HOW ERTEL RESCUED THE GAUQUELIN EFFECT

By Nick Kollerstrom

Before the Cataclysm

'The case is already stronger than that for almost any area of research in psychology.' Wrote Eysenck and Nias in 1982, concerning the work of Francoise and Michel Gauquelin. They added, 'Because Gauquelin has, all along, published full details of his research in a series of documents, it is possible to evaluate independently the design and methods used in the research. This we have done, and we have been unable to find anything seriously wrong. On the contrary, we have been impressed by the meticulous care…'[1] Later in 1988 Geoffrey Dean, doyen of the sceptics, wrote an approving postscript to a review of the Gauquelin edifice, concluding optimistically, 'One looks forward to his autobiography.'[2] A new edition of West's *The Case for Astrology* appeared in 1991, portraying the Gauquelin findings as rock-solid, where those stubborn scientists who refused to acknowledge them were akin to the fabled cardinals who refused to peer down Galileo's telescope. Surely, that was the last year anyone could take such a view.

The Cracks Appear

In 1987, Suitbert Ertel, in a visit to the Gauquelin's 'laboratory' happened to notice that as well as birth-data of the 2888 eminent sportsmen of known birthdate and time, published, there were in addition 1503 unpublished, less-eminent sportsmen. What were they doing there? He was then startled to notice, that plotting the latter data in the normal way, by 36 sectors of Mars' diurnal circle, dips were obtained at the 'key sectors' just where peaks occurred in the published data. In other words, the Gauquelins had, in some degree, albeit maybe unconsciously, cheated.

Ertel published this finding (Figure 1) in what was then a hard-to-find US journal the *Journal of Scientific exploration* (JSE)[3]. This result *was never mentioned* in the British astro-research journal *Correlation*. His article in the US journal had the polite, euphemistic title, 'Raising the hurdle for the Athletes Mars Effect.' Year after year the Gauquelins kept coming to British conferences, but no-one ever asked them about this seismic fault-line running through the whole enterprise - we just never got to hear about it. It had simply never occurred to Eysenck and Nias, from the

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[1] Hans Eysenck & David Nias, *Astrology: Science or Superstition?* 1982 p.208. Eysenck had earlier made a similar affirmation in 'Planets, Stars & Personality', *New Behaviour,* 1975, p.246-9.

[2] Michel Gauquelin, *Written in the Stars,* Aquarian Press 1988, Dean postscript 191-5.

[3] Suitbert Ertel, 'Raising the Hurdle for the Athletes' Mars Effect: Association co-varies with Eminence', *JSE* 1988, 2,1. Tenths of % plotted, i.e. mean-expected value here is 100/36=2.8%.

above quote, that the data which the Gauquelins published in their grand collections of eminent professionals, had involved a surreptitious element of selection where knowledge of the planet-position at birth had somehow crept back into the selection criteria.
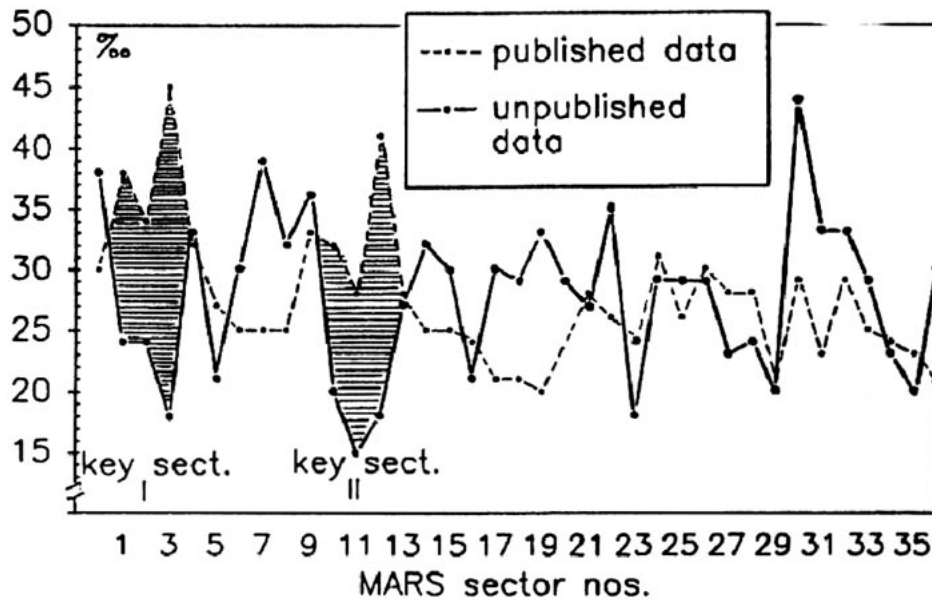

