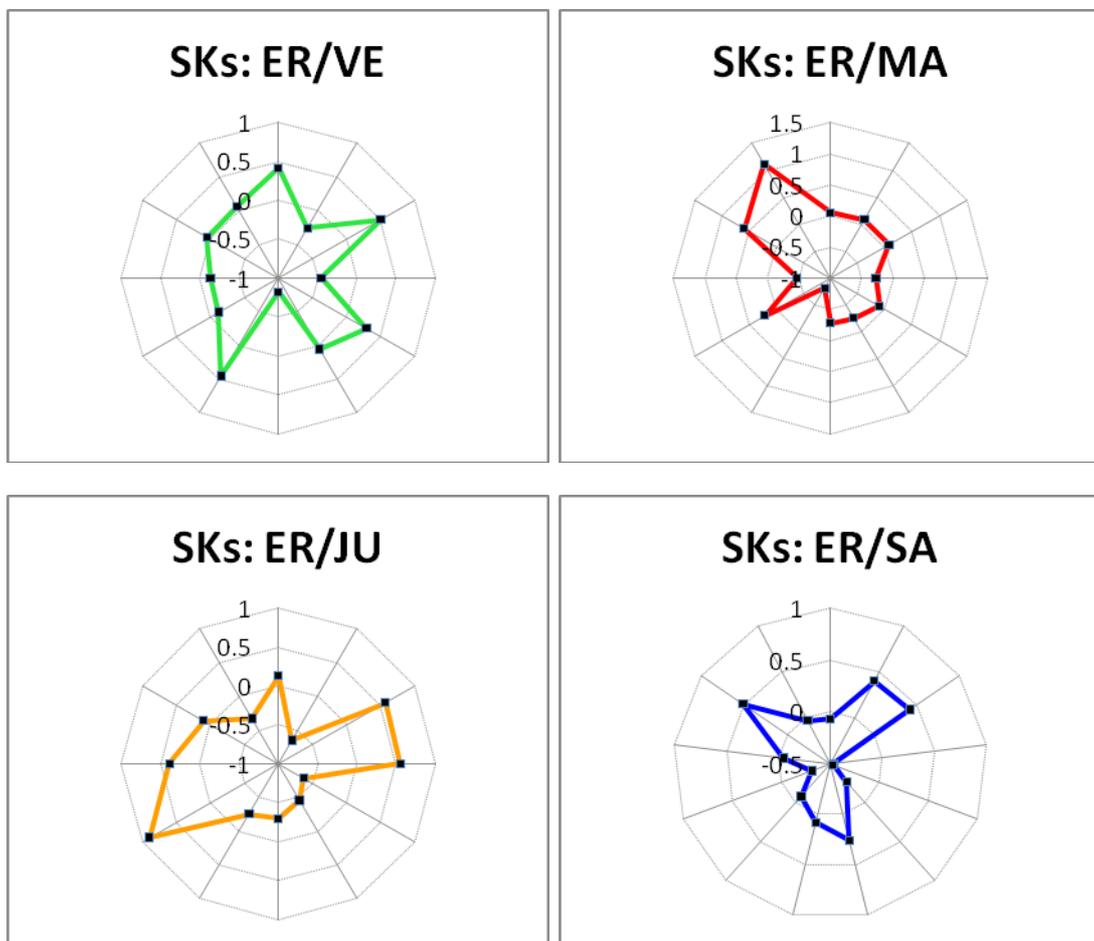


Fig.13B. Sex Scandals: as Fig. 12A.

Among the Killers groups the patterns are less striking but 2nd and 3rd harmonic patterns are still noticeable with ER/JU and ER/SA especially.

Serial Killers



Mass Killers

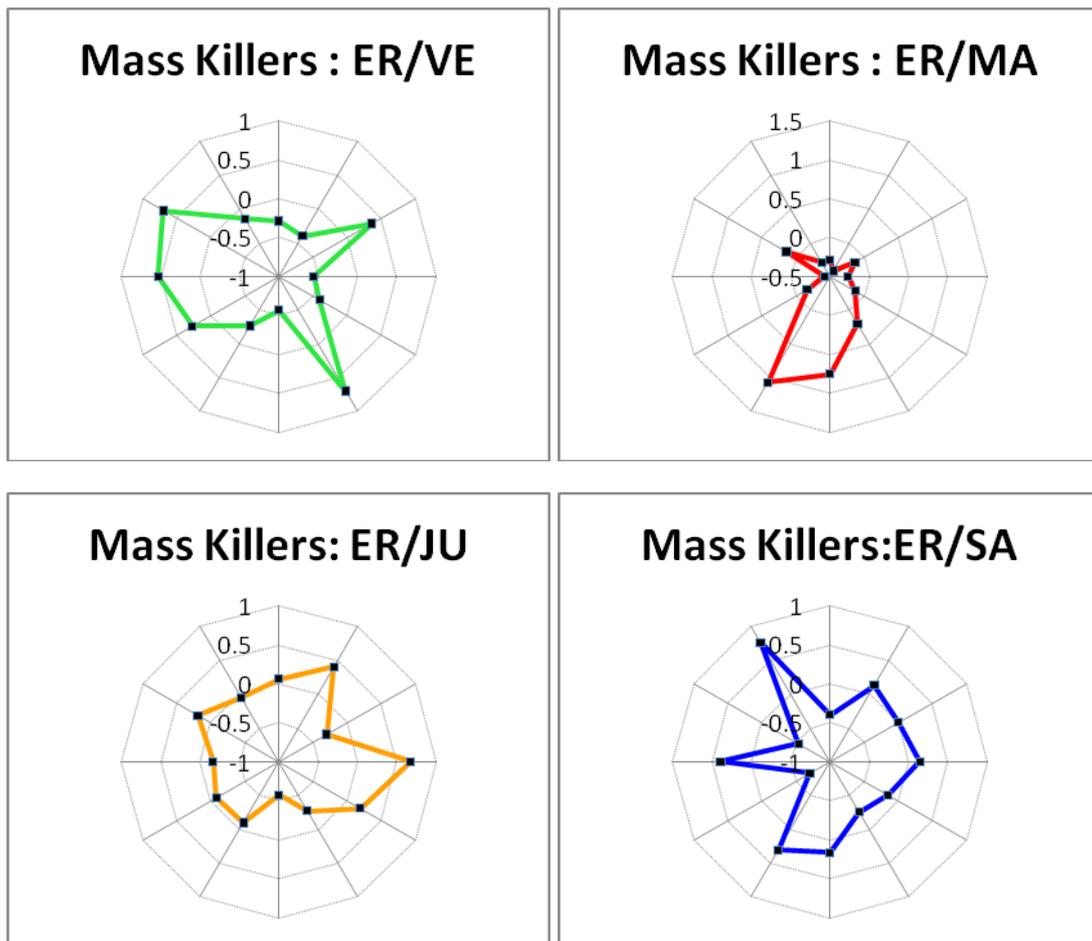


Fig.14. As in Fig. 13 for the SK and Mass Killer groups.

The Gauquelin Effect: Pointers to a Mechanism.

In earlier work (see Douglas 2006 - 2010) I suggested that the only plausible source of the Gauquelin Effect is via a planetary influence on the sun, which means that in order to explain how the Gauquelin pattern in the mundane circle arises it is necessary to connect it with birth frequency patterns correlated with the orbital cycles of the planets. A simple possibility, which might work for the planets beyond earth, would be that the timing of births in the *solar* day also showed a clear structure, either one strong peak or four smaller ones at 90° intervals. But it can quickly be verified that neither of these options actually occur in the Gauquelin professional data: births tend to follow a nyctemeral curve with an amplitude of about 15% of the mean, peaking in the pre-dawn hours, with a couple of minor peaks at about 10 am and 6 pm, (Douglas 2006). To deal with this situation, and having found that the Gauquelin Effect is strongest when the Moon is within 30 ° of the meridional

axis, I suggested a 3-stage mechanism, in which the influence of the ER-planetary conjunction cycle on solar activity is correlated (in some way in the foetus) to the lunation cycle, and that the transits of the Moon over the meridians are what finally time the birth moment. In support of this hypothesis it was also found possible to synthetically increase the strength of the Gauquelin Effects in some professions by applying these proposed influences as a 3-stage algorithm to existing Gauquelin data, (Douglas 2008). But it has to be admitted that the process is complex and the last two steps of the mechanism seem to be an arbitrary exercise in fitting the theory to the data, without much of an explanatory principle.

One of the problems in understanding the Gauquelin Effect arises from the fact that the professional data is quite diluted, with effect sizes only around 0.05, so the samples studied here are useful because, though small, they have effect sizes up to 0.4, which seems to offer the possibility of observing the effect in concentrated form, and perhaps teasing out the patterns which reveal its causation. The occurrence of sharply defined and statistically significant 4-fold, as well as apparently 2nd and 3rd harmonic, patterns in the synodic cycles is an encouraging sign that the first stage of the proposed mechanism is generally correct.

The Special Case of Venus.

One of the most intriguing features of the 4-peaked patterns observed here in the ER/VE cycle is that, whatever part they play, they cannot be simply transferred to the circle of Gauquelin Sectors, because in geocentric coordinates VE can never be more than 48° of longitude from the sun. Thus even if all the Bohemian births occurred at exactly the same time of day their VE positions would then be confined to one arc of 96° of longitude, and if instead they occurred exactly at 4 times at intervals of 6 hours the VE peaks would be widened by up to 48° on either side so that they would begin to overlap. Except for the most extreme SO-VE elongations there are always 2 values of the heliocentric longitude of VE corresponding to each single value of its geocentric longitude.

The situation was examined using a control group ², filtering to accept VE only in cadent houses, (N= 5377) and examining the resulting distribution of the Sun in Gauquelin sectors. Peaks were not centred in the succedent houses but mainly in sectors 3 and 11 with a small excess in sectors 12, 1, 2, and the effect size Kappa was only 0.076. When filtered instead for VE

² The control was constructed from the total Gauquelin professional data (N = 15,934), by shuffling to keep the same year, time and place while allowing the day and month to be swapped.

in Angular houses the SO peaks were in sectors 2, 10 and 11 with small humps in 5 and 8, and the effect size was 0.063. Conversely, when the control was filtered for the sun in succedent houses the resulting VE distribution looked more like a classical Gauquelin pattern with 2 larger and 2 smaller peaks overlapping both angular and cadent houses, and an effect size of 0.061. So even when the sun is completely excluded from two categories of houses the resulting VE Effect that can be generated is quite small.