Figure 1: Gauquelin bias effect: Mars sector frequencies % for published Gauquelin athletes (N=2888), dashed line; and for a subsample of unpublished athletes (N=659), solid line. Marked negative deviations are apparent in key areas for unpublished data.

The Gauquelin edifice had just crashed, but none of us realised it. Maybe we trusted Francoise, who seemed critical enough of just about everything, that she would have noticed had this been happening, and told us. Then something more terrible happened: not merely his suicide but the destruction of his entire database, in 1991. I recall once visiting him in Paris, in sunny, earlier days, and how proud he was of his fine 'laboratoire' with its filing-system. It didn't survive his death. Was his suicide in part because of the various sceptics' reports then closing in, a dark at the end of the tunnel? Was it the case as they alleged that positive results only appeared in data which Michel Gauquelin had himself chosen? Francoise has never commented on these matters.

The hard-hitting sceptics' articles came out a few years later, publicising what Ertel called 'bias' and what they called cheating[4]. Overall there has been to date an excellent sequence of 11 articles in the JSE *(see next page):*

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[4] Eg, Kurtz, Nienhuys & Sandhu, 'Is the Mars Effect genuine? *JSE* 1997 11,1.

Journal of Scientific Exploration

If some translation of Prof Arno Muller's articles into English were made then no doubt we would all benefit[5]. The character-trait hypothesis on which the Gauquelins devoted so much time never quite made it[6], and does only the Mars-athlete effect now survive of his diverse professional groups, because of the collating which Ertel did of the unpublished data? A kind of black hole opened up where once had seemed a promising area of astro-research. To cheat, and die, and destroy one's database – it was too much. Reputations can survive misfortune, but not that.

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[5] Ertel (*Correlation* 2004, 22 p19) cites four Muller articles 1991-94 (German) on: 412 Italian writers, 612 eminent men, 145 members of German dynasties, 1288 German physicians and 1083 members of the French Academie de Medicine.

[6] But NB, the paper 'Personality and position of planets at birth: an empirical study' by Sybil Eysenck, M. & F. Gauquelin, *Brit. Jnl. Soc. & Clinical Psy.*, 1979 18 71-75 which compared introversion-extraversion in Jupiter versus Saturn-types (on Gauquelin criteria), is the sole pro-astrology paper ever published in a British psychology journal.
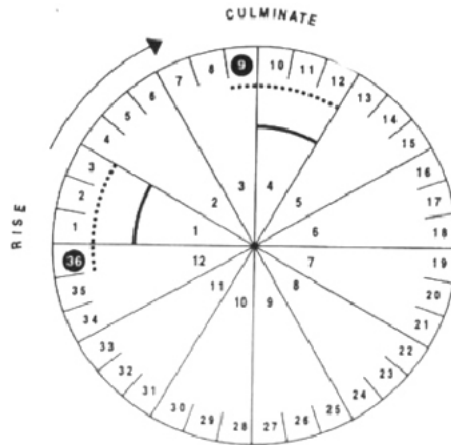
Figure 2: Division of a planetary day into 12 versus 36 sectors, showing the designated 'key sectors' in each case.

The Ertel-Gauquelin hypothesis

The critics objected that the hypothesis was too flexible, for example was the diurnal circle to be divided up into twelve or thirty-six parts? For years the Gauquelins had simply divided the Placidus-house planetary 'day' into twelve[7] of which just two contained the predicted excess. On this method, the 'expected' percentage of eminent sportsmen (I'm here quoting the sceptics' account) having Mars in these two sectors was 17.2%[8], while the observed was 21.8% in the 2888 champions and then a shockingly low 14.8% was found in the 1503 unpublished 'quite good but not famous' sportsmen[9]. Using the 36 sectors – which Gauquelin had done since 1984 - there were eight sectors with predicted excess and therefore a higher expected value.
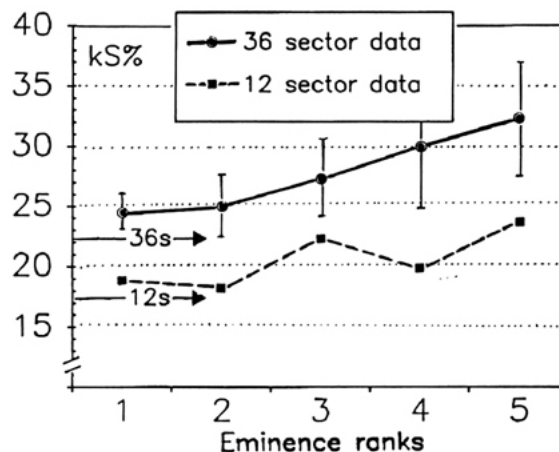
Figure 3: How Mars key sector percentages (kS%) increase with eminence, comparing kS- definitions derived from both 12 and 36-sector scale, for athletes of five eminence ranks (5 = highest rank) based on citation frequencies (n=439).

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[7] MG divided up his data initially by space, as the planet being either above or below the horizon, and then by time, with 6 or 18 equal-time intervals above the horizon, and the same below.

[8] One might think the expected was 1/6 = 16.6% but a subtle adjustment is required that ups that value slightly. The 'extended' definition uses 8 sectors out of 36 (Fig 2) making this 2/9 = 22.2%.

[9] Kurtz *et al*, Ref 4

We now come to Ertel's decisive intervention, his use of psychology students to perform 'eminence ranking'. He obtained various books listing eminent persons and thereby 'scored' all of the Gauquelin sportsmen[10]. Dire arguments had gone on between Michel and the US sceptics over which categories of sportsmen should be included in the groups. Ertel pooled together *all* of the Gauquelin eminent sportsmen data, published and unpublished, obtaining a massive total of over four thousand, and plotted the percentages in Mars 'key sectors' versus his (arbitrary) five 'grades of eminence;' the latter being the number of citations scored in five or six selected reference-volumes (eminence rank 1 – no score, rank 2 – one score, 5 – four or more scored). Figure 3 shows this for both the 12 and 36 key sectors,[11] and we can see how the latter performs somewhat better[12]. Let us note that this eminence-grading effect does not in itself tell us what is the hypothesis to be tested: there would presumably have to be some arbitrary cut-off level of eminence above which one includes the data?

rofessor Suitberg Ertel explains some of the details of his re-analysis of the Mars effect.

Figure 4: *Ertel at the Society for Scientific Exploration's annual symposium at Austin, Texas, in May, 1987; with kind permission of the Soc. for Sci. Exploration (as ref 12).*

That difficulty is an advantage of what we may call the Ertel-Gauquelin hypothesis: there is in reality no given boundary between eminent and non-eminent professionals, and any 'cheating' Michel may have done came from his wrestling with a division of his data, into what he would include and what he wouldn't, that was in essence arbitrary[13]. It

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[10] His 'eminence grade 1' meant that no citations were found amongst the sources used: that applied to 51% of the total athlete group (Figure 3).

[11] Ertel, S. 'Further Grading of Eminence' *Correlation* 1987,7, 4-17, Fig 1.