Here the small sample of the Sex Scandals group shows some almost symmetrical 4-fold patterns in the way that births are distributed across the hours of the solar day, which is dramatically different from the typical nycthemeral patterns found in the Gauquelin professional data, as well as being statistically significant. This might suggest that a simple combination of two 4-fold patterns: one in the ER/VE cycle and one in the distribution of births by solar hour is sufficient to account for the Gauquelin Effect, but the birth time pattern for the Bohemian group is less structured despite having a stronger VE Effect. It was also quickly verified that the births with VE in the KS1 peak in Bohemians do not re-appear together in the large peak at the ER/VE phase of 120° - 150° , but instead are distributed across many other phases.

Another oddity is that the VE patterns are generally sharper and more statistically significant than those in the corresponding ER/VE cycle, when the reverse would be expected if the chain of causation ran from the synodic cycle to the mundane circle.

Keeping in mind the small effect size resulting from filtering the control with the VE patterns in the samples studied here, it seems that some other factor must be operating to account for the strength and sharpness of the effects.

A pattern that deserves attention is the frequent occurrence of 4-pointed stars in the *zodiac* distributions of both the Sun and Moon. And despite the possible complications it would be premature to discard the Moon as a possible factor in the mechanism. It has been implicated in large scale studies of ordinary births (Raibshtein *et al* 1992, Mikulecky and Lisboa 2004, Guillon *et al* 1986), and the significant pattern in the lunar zodiac distribution for Bohemians in the present study seems too strong to be ignored, as well as indications of a cycle relative to the lunar nodes.

Any contender for a correlation which improves the prediction of VE placings in the Gauquelin Effect must involve the Sun and/or Venus, so that while some lunar effects may also be operating independently, this would suggest that the most probable lunar factor relevant to the Gauquelin Effect is the Lunation Cycle. The other requirement is to find a factor which correlates positively only with VE in plus-zones at the time of birth.

There is an important difference between the ER/VE graphs for the Bohemian and Sex Scandal groups in the placing of the largest peak. In the first case it is at 120° meaning that a heliocentric opposition was passed 60° earlier or about 3 months before birth, and VE is therefore moving direct in geocentric coordinates, whereas in the second sample it is at 330° , i.e. 30° after a conjunction and is therefore moving retrograde in geocentric coordinates. Astrologically speaking the latter is a weaker placing which might be expected with the less intense manifestation of scandalous behaviour in this group. Unfortunately these single peaks do not pass a contingency test with $Df = 11$, and there seems to be no other way to divide the data without presuming the desired outcome.

Traditional astrology also assesses planetary strength in terms of the Sect and Orientality of the planet, and in the case of VE Occidental placings are held to be stronger (when the Sun is clockwise of VE in a chart), while VE was supposed to promote “immoral and lascivious” behaviour when diurnally rather than nocturnally placed, or in a diurnal chart. While 39 Bohemians out of 89 were born by day so were 18 out of 41 in the Sex Scandal group: not much difference to build a theory on. A Diurnal placing means that the planet (VE) was on the same side of the horizon as the sun, but this comparison is only meaningful near the horizon, due to the previously mentioned limited elongation of VE from SO. The two samples were therefore divided into day and night births and the populations of VE examined in sectors 1,6,7 and 12. This created too many categories for statistical analysis with these small samples, but it seemed clear that the Bohemian and Sex Scandal groups had similar distributions so they were combined, resulting in 17 (12.66) diurnal and 3 (7.34) nocturnal VE placings by day, and 16 (11.72) nocturnal and 18 (22.18) diurnal by night, where the expected values are in brackets. Neither the day nor night results were significant by a χ^2 test ($Df = 1$), and the total 35 diurnal births and 19 nocturnal, are practically equal to the control values. The expected values were calculated from the proportions of diurnal and nocturnal VE placings in the shuffled Gauquelin professional data after selecting all births with VE in sectors 1,6,7,12.

Considering Orientality, in the case of the inner planets ME and VE, the planet is believed to be stronger when it is *occidental*, or placed anti-clockwise of the sun in a birthchart. The dispositions of the planets were investigated separately for each Gauquelin Sector for both samples, but similar patterns seemed to be present in both samples so they were combined to improve the statistical analysis. There is one interesting pattern to record: in both extended Key Sectors (36-3 and 9-12) there were more oriental placings of VE, while in both minor plus-zones (7 and 10) there were more occidental. Surprisingly the same tendency was found in the control group, but to a lesser degree. The distributions, with expected frequencies in brackets were: Key sectors, 28 (23.90) Oriental, 18 (22.10) Occidental; minor sectors 5 (10.89) Oriental, 18

(12.11) Occidental. The Key sector distribution is not significantly different from chance, but for the minor sectors the χ^2 (Df = 1) result was 6.05, $p = 0.014$, 2 – tailed. A Contingency test to compare the proportions of Oriental and Occidental placings in the Major and minor key sectors gave χ^2 (Df = 1) = 9.41, $p = 0.0021$. On further scrutiny it was found that the difference was not confined to these sectors but was a more general contrast in these 2 samples between above- and below-horizon sectors combined.

Assuming that there is no artefact involved, it implies that VE is astrologically stronger in the second half of its heliocentric synodic cycle following an ER-VE opposition, and secondly it suggests that this difference has some kind of differential affinity with daytime and nighttime births.

Foetal development, Pre-natal phenomena and the Geomagnetic Field.

The whole phenomenon of planetary correlations with birth times must also involve consideration of foetal development. The phase shift in ER/VE between the Bohemian and Sex Scandal groups could be interpreted in two ways. In the Bohemian group the large peak occurs 60° (about 3 months) after a VE-ER opposition with 3 others roughly square to it, while for the Sex Scandal group it is about 30° (6 weeks) after a conjunction, with 3 smaller peaks square to it. This could be reflecting a change in intensity of the effect with phase or it could instead relate to the length of time before birth when the aspect took place, with perhaps a different range of effects on the foetus.

The data is too sparse to decide whether the phases are really shifted with a gap in between or whether they are sections of single peaks which overlap both phases to different degrees. It remains possible that a shorter cycle is also involved with a phase requirement as a gatekeeper which allows the effect to be transmitted, and this might be lunar or the 27 day solar rotation cycle. The latter has been detected in birth data (Mikulecky and Lisboa 2004), and it is known that solar activity can remain in the same solar longitude for several rotations of the sun, especially during the declining phase of the 11 yr cycle, creating a pulse which repeats every 27.2 days as the sun rotates on its axis (Parker 2005, Sizun 2004: 303). The equatorial belt of the sun rotates every 25 days, but since the earth has moved on by 25° in this time an extra interval is required (in the same way as the lunation cycle derives from the moon's orbital period) until the central meridian of the sun is again pointing at the earth, leading to an observed repetition at intervals of 27.2 days on earth, very close to the period of the Moon in the zodiac.

There are other constraints on possible mechanisms relating to what happens before birth. Thus it may be that the onset of labour is triggered by a transit of the sun or moon across either the AS/DS or MC/IC axis, although variations in the length of labour would have the effect of smearing out the distributions of planets in Gauquelin sectors, so it seems that a timer for the birth moment is still required. During gestation, especially the last trimester when the brain and nervous systems are developing, would seem to be a period during which solar outbursts triggered by planetary conjunctions or oppositions could cause the developmental process of the foetus to lock onto an external timer, but the slowness of the ER/VE cycle could mean that the previous conjunction was up to 9.5 months prior to birth, and other planetary aspects involving ER would certainly occur within 6 months prior to birth. Then again the whole process is initiated by conception and the date of birth cannot vary greatly after that. In this connection it is interesting to note that the 9 month human gestation period has a relation to the 6 month cycle in magnetic storms, so that a conception at a peak (equinoctial season) will necessarily lead to birth at a low (solstitial phase). Thus the peaks in births in LE and AQ in the Sex Scandal group (Fig. 4) would correspond to conception peaks in TA and SC, and *vice versa*. It may be significant that the sun transits the fixed signs 1 month after the cardinals and that the peaks in Aquarius and Leo are more prominent. This could suggest that something happened during the last month of gestation connected with the periods of low storm activity near the solstices, or alternatively that the peak activity near the equinoxes of the previous year led to a desire to conceive.

Finally it can be seen that there seem to be systematic shifts in the VE sector distribution and the ER/VE cycle as well as the distribution of the SO in the zodiac between the Bohemian and Sex Scandal groups, suggesting that these factors are involved in the mechanism.

In response to these questions two possible lines of investigation have been considered. First since the frequency of geomagnetic storms is known to have a semi-annual variation, it was decided to examine the variations in the birth frequencies with the SO zodiac position. Secondly the possibility that pre-natal events may be important was examined by looking at the exact times of the New and Full Moons which occurred prior to birth and at the same location, and keeping in mind the need to find factors that are correlated differently with births having VE in plus or minus zones.

The seasonal variations.

The samples were divided seasonally in two ways at first, comparing the signs on each side of the solstitial axis (GE,CA,CP,AQ) with those flanking the Equinoctial axis (PI,AR,VI,LI), and also into two equal sets,

from 15 TA to 15 LE plus 15 SC to 15 AQ for the Solstitial group, and all the rest for the Equinoctial group. There didn't seem to be much reason to prefer one or the other, except that having two exclusive groups which include the whole of the samples is preferable for statistical analysis. The distributions are shown in Table 1.

Sample	Solstitial	Equinoctial	Total
Bohemian VE+	33	22	55
Bohemian VE-	16	18	34
Sex Scandals VE+	5	9	14
Sex Scandals VE-	11	16	27
Financial VE+	9	13	22
Financial VE-	23	19	42

Table 1. Showing the Seasonal distributions of Births for different samples with VE in +/- Sectors.