[12] Ertel presented his reinterpretation of the Gauquelin effect at the Society for Scientific Exploration's annual symposium at Austin, Texas, in May, 1987.

[13] For example, MG's original 1955 publication *Les Hommes et les Astres* gave birth-data of 906 painters grouped as célèbres, notables and mineurs, suggesting that he had not thrown away 'excluded' painters for whatever reason. MG's list of eminent painters all came from one source-dictionary (Emmanuel Bénézit's 14-volume *Dictionnaire des*

is quite proper that we should be left with an arbitrary decision 'who are eminent?' and prefer grades of eminence rather than some 'yes' or 'no' decision.

There have been three published replications by sceptical groups, wishing to test MG's 'Mars effect' with athletes, Belgian (1966), American (1980) and French (1996[14]). Each reported a negative result. Professor Ertel combined these three to get a total of 1664[15] sports champions of reliably-known birth-data, to which he applied his eminence-grading protocol. He thereby obtained a graph[16] that has been described as 'too good to be true[17]' (Figure 5). Here *four* 'key-sectors' are used including below-the-horizon zones, giving as can be seen a much higher expected frequency. As well as the two 'primary sectors' there are 'secondary sectors' that are below horizon (Mars' setting and lower culmination). Ertel was here emulating, he explained, the method advocated by Jan Nienhuys[18]. The graph comparing the combined sceptics data (n=1664) with that for the Gauquelin data (n=4384) plotted around a 36-sector Mars-day can be inspected in a JSE article on the web;[19] the curves are unmistakeably similar, but the combined sceptics' data show the 'Mars-effect' more distinctly in the lower half, i.e. the 'secondary sectors.' A fourfold pattern seemed evident in the graph. One is tempted to apply a symbolic argument here (strictly forbidden in scientific discourse), that the business of finding a hidden Mars-effect, in data-sets that had actually been published as disproving it, might lead to the two below-horizon sectors, where effects are normally rather weak, showing up more distinctively that the above-horizon sectors.

Peintres et Sculpteurs, 1911) and can thereby be reconstructed, and is therefore (Ertel argues) reliable. Then, his list of 1345 painters published in 1970 included 309 'famous' painters and 361 'obscure' painters (NB, the latest edition of 'Bénézit' is 1999).

[14] Claude Benski et. al., *The Mars Effect: A French Test of Over 1000 sports Champions* 1996, N.Y. Promethius. The French sceptics ('CFEPP') initially collected 1439 eminent sportsmen by 1986, but by 1991 had agreed upon only 1066 of these as eminent and of reliable birth-data.

[15] This total arises from summing the Belgian Para Committee's 535 champions, the French CFEPP's 1066 champions and the US sceptics' 408 champions (the first two had a considerable overlap).

[16] Ertel, S. 'Het weerbarstige Marseffect' *Skepter*, 1996, 45; reprinted in, 'Debunking with caution - Cleaning up Mars-Effect Research,' *Correlation,* 2000, 18, 9-41. This result was also reported in *The Tenacious Mars Effect,* Ertel and Ken Irving, Urania 1996, p.36, with a graph scoring only the first two Mars 'key-sectors'.

[17] 'Die Graphik von Prof Ertel (Abb 3) ist ebenfalls viel schon:' Jan Nienhuys, 'Ertel's Mars-Effect: anatomie einer Pseudowissenchaft'. *Skeptiker*, 1997, 10, 92-98, p.96.

[18] Benski (ref. 14), Nienhuys pp.125-6: 'primary' key sectors above horizon vs. 'secondary' sectors below.

[19] http://www.scientificexploration.org/jse/articles/pdf/14.3_ertel_irving.pdf, Fig 1 (JSE, 14,3).
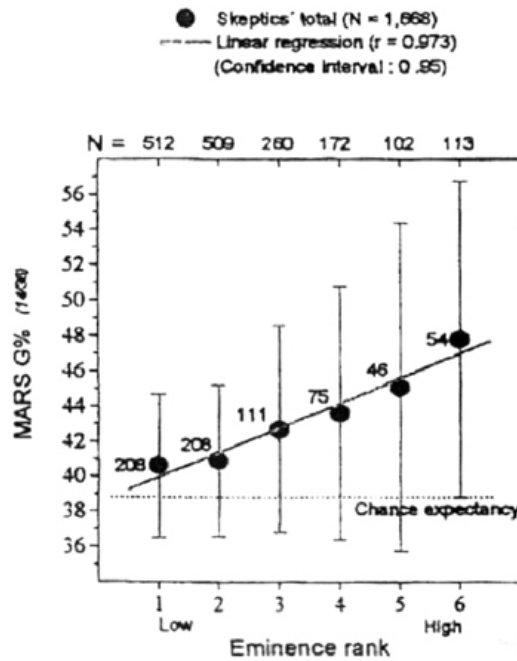
Figure 5: Three published sceptic-replications of the 'Mars Effect' included 1668 sports champions, of whom 702 had Mars in one of the four Key Sectors using a 36-sector division. The number of citations for each sports champion in designated reference volumes gives 'Eminence rank.' The overall expected mean frequency was here 39%.

One could express the reason as to why Ertel here shifted to a fourfold scoring, as follows. The US sceptics had clearly cheated in their 'replication' using the US sports champions, as shown by the way the three successive sets of data-gathering they had performed obtained steeply-declining key-sector scores of 19%, 12% and finally a mere 7% (chance-expected level for 2/12 sectors = 17%): their mean of 13% for their 408 champions' key-sector scores was in deficit at a statistically-significant level![20] A plot of their data gives sharp dips at the key-sector positions just as did MG's unpublished data shown in Figure 1[21]. The Mars-effect in this data would therefore *only* show up using a more extended scoring beyond the narrow, original definition.

A year or two before this graph appeared, in 1994, Ertel had commented on the French sceptics' treatment of their data. They had diligently assembled birth-data on over a thousand sportsmen, and were loudly proclaiming that no Mars-effect could be found in this data[22]. He made the rudimentary observation that, using some well-known French reference-books such as *Stars du Sport* and *La Fabuleuse Histoire du Sport*, the data-set divided into half: those sportsmen mentioned in these books, and those not. The former were the eminent group, the latter were not. The former showed a clear Mars-effect, the latter showed none. One would have thought this was fairly simple. In addition, the French sceptics

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[20] Ertel, 'Debunking with Caution – cleaning up Mars Effect Research' *Correlation* 2000 18,2 9-41 p16.
[21] The finger of accusation here points at Paul Kurtz, not at astronomer Dennis Rawlins. Rawlins was sure that Kurtz had no means of finding the Mars-sector scores, than through the analysis which he (Rawlins) was providing. In this he erred.
[22] See, eg, Nienhuys, J. 'Science or pseudoscience? The Mars Effect and other Claims', 3rd Euroskeptics congress 1991 Amsterdam.

used only the limited 12-sector division which MG had used pre-1984, rather then the more powerful 36-sector division, set an unduly high chance-expected level, and may have showed bias in favour of omitting the more eminent athletes[23]. Two years year later the French book appeared, with no response to Ertel's already-published refutation of their argument.