It is clear that only the Bohemian group shows a marked increase in the number of solstitial births when VE is in a Plus zone. If all the other rows in the table are summed we see that there are 64 Solstitial births compared to 75 Equinoctial, a small preference for the Equinoctial seasons. A Contingency test comparing the Bohemian VE+ set with all the rest gives a χ^2 result ($Df = 1$) = 3.07, $p < 0.1$, while no significant difference exists when the VE+ and VE- sets of Bohemians are compared with each other. This would be consistent with a preference for periods of low magnetic storm frequencies (and hence solar activity) having a facilitating influence on the Gauquelin Effect for VE. The SS and FS groups show a much lower bias towards VE in a + zone, and three of them have a higher frequency of equinoctial births. However there is a very striking difference in the pattern of MO in the zodiac for the VE+/- subsets of the Bohemians shown in Fig. 15.

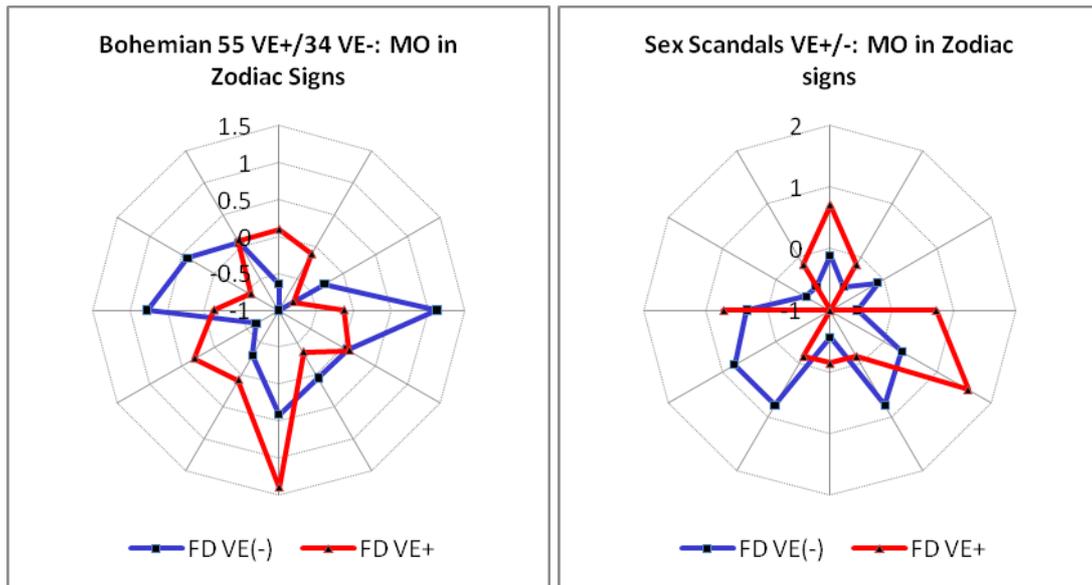


Fig. 15. The distribution of MO in the zodiac for VE+/- Bohemians and Sex Scandals.

The two distributions are significantly different by a Contingency test to compare the number of births with MO in the two groups of signs: GE,CA,LE,SA,CP,AQ, and the rest, for VE+/-, giving $\chi^2 (Df = 1) = 4.90$ and $p = 0.027$ by interpolation. This suggests that MO may be a more important timing influence on birth than SO.

Turning to the various categories of killers, where the Moon is the only planet with consistently high frequencies in Gauquelin sectors, a similar set of comparisons can be made, as shown in Table 2.

Sample	Solstitial	Equinoctial	Total
Serial Killers MO+	19	6	25
Serial Killers MO-	26	16	42
Terrorists MO+	8	6	14
Terrorists MO-	9	10	19
Mass Killers MO+	17	26	43
Mass Killers MO-	24	16	40
Normal Killers MO+	10	7	17
Normal Killers MO-	16	20	36

Table 2. As Table 1, but for Killer categories.

In this case the only group to show a marked bias towards births during the solstitial seasons is the serial killers, and a χ^2 calculation ($Df = 1$) = 7.9, for the whole group, assuming equal expected frequencies in the 2 seasons, gives $p = 0.005$, by interpolation. The SK and MK groups are also significantly different by a Contingency test, χ^2 ($Df=2$) = 8.4, $p = 0.02$. The other groups show small deviations in both directions, and the Mass Killers show more solstitial births when MO is not in a plus-zone, (χ^2 ($Df=1$) = 3.5) while summing the last 3 killer categories shows 84 solstitial and 85 Equinoctial births. These calculations should be taken in the light of Figs. 2, 4 and 10 however, where it is apparent that the annual bias is oriented *between* the solstitial and equinoctial in several cases.

To make a full assessment of the role of the moon it is useful to look at its phase in relation to the sun and to its own nodes, shown in Fig. 16, for VE+/- subsets.

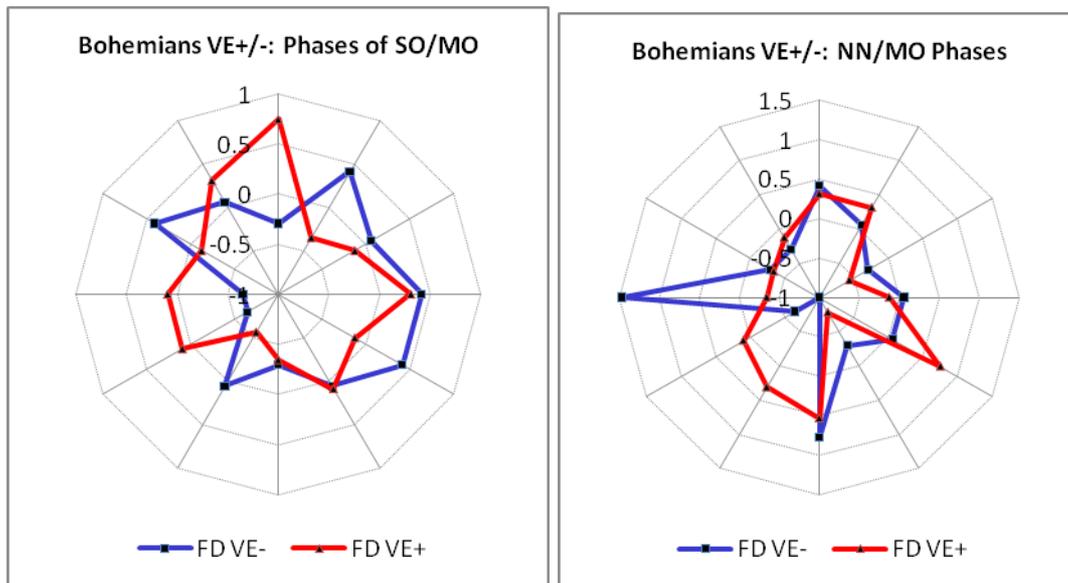


Fig. 16. Showing the Birth frequencies of Bohemians with VE+/- through the phases of the latitude cycle of MO relative to its North Node.

The NN/MO graphs seem to discriminate most between VE+/- , although the sample sizes are so small that the graphs could be altered by the addition of

a few more births. The peaks in the SO/MO graphs seem to be rotated by 60 ° relatively.

Pre-Natal New and Full Moons.

The influence of pre-natal planetary phenomena was conjectured in earlier publications and in view of the evident influences of lunar cycles in the present data it was decided to begin by looking at the New and Full moons (NM,FM) which occurred most recently before birth in the different samples, in relation to the presence or absence of MO or VE in plus-zones at birth. Astrological tradition also claims an influence for these pre-natal events, (Rudhyar 1947, Crane 1996).

Initially, data for both the most recent NM or FM and the one prior to it were collected , but it became clear that the most recent event was more significant. This can be seen by the example figures for the various killer groups, where the distributions of MO over the three classes of houses at the time of this event were as shown in Table 3.

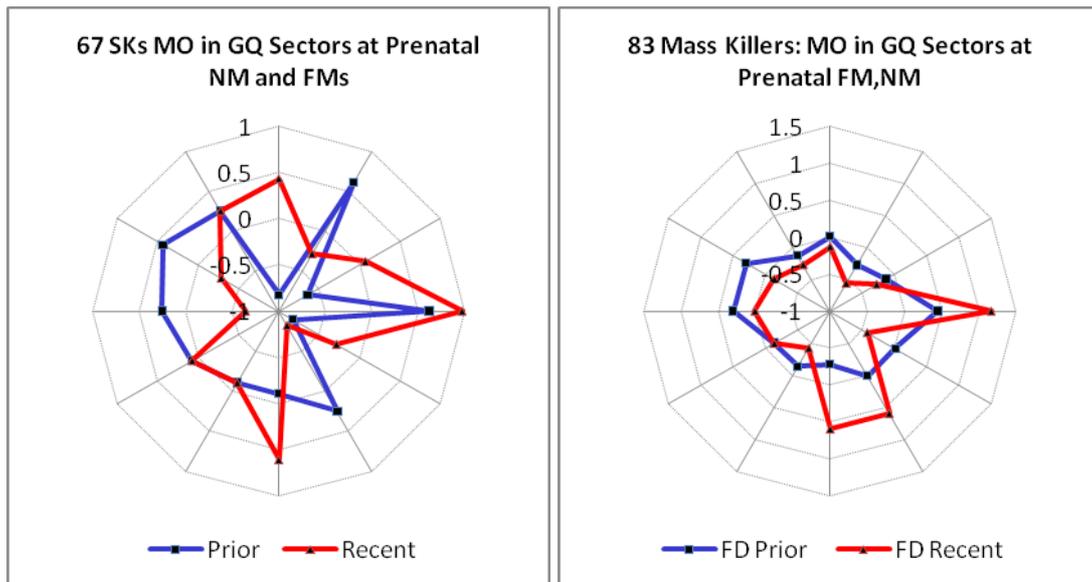
Sample	Cadent	Succedent	Angular	Totals
Recent NM,FM Mass Killers	39	17	27	83
Prior NM,FM	31	27	25	83
Recent SKs	30	17	20	67
Prior SKs	22	23	22	67
Recent Terrorists	9	10	14	33
Prior Terrorists	14	5	14	33

Table 3. Showing the distribution of MO in 3 classes of Placidus House (calculated as GQ sectors) at the moment of pre-natal FM and NMs, for the different killer groups. Expected frequencies = N/3 in each case.