Intersecting Sets

The MG eminence-group is a triune concept. We may depict it as an intersection between three sets: taking painters (P) for example, then the sub-group of those with known birth-data (B), and those that are in some way eminent (E), gives $N = \{P \cap B \cap E\}$. The intense debates have come about from the difficulty in specifying a boundary to one of these sets, namely the group of 'eminent' persons. For his 'painters' MG published all of those coming from one French source[24] and of known birth-data, and so his method is, Ertel has argued, fully checkable. A re-analysis by Ertel in 1987 started with a larger such group (1473 painters, as also given by CURA on its Gauquelin-data website[25]) but found that, for his eminence-grading procedure, he was only able to include three-quarters of these, on account of his source for citations only going up to a certain date[26]. That isn't entirely satisfactory, and one would prefer a situation where the eminence-grading is done on $\{P \cap B\}$, i.e. that all painters of known birth-data be included. The eminence-grading of the groups already collected of artists and musicians' birth-data could nowadays be replicated and maybe improved using web-citations instead of reference-books. Bias is unlikely in the group of eminent painters' birth-data, because one finds no agreement as to which planet is supposed to be predominant: a negative Mars-effect, or positive Venus-effect? Using these definitions, the total numbers involved ought slowly to increase, because access to reliable birth-data is continually improving. Set theory uses the operations of union and intersection, the former being used for pooling together of data-sets. In the future, statisticians wishing to check out these databases will not want to hear long histories about who said what to whom, and the language of set theory may offer a simple way of explaining where any data-group has come from.

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[23] Ertel, S.: 'Mars Effect Uncovered in French Sceptics Data,' *Correlation,* 1994/5 13, 3-16. Use of the 12-sector division had been agreed in the1982 protocol.
[24] MG used the multi-volume *Dictionnaire critique et documentaire des peintres … de tous les pays,* by Benezit E, Paris 1966: its first seven volumes were used for his 1955 *Les Hommes et les Astres.*
[25] http://cura.free.fr/gauq/17archg.html by CURA, Centre d'Universitaire Recherche en Astrologie.
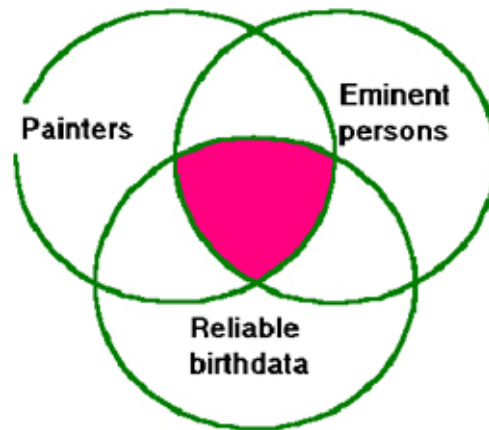[26] Ertel Ref (11) p.8.

Figure 6: *Three intersecting sets define a Gauquelin professional group.*

Eminent Doctors: a Saturnine temperament?

For physicians, MG's approach was simple: he merely used all members of the French 'Académie de Médecine' of known birth-data. So, just two intersecting sets were defining the group he used. Arno Muller discovered that a second edition of France's Academy of Medecine index was available, apparently unnoticed by the Gauquelins[27], and he and Ertel used it as a basis for re-checking the hypothesis. A collection of 1086 member of the Académie de Medicine, of reliably-known birth-data, was thereby gathered, independently of the original Gauquelin collection, although overlapping with it. This was published in 1994, co-authored with Ertel[28]. It confirmed that the dominant effect was that of Saturn (Figure 7)[29], as shown in the traditional two Gauquelin sectors. The traditional, Saturnine image of the doctor – i.e., one who can be safely allowed into one's home and on whose judgement one can rely - was thus confirmed, by a separate gathering of data and fresh analysis. The strong Mars presence also confirmed what MG had found in his first publication, about French physicians.

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[27] Maurice Genty, *Index Biographique des Membres des Associes et des Correspondents de l'Académie de Médecine,* 2nd Edn., 1972 Paris (lists 1894 members); compare 1st Edn., 1939, Ed. Masson. Arno Muller discovered this volume in a Berlin library. He only scored the entries coming after 1792, when the French registration of birth-times began.
[28] Muller, A & Ertel, S, '1083 Members of the French Académy de Médecine', *Astroforschungsdaten* (Vol 5), Waldmohr: A.P.Muller; see also Ertel and Irving, ref.16, p.36.
[29] This graph appeared in JSE 2000, 14,3 p.425 using the earlier- published data (ref 28).
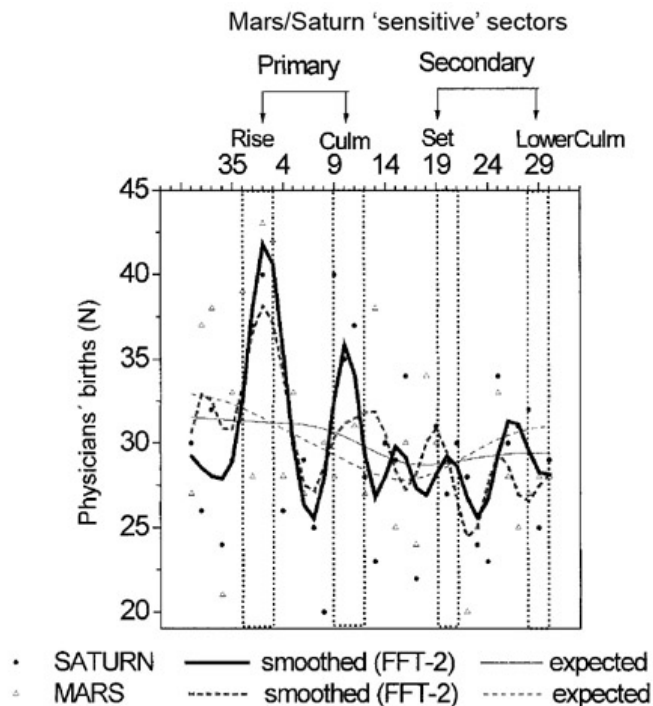
Figure 7: Saturn and Mars planetary-day distributions in birth-data of eminent French physician, gathered by Muller (Muller and Ertel 1994, N=1083), using 36-sector division.

We return to the key question: does the 'Gauquelin effect' only turn up in data gathered by MG? A Saturn-effect appeared in the extra group of 224 Académe de Médecine members collected by Muller and Ertel published in 1994, that was significant, these being a component of the total group plotted above (Fig 6); thus replicating what MG had found in his first book, *Hommes et les Astres* in 1955[30]. We saw how, following publication of the French sceptics' sports data in 1995, Ertel gathered the three sets of sceptics' data together and showed that the 'Mars effect' was present therein. Thus the effect was demonstrated using data-sets not gathered by MG. The null-hypothesis has been disproved. The latter could be expressed as, 'Bias was present in the way MG collected his data, and that has generated his claimed effects': a view no longer tenable.

Prospects

A good way to test this much-debated Mars-effect, which seems to have gone through some sort of anguished death and resurrection, would be to collect birth-data of Olympic gold, silver and bronze medallists every four years, collaborating with the sceptics in this endeavour[31]. In terms of how such a collaboration would work, one side (which one might wish to call, 'the believers') would be concerned to ascertain that the champions scored did indeed have 'the soul of hardened steel characteristic of the true sports champion'[32] as Michel put it, wherein lies the Mars-quality to be tested – and, as such, one might be uneasy about including some

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[30] To MG's original collection of 576 eminent French physicians which he published in 1955 he had added another 283, then Ertel and Muller collected 224 more; their re-checking altered 78 of MG's birthtimes.

[31] Concerning Olympic winners, see Ertel, *JSE* 1993, 7,2.

[32] Gauquelin, M. *Cosmic Influences on Human Behaviour*, London 1977, p.100.

modern Olympic categories, such as diving or sailing, where this quality might not fully manifest[33]; thus, one would be concerned with the *meaning* of the phenomenon. The 'sceptics', on the other hand, who see themselves as upholding science and reason, would be more concerned with procedure and whether something specified in advance could be demonstrated.