As can be seen from the table the prior events have almost the chance expected frequencies for MKs and SKs, while the most recent for MKs has a χ^2 (Df = 2) = 6.96, $p < 0.01$, and for SKs 4.15 which is close to $p = 0.1$. When the MK and SK groups are combined and just 2 categories used: Cadent and the Rest, the χ^2 value (Df = 1) rises to 10.8, $p = 0.001$. The patterns for the Terrorists are different with the recent NM, FM peaking in the Angular sectors.

Since this seems to be a new finding it is worth examining in some detail, so graphs of the patterns are given in Figs. 17 and 18, for the killers as well as for the Bohemian Scandalous group in Fig. 18. Despite the wide difference in character of the subjects the patterns in the Recent Prenatal FM, NM are all oriented along the Key sectors, (or approximately the Cadent Houses). The total recent MO distribution in the 3 classes of sectors for MKs is: 43 Cadent, 26 Succedent, 18 Angular, with the mean expected, $87/3 = 29$. From this the χ^2 value (Df=1) = 10.4, with p very close to 0.001 again.

Since the Bohemian group has the strongest Gauquelin Effect it was also decided to split them into VE+/- subsets. The most symmetrical patterns are those for the set with VE in + zones at birth (Fig. 18), both for the most recent and the prior moons. There is also a highly significant difference between the prior and recent moons, as measured by a Contingency test, but since the prior moons are always separated by half a lunation cycle from the most recent ones it is likely that the difference is determined solely by astronomical factors. This implies that they carry the same amount of information so there is no need to consider both, and it seems to make most sense to choose the recent set, which are aligned with Gauquelin + Sectors, and have already been shown (Table 3) to have the greatest deviations as a whole, from the expected frequencies. A Contingency Test comparing the recent moons of the VE+ and VE- sets shows hardly any difference between them, when grouped into the 3 classes of houses: Cadent, Succedent, Angular. Combining the two subsets, the χ^2 value (Df=2) measuring the deviations of the 3 types of sectors was 11.75, $p = 0.004$, and 10.39 with Df = 1, $p = 0.0013$. When the extended key sectors were added the latter figure *fell* to 6.13, and $p = 0.013$ by interpolation.



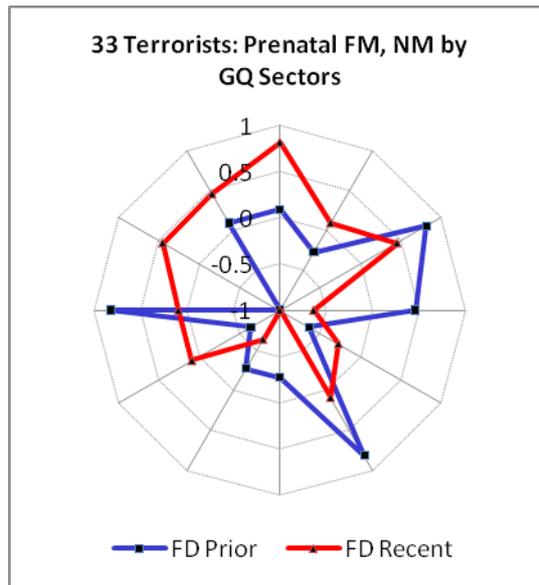
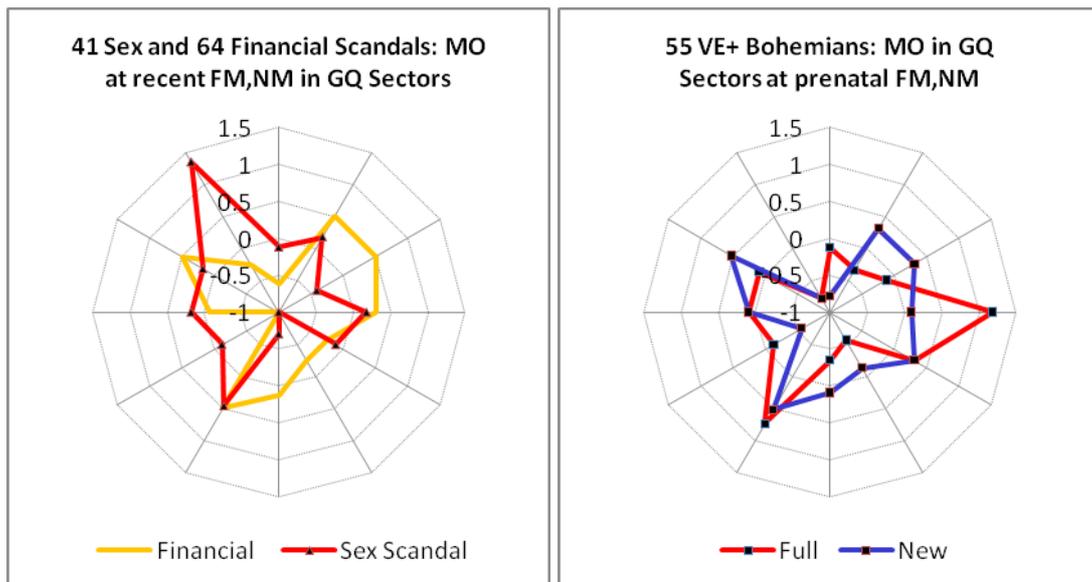


Fig.17. Showing the Distribution of the MO across GQ Sectors at Prenatal NM and FM for 3 killer groups.

In Fig. 18 the data for the 2 scandal groups are compared and the differences from the Bohemian totals, (the last graph of Fig.15) are clear, including signs of a 3rd harmonic. When the Full and New Moons are separated the differences are less clear, but the FM seems to be more strongly oriented in Key GQ Sectors.



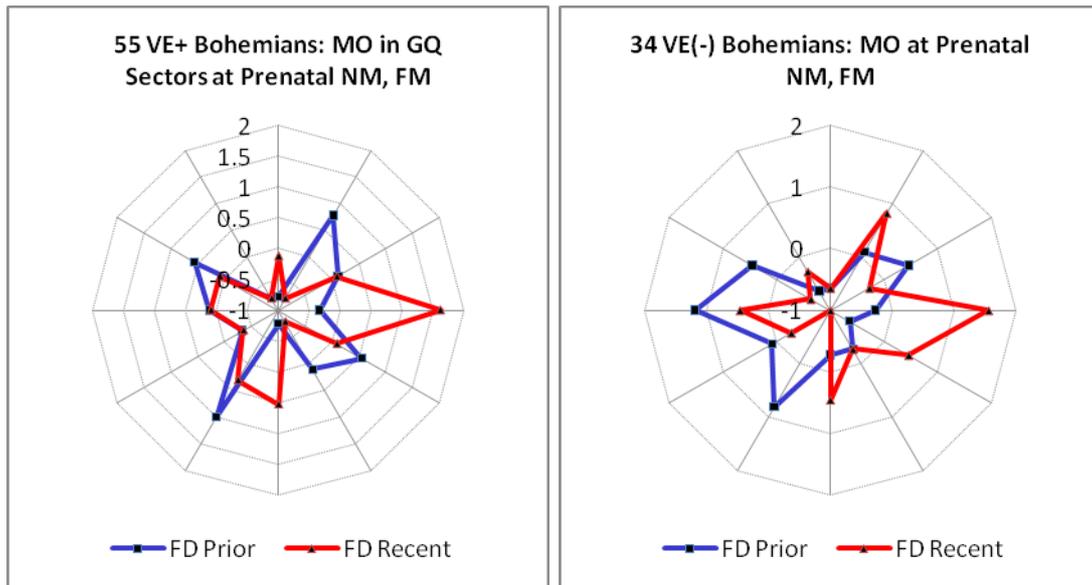


Fig. 18. Showing all Sex and Financial Scandal groups by MO in GQ Sectors at most recent NM,FM. Also Comparison of prenatal NM, FM for Bohemians.

Is there a Luni-Solar Mechanism of birth timing ?

The frequent patterns involving both the sun and moon would imply that they are involved in birth timing, and since the Bohemians do not have an unusual pattern of SO in the GQ sectors this strengthens the case for MO being involved. Perhaps the most important observation is that when the Bohemian group was split into births with VE+ and VE- the most marked distinguishing factors were the SO and MO distributions in the zodiac, in both cases the solstitial signs being significantly over-populated. However when the various killer groups were split into MO+/- subsets none of them showed a significant correlation with the zodiac positions of the MO. Similarly, the heliocentric ER/VE distributions for VE+/- subsets were very similar, although they were notably different from the Sex Scandal group. The SO distributions in GQ sectors differed but this could be attributed to the known correlations of the zodiacal longitudes of SO and VE, and although MO showed a bias towards cadent sectors in the VE+ group and to succedent in the VE- group the differences (or the samples) were too small to be significant. It is useful to note that MO in the signs adjacent to the MC/IC axis have been shown to correlate with Gauquelin planets in + zones in the professional data (Douglas 2006).

Similarly the Prenatal MO distribution for Bohemians, with its peaks in the cadent sectors was not correlated with the subsequent presence or not of VE

in + zones at birth. However it was decided to examine a possible link between the longitudes of the recent FM/NM and those of the AS and MC axes at birth, which is the sort of idea which astrologers sometimes support. In order to test this an acceptable orb between the recent NM/FM and the subsequent AS or MC axis needs to be chosen. Since birth times may often be in error by 0.5 hr a mean difference of 7.5° would be indicated without considering the range of effectiveness of any influence; but in order for the number in this group to be able to approach the actual enhancement of VE in + zones a larger orb is required. It was decided to use 10° , which means that a significant result requires that significantly more than the fraction $80/360 (= 2/9)$ expected by chance must fall within this range. The Mass killers (N=83) had 29 instead of the expected 18.3, while the 55 Bohemians with VE+ had 14 instead of the expected 10.8. Adding these the χ^2 result (Df = 1) was 8.4, $p = 0.004$ by interpolation, which is encouraging, although the Bohemian result by itself is not significant and quite unable to explain the large VE+ excess. The VE(-) subset had 5 cases out of 33 compared to 7.4 expected. It is useful to note that if such a mechanism is real it must mean that there will be an excess of SO in angular houses, which does not seem to be the case generally.

Revisiting the Gauquelin Professional Data

If any of these observations are of more general value then they should also be found in the Gauquelin data, although effect sizes may be smaller. Control groups were used for MO in signs and sectors and for the ER/planet heliocentric phases, but were not distinguishable from the mean frequency for the lunation cycle cases.

A: MO in Zodiac signs.

Since the zodiac position of MO has been found to distinguish between the VE+/- subsets of the Bohemians this was investigated for the Gauquelin professions also. In Fig. 19 are shown 3 graphs where significant deviations occur.

The SA+ graphs for Scientists showed an excess of MO in mutable signs and χ^2 test (Df = 1) = 6.38 which is close to the value of 6.6 required for significance at the $p = 0.01$ level, and for the SA (-) set it was 9.31, $p = 0.0022$ by interpolation. For the whole set of Science data (N = 1094) the χ^2 value rose to 15.67, $p < 0.0001$. Even more remarkable is the way that the peaks shift to opposite signs, while remaining within the mutable set. A contingency test calculated for the 3 classes of signs gave a value close to zero, but when repeated

with the 3 categories: (GE + PI), (VI + SA), the rest; separating the 2 pairs of mutable signs, the χ^2 result (Df = 2) = 8.18, $p = 0.017$.

With the JU data the JU + set gave a χ^2 value of 7.66 for the comparison of 3 classes with an excess in Cardinal signs Df = 2, $p = 0.022$, while the JU- set reached 5.54, $p > 0.05$ with excess in Fixed signs. The Contingency tests on this set gave a value of 5.37 (Df = 2) below the value of 6.0 required for $p = 0.05$. When the test was repeated with Df = 1 to compare the difference between just 2 classes of signs: Fixed and the Rest, it reached 5.36 which is well above the threshold and $p = 0.020$. Even if this is multiplied by 3 to take into the account that the class was chosen after the event it is still close to the 0.05 level.

In the Sports and Military data nothing very clear emerged for MA, but in the case of VE, shown here, it was only when the key sectors were separated into major and minor that a difference appeared, which indicates that there may be quite complicated variations at work, which may have been missed by keeping the plus-zones together.

In the VE data for Painters and Musicians (VEALL) the main difference involves the frequencies of MO in cardinal signs in the 2 sets. The χ^2 values (Df = 1) for the separate samples comparing the cardinal with the rest were 3.01 in the major sectors and 2.91 for the minor key sectors, neither of which is significant. More importantly, the contingency test with Df = 2 reached 8.24, which corresponds to $p = 0.016$ by interpolation. This result is especially interesting because it can be compared with the behaviour of VE in the Bohemian sample studied here, and although the contrast between +/- signs was not observed in the same way it is interesting that there is again a focus on the Moon in Cardinal signs. It is also curious that the KS graphs for JUALL and VEALL have some features rotated relative to the corresponding minor sector graphs.

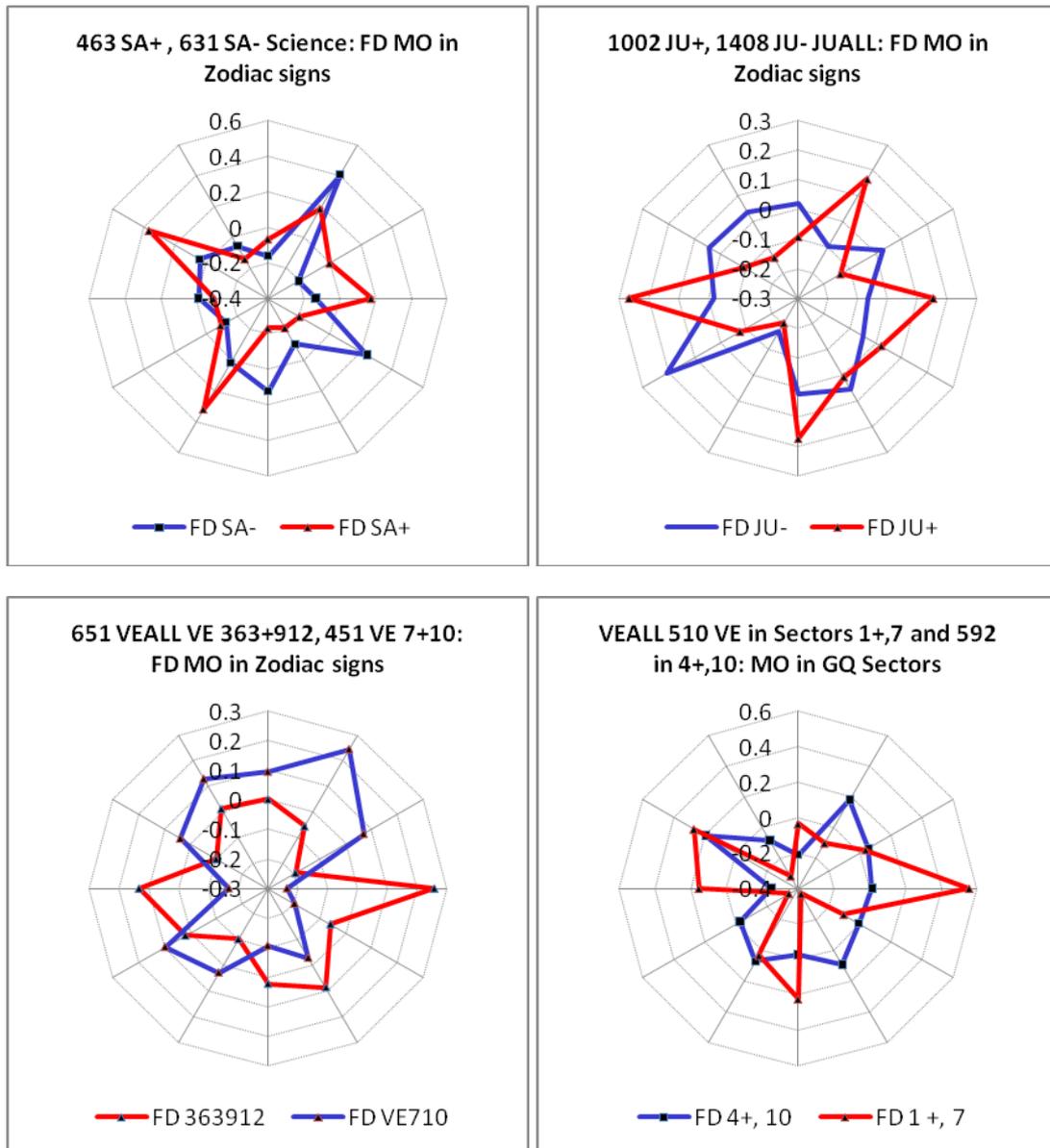


Fig. 19. Showing the MO zodiacal distributions for cases where JU or SA were in or out of key sectors, note the striking shift in mutable signs for the SA case. The VE graph instead contrasts the patterns for the major (36-3 and 9-12) and minor (7, 10) key sectors, and next to it the MO pattern in GQ Sectors is shown for VE in the AS/DS and MC/IC sectors combined.

B: MO in Gauquelin Sectors.

The behaviour of MO was also followed in GQ sectors, and one of the more striking results is also shown in Fig. 19, where the VE + sectors are combined in opposite pairs, the horizon pair and the meridian

pair. The MO profile is very marked along the cadent sector axes, and the χ^2 values are impressive as well. Using the usual 3 classes of sectors (named as Placidus houses) the χ^2 values with $Df = 2$ are 13.87 for the AS/DS set, $p < 0.001$, and with $Df = 11$ it is 27.8, $p = 0.0034$. For a Contingency test comparing them with the meridian set $\chi^2 (Df = 2) = 17.59$, giving a value of $p = 0.00015$, but the χ^2 values for the meridian set alone are not significant.

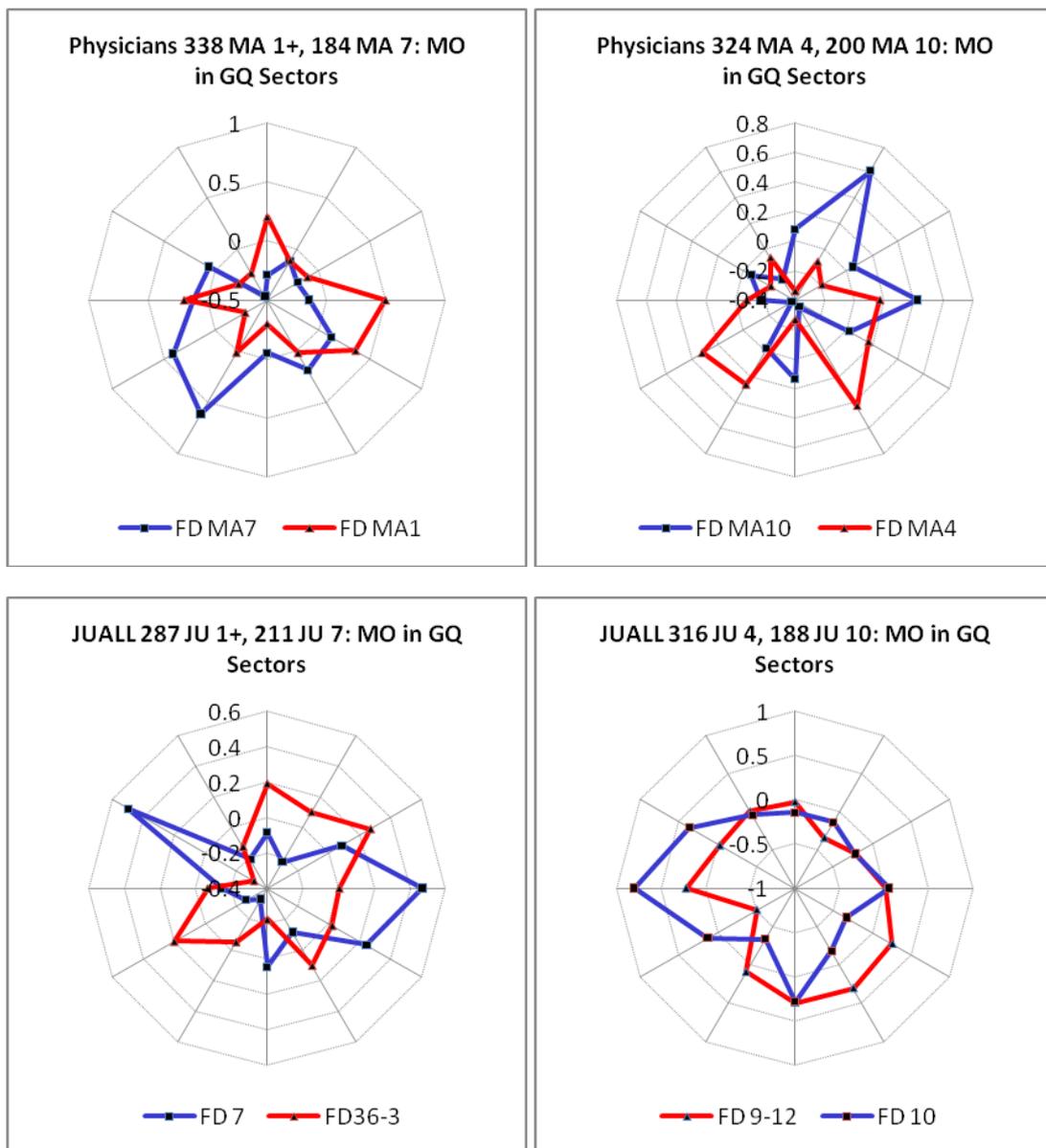


Fig. 20. MO distributions in GQ Sectors for Physicians (N = 2552) with MA in 4 GQ + zones, showing MO biased towards opposite sector to MA. Also similar for JU in JUALL with weaker contrasts. Note the large FD values in both sets.