Gauquelin's original, basic hypothesis has endured and remains intact *solely* in relation to physicians, owing to the simplicity of his data-selection criterion: membership of the prestigious French Academy of Medicine. Arno Muller's initial survey of 1288 German physicians in 1986[34] did *not* select for eminence by membership of a prestigious society, and what he found displayed only a weak Saturn-effect (they scored 286 hits in the key sectors, and that is 24% of their membership), whereas for his later 1994 survey this figure reached 28%, (303 out of 1083 French physicians, see Figure 7) - the expected mean value being 22%. This again shows the centrality of eminence in this phenomenon, unfashionable though that notion may be today. Let us hope that some of the intense and wide-ranging debate over the Gauquelin-effect can now focus upon how it has endured in the birth-data of members of France's prestigious Académie de Médecine.

The late Bruce Brackenridge at Livermore University used to do a seminar on how science worked, in which the controversy over the Gauquelin effect was cited. One gathers that soon all of the JSE articles will be fully web-available as may facilitate discussion[35]. It would be a help to have these articles published together, plus the sequence of articles by Prof. Arno Muller as fully independent data-collections (preferably translated from the German), and with one or two extra thrown in from other sources, e.g. *Correlation*, the *Skeptical Enquirer* and the late Francoise Gauquelin's journal[36]. Acrimonious debate and *ad hominem* attacks have not been absent from these great Mars-debates[37], as may be quite appropriate. After all, the idea of a scientific demonstration of human destiny is, by any standards, outrageous. The recent (2004) web-availability of the entire Gauquelin database[38] has to improve the level of

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[33] Asked whether Gauquelin had excluded any category of sport, Ertel replied in the negative, but added: "I have always been amazed that Gauquelin took every sports category that he found in his two main reference books (sports champions are categorized there). Gauquelin found differences among sports regarding the Mars effect, for example basket-ball did not have much of an excess of Mars-born players. So he advised Paul Kurtz to avoid selecting basket-ball players in the USA because he reckoned they were not likely to have a Mars effect: the result of Gauquelin's suggestion was that Kurtz selected a large proportion of basket ball players!"

[34] Arno Muller, 'Last sich der Gauquelin-Effekt bestatigen?' *Zeitschrift fur Parapsychologie* 1986, 28, 87-103. NB this concluded (in English): 'Where G's data had to be corrected, this left the significance of his results unaffected...there exists, in my opinion, no solid reason that G's findings should not be acknowledged as objective ones.' Thus Muller has independently validated an earlier MG data-collection.

[35] JSE volumes 12 onwards are web-available, which includes the last two of the list above-cited.

[36] Debate on the subject has also seethed in *The Humanist, Leonardo, Skepsis* (Holland), *Astrologie in Onderzoek* (Holland), *Science et Vie*, *Psychology Today, Zeitschrift fur Parapsychologie* and *The Zetetic Scholar*.

[37] Eg, the final sentence of Benski's book *The 'Mars Effect'* (ref 14, p.145) is by Nienhuys, averring scornfully that 'Ertel's post-hoc analyses are rather like tea-leaf readings...'

[38] http://www.planetos.info/, by Patrice Guinard at CURA (linked to ref. 17).

discussion. The whole process seems to be a good example of how science works, under difficult circumstances.

In the 21st century, these databases need to become available in an interactive manner, so that psychology and astrology students can have fun playing with them. How do the graphs look using the different planetary days[39], or plotted by either 12 or 36 diurnal divisions, and including or excluding this or that data sample? The computer would be able to plot the chance-expected frequency for any data-set, and would show groups of data by eminence-graded steps, using defined sources to assess eminence. Can it really be, that three published sceptics' databases show, when pooled together, a clear and positive eminence-graded effect? Students will want to check this out for themselves using such a program, before believing it. They will surely want to inspect how the shocking reverse-shape diurnal curve looks on MG's unpublished group of less-famous sportsmen; as well as how physicians over various periods of France's Académie de Médecine membership have displayed Saturn in their key sectors.

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[39] Plotting these data-sets by the Sun would give their so-called 'nycthemeral distribution' whereby births are distributed unevenly through the course of the day.