The MO distributions for the 4 key sectors for MA in the Physicians set are examined in Fig. 20, with the corresponding comparisons for MO, when JU is in each of the plus-zones in the JUALL set. It is very suggestive that MO often seems to be more frequent in the sectors opposite those occupied by MA for the Physicians, and hence along the same axis; and to a lesser extent with the JUALL data (Actors and Politicians). It was noted that when a simple mean was used as a control the graphs were more antisymmetric than those shown, but it was thought better to use a control derived from the shuffled Gauquelin data since this was often significantly different from the mean. The combined set of MA in sectors 1+ plus 7 has a χ^2 (Df = 11) = 17.8, not large enough to reach the threshold for $p = 0.05$, however the Contingency tests were more promising. Thus with Df = 11 the pair of graphs for MA4+ and MA10 showed a $\chi^2 = 18.9$, very close to the 19.6 required for $p = 0.05$. When the data were grouped into 2 sets of sectors: 3 to 8 and 9 to 2, the contingency result (Df = 1) was 5.84, giving $p = 0.015$, and for the MA1+ and MA7 pair, using sectors 2 to 7 and 8 to 1, $\chi^2 = 6.53$, and $p = 0.010$. Obviously these results are after the fact, but it is encouraging that both sets can be divided in almost the same way and into just 2 subsets.

Turning to JUALL, the Contingency χ^2 test with Df=11 for the set with JU in sectors 1+,7 is not significant at 15.6, and the categories needed to be divided into 3 subsets (sectors 1+2+7+8; 4+5+10+11;3+6+9+12) in order to get a significant Contingency test result with Df=2, of 8.96, $p = 0.011$. The third category is the angular sectors, and the other two are combinations which are not recognised in astrology, but are mutually orthogonal and represent a 2nd harmonic factor. For the last graph it was found possible to use just 2 subsets with MO in sectors 6-11 and 12-5, and a Contingency χ^2 test gave 3.85, with just passing the 0.05 level.

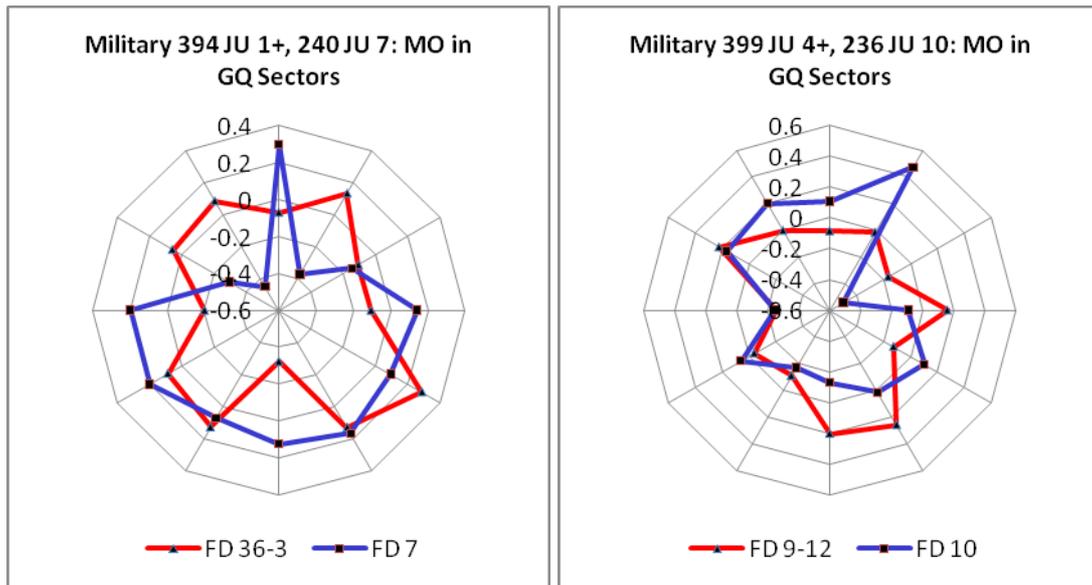


Fig. 21. Showing distributions of MO in GQ sectors for JU in each of the 4 key sectors, where KS1 and KS4 include sectors 36 and 9 of the 36 sector division.

In Fig. 21 the JU results for the Military are recorded as for JUALL in Fig. 20. Although JU sectors 10 and 4+ again have MO oriented more along the meridional axis, the other two do not follow the horizontal axis: MO is over-represented in the cadent houses when JU is in S7 and weaker when JU is in KS1. A Contingency Test comparing the 2 sectors gave $\chi^2 = 7.58$ (Df = 2), $p = 0.023$, and 6.98 (Df = 1), $p = 0.008$. Only JU in Sectors 1+,7 gave significant results by χ^2 individually, for KS1 reaching 7.31 (Df=2), $p = 0.026$, and 6.66 (Df=1), $p = 0.01$ comparing the cadent sectors with the rest; for JU in S7 only the test for cadent sectors gave a significant result, $\chi^2 = 4.0$ (Df = 1), $p = 0.045$.

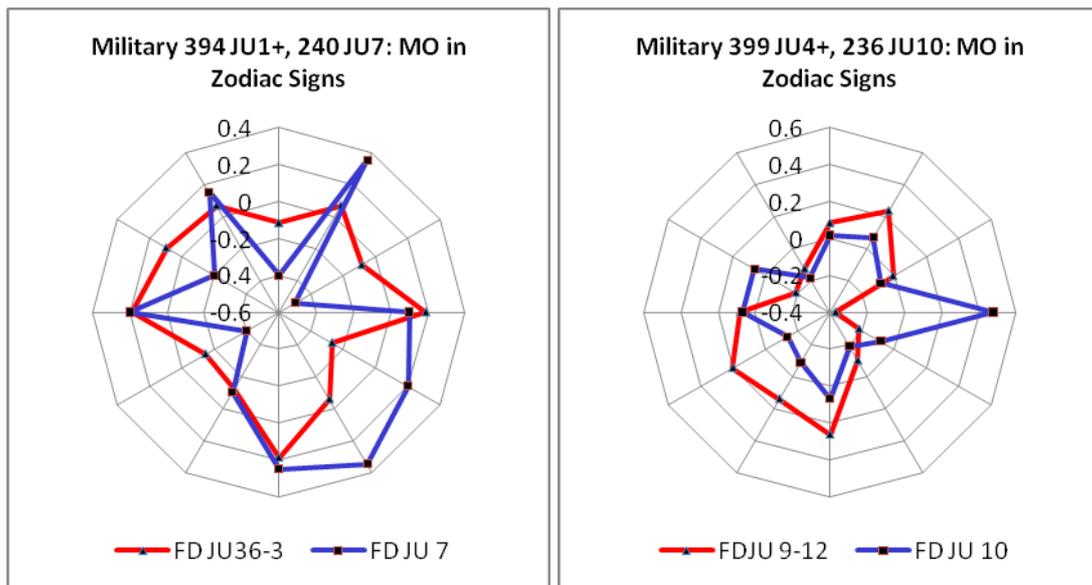


Fig. 22. Showing the Military data as in Fig. 21 by MO in Zodiac signs

In Fig.22 the Military data with JU in the 4 key sectors are displayed according to the position of MO in the zodiac, and although not found elsewhere it is worth noting 2 significant patterns. When JU is in sector 4+ (= sectors 9-12 / 36) the MO frequency in the 6 signs CP,SA,SC,CA,GE,TA is 230 out of a total 399, giving χ^2 (Df=1) = 9.30, $p = 0.0023$; and when JU is in sector 7, MO is found in fire or air signs 141 times out of 240, χ^2 (Df = 1) = 7.35, $p = 0.007$. These patterns are chosen after the fact, so the probabilities are only given as an indication of the strength of the deviation.

In Fig.23 the Sports data for MA, and the Science data for SA in the 4 + zones are shown, and although there is less structure MA in KS4 is again aligned with the meridian axis, and there seems to be a degree of similarity between the patterns for MA 1+ and MA 7, if the latter is rotated by 2 sectors clockwise. These 2 sets are also significantly different from their means with Df = 11, MA1+ yielding $\chi^2 = 19.83$, $p = 0.05$ and S7 giving $\chi^2 = 22.25$, $p = 0.022$.

A Contingency test is not significant however, nor is a χ^2 test for each set separately, either with Df = 1 or Df = 2. The graphs for sectors KS1 and S7 in the case of Science show some alignment with the horizontal axis, but the other pair are not oriented to the vertical axis.

The SA data for Science shown in the lower panels of Fig. 23 only yielded one significant χ^2 test, a value of 22.5 (Df = 11), $p = 0.020$, and no significant contingency tests based on the three classes of sectors.

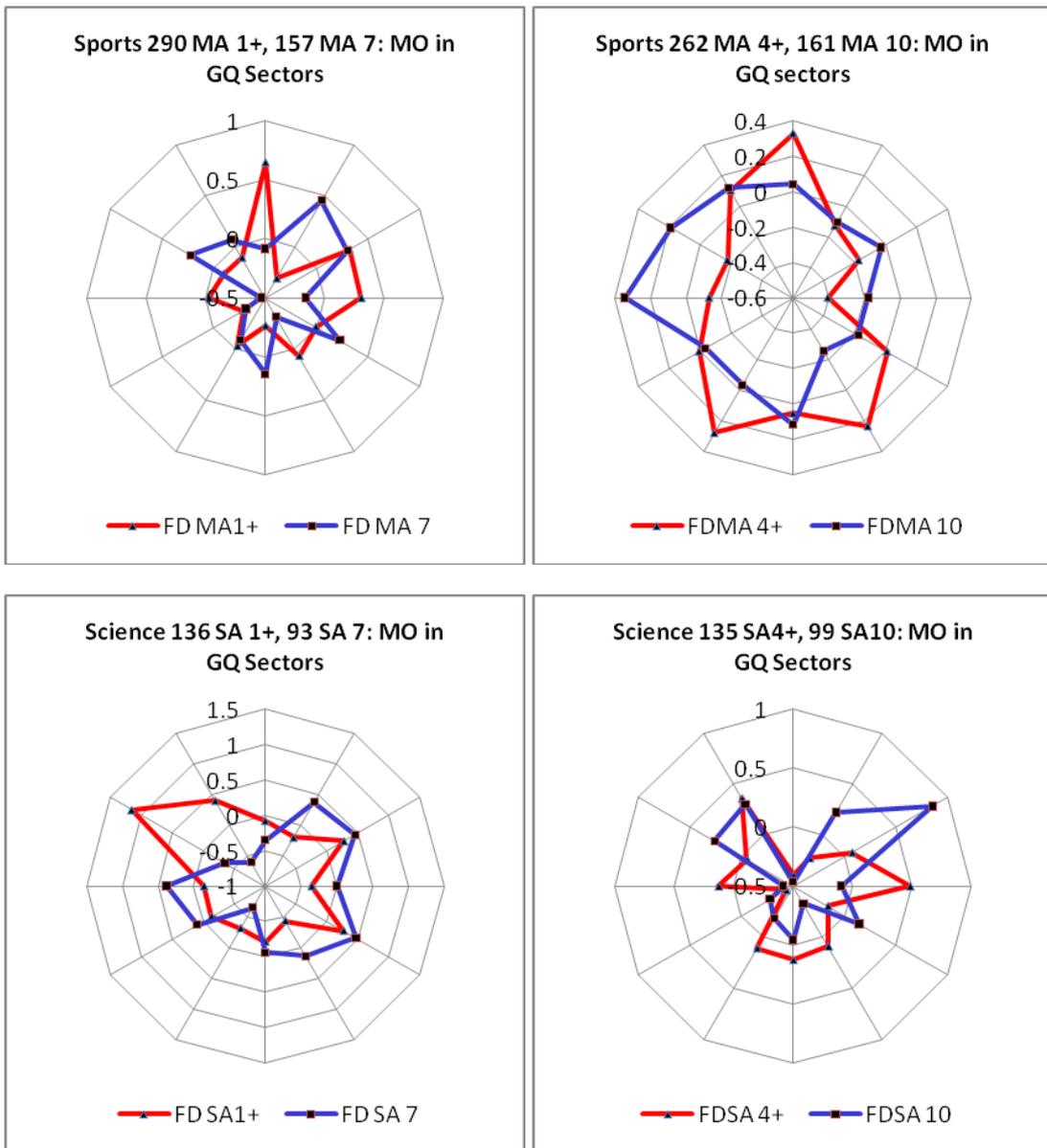
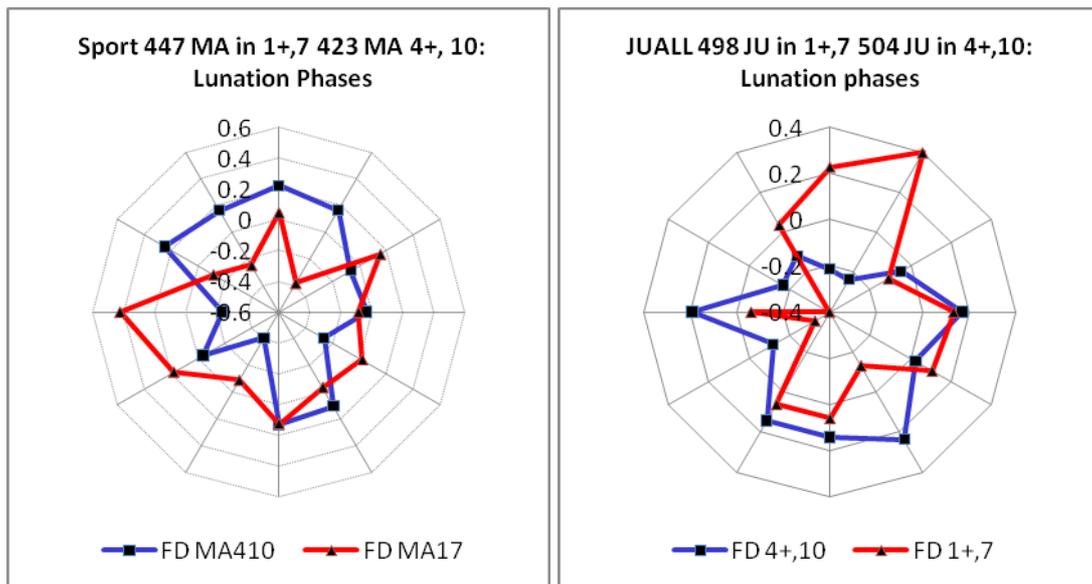


Fig. 23. Showing MO in Gauquelin sectors for the Sports MA + and Science SA+ subsets and as in Fig.22.

C: The Lunation Cycle

It is important to examine the Luration cycle in relation to planets in plus-zones, and 4 examples are given in Fig. 24, chosen for their contingency test results and relation to previous VEALL data.

The first 2 graphs are interesting because they use the same combinations of opposite sectors that have been found to be significant for MO in GQ sectors. Contingency tests were calculated but it should be noted that categories were selected *a posteriori* . For the Sports data 3 categories were chosen with the following MO phase angles: A 330-30 and 150-210; B 240-300 and 60-120; C the rest. χ^2 (Df = 2) = 7.46, p = 0.024. For JUALL the phases used were: A 60-150; B 240-330; C the rest, and χ^2 (Df = 2) = 14.08, p = 0.0009. For the Military MA data strong patterns were only found in the two minor plus zones, MA 7 and 10, shown here, and the phases which discriminated best were: A 0-90; B 180-270; C the rest, giving χ^2 (Df = 2) = 10.83, p = 0.0045. It can be seen that the phase angles vary considerably between the samples but in each case symmetrical pairings were possible, and there is evidence for both 1st and 2nd harmonics, which is encouraging since these are common in geophysical studies of lunar cycles.



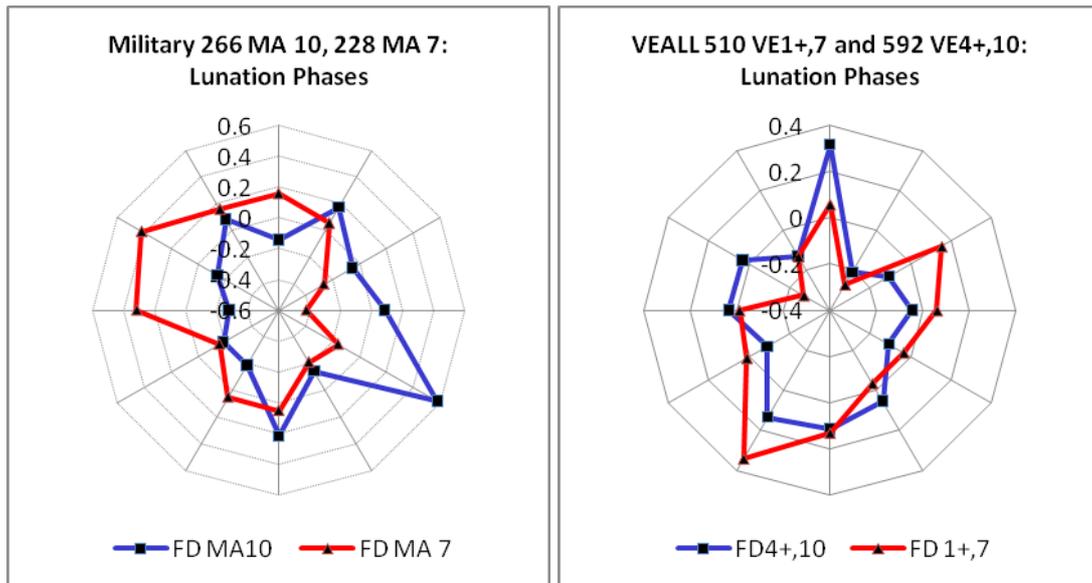


Fig.24. Variations in Birth Frequencies across the Lunation Cycle, for professional groups with planets in selected plus-zones.

The final graph in Fig. 24 shows no significant difference between the two sets by a contingency test, despite the dramatic differences between the same sets when compared by MO in GQ sectors in Fig. 19. Combined, the graph for all + zones has a χ^2 value (Df = 11) = 18.3 which is approaching the 19.6 required for significance at $p = 0.05$.

D: ER/VE variations.

These graphs are shown in Fig. 25 and should be compared with those for Bohemians and Sex Scandals in Figs. 13A and 13B.

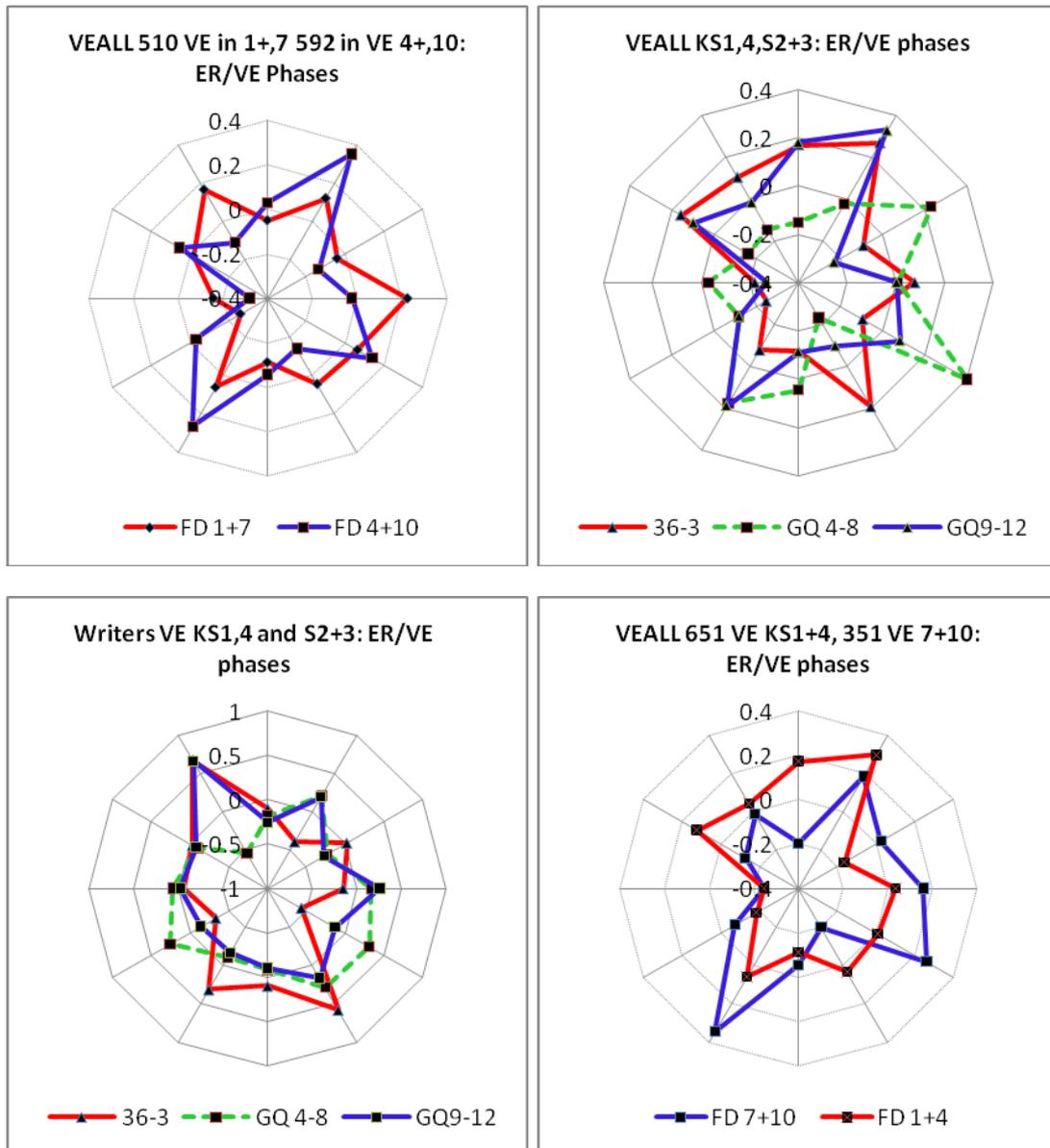


Fig. 25. Showing variations in Birth frequencies over the ER/VE cycle for different VE sector placings.

The 4-leaved pattern found for the VEALL set with VE in (KS4 + S10) in the first graph in Fig. 25 has a χ^2 value (Df = 2) of 11.79, $p = 0.0028$, while the corresponding graph for VE in (KS1 + S7) is not very striking and not significant either. Adjacent is the distribution obtained when the two key sectors, KS1 and KS4 are compared with VE in the intervening S2+S3. Since the two KS patterns are similar they were combined and compared with the intervening S2+S3 distribution, using a contingency test with Df = 1 for the 2 subsets of phases ($60^\circ - 180^\circ$) and ($180^\circ - 60^\circ$), which gave a result of 6.6, $p = 0.01$, but once again the selection of subsets was made *a posteriori*. The other

VE+ profession , the writers can be compared with this, as shown in the lower left graph of Fig.25, where it can be seen that the peak is in the same place but narrower for the KS graph and the S2+3 graph is rather similar but amorphous. In the final graph a comparison is made between the combined Key Sectors and the combined minor + zones, and there is sufficient structure to suggest there is a 4-leaf skeleton on which 2 opposite pairs of peaks are preferred in the 2 cases. This is especially interesting for the fact that the 2 peaks in the KS graph correspond to *Oriental* VE placings , while those in the minor sectors are *Occidental*, which was also noted in the case of the Bohemians. Although the contingency test showed no significant differences when the 2 pairs of peaks and the remaining phases were used to set up 3 categories, χ^2 tests (Df = 2) for the KS and minor VE+ sets separately gave values of 7.8 (p = 0.021) and 8.08 (p = 0.018) against the null hypothesis.

Besides this of course it is intriguing that the 2 cases also have an opposite pair relation for their VE placings in the Gauquelin Sectors. Since it has already been explained that there can be no simple geometric mapping between *heliocentric* and *geocentric* placings, this suggests a different interpretation: that *the guiding principle (which is also true in astrology) is one of a correspondence between cycles at different levels, based not on a simple 1:1 between phases, but on the (as yet unspecified) geomagnetic influences to which they correspond.*

Conclusions.

Although many significant factors have emerged suggesting an involvement of the Sun and Moon in the causation of the Gauquelin Effect, and have been confirmed in the Gauquelin data itself, there is still a lack of consistency between samples. Thus in many cases it seems that MO placings close to the Gauquelin sectors correlate strongly with the relevant planet in a + zone, but not always, and there is no sign of an explanation for the exceptions. However the very high significance scores attained in some cases argue strongly for further investigation, including of pre-natal moons. Even if we suppose a maximum of 8 tests (4 + zones, the – zones as a whole, and 3 classes of signs) for each of 6 professional groups examined here (the MO professions were omitted), making a total of 48, there are still 1 case where a p value of 0.0001 was reached, and one at 0.001, as well as several with p values of 0.02 or less, so overall there is a high level of significance, as well as the fact that the results refer to distinctive patterns such as alignments to the diurnal axes or to the mutable signs. The Lunation cycle tests were made *a posteriori* but again there are 2 very significant results, with p values of 0.0045 and 0.0009.

The overall research strategy which has emerged can be summarized as exploiting the complementary advantages of the small and large groups and applying insights from one to the other. Thus while the small samples do not allow detailed statistics they do provide clues to the mechanism, assuming they manifest the Gauquelin Effect more intensely. On the other hand the much larger numbers in the professional data allow testing in greater detail and with a chance of clearer statistical inference.

Another new feature is that many patterns only emerge after the key sectors have been separated, breaking with the assumption that the mechanism of the Gauquelin effect is the same for all sectors. This may not be a weakness however because it may uncover a deeper relationship based on the correspondence of phases between cycles.

Besides this, very significant evidence for pre-natal lunation effects has been found in the samples of extreme personalities, which has not been noticed before, and the extremely significant distributions of VE and MO are important replications of earlier work by the Gauquelins and by Ruis (2008) and Douglas (1997).

In general there is support for a mechanism of causation which originates prenatally in heliocentric synodic cycles of ER and the relevant Gauquelin planet, and passes either via a lunation cycle link at the most recent full or new moon, or via SO and MO zodiac cycles, to a birth timing mechanism involving MO in Gauquelin sectors i.e. lunar time.

It also seems likely that the details of the mechanism vary between professional groups, which may be expected since MO is also a Gauquelin planet and has different degrees of compatibility with the others. A general explanatory principle might be based on a preference for different levels of geo-magnetic or geo-electrical activity which varies between different personality types, (thus reinstating CTH). This could be supposed to lead to different preferences at each of the 3 stages of the mechanism proposed. Thus the probability of birth at a particular lunation phase would not be independent of the probability of a particular heliocentric planet phase nor of lunar time. This assumption has already been shown to allow some synthetic Gauquelin patterns to be constructed (Douglas 2008).

In earlier work a 3-stage mechanism was proposed for the Gauquelin Effect allowing the phenomenon to be described in terms which are plausible scientifically. However it is clear that there is a lot of variation between samples, even those with the same Gauquelin planet, so it cannot be viewed as a reliable sequence of steps which automatically produces the observed effect. With the benefit of the results reported here it is still useful to summarize the steps of the mechanism:

1. Sun and or moon zodiac placings determine whether the planet of interest will end up in a Gauquelin +/- zone
2. The ER/Planet and SO/MO phases both correlate with the polarity above/below horizon for the planet thus selecting either KS1,KS4 or S7, S10.
3. The MO and or SO placing in Gauquelin sectors 1,7 or 4,10 determines which in the previous pair of sectors the planet will fall if in a + zone.

In this scheme a series of 3 binary contrasts leads to a choice of one sector out of $2^3 = 8$ sectors, which is an interesting possibility for a basis of the ancient 8 house system (see Guinard 1999 for detailed discussion of the history of the Oktotopos). It follows to some extent a principle of corresponding phases between different cycles which has been central to astrology since Ptolemy (see Crane 1996: 107), but without a simple 1:1 correspondence between phases of each cycle. In some cases different harmonics are involved: thus while MO is often more frequently found in the sector opposite to a key planet in + zones, we have seen that the whole sample of scientists besides having an excess of SA+, also has a very significant excess of SO in mutable signs, and that when further subdivided SA+ is correlated with SO in GE and PI while SA(-) correlates significantly with SO in VI and SA. The small sample of Bohemians shows a correlation of MO zodiac positions with a key planet in +/- zones but this time the contrast is between equinoctial and solstitial signs.

It is clear that important features of astrology have been excised by its so-called renaissance under the tutelage of Alan Leo, and the data reported here shows that factors such as Orientality and Sect now need to be re-considered in future research.

Two other conclusions can be made about the Gauquelin Effect. The small samples studied at the beginning of the article show that the Gauquelin Effect can be found among people with extreme or criminal behaviour without professional eminence. The results for VE are in line with its earlier relation to artists and musicians, and show an interesting graduation of strength between Bohemians and those involved in scandals, which resembles that found by Ertel among professionals of varying eminence. The association of + zone MO with extreme violence confirms and extends the earlier results of Douglas and Ruis, and raises a question about how this drastic difference from its association with eminent writers should be viewed.

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