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# ASTRO - PSYCHOLOGICAL PROBLEMS

a quarterly research journal

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Editor : Marie Schneider

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## EDITORIAL

Thank you for the renewal of your subscriptions, which allow "Astro-Psychological Problems" to begin a new cycle of its existence. Thank you also for your numerous responses to the questions on the renewal form. It has given us a clear view of what you like and dislike in this journal.

The most often mentioned reason for discontent was the small print of the journal. So, as you can see, instead of the planned more glossy cover, we have decided to double the size of print and format of the publication. As this doubles also the printing, paper and mailing costs, the readers who would disapprove the new size may return their copy to us; they will be provided the previous smaller size for the entire subscribed year. Those who, on the contrary, wish to possess not only Volume II, but also Volume I in the new doubled size, can return their old copies to us; they will receive the whole collection in the new doubled size. We hope thus to make everyone happy.

The most often approved of section of the journal was the Research section, as could be expected from subscribers to a research-journal. The preferred authors of such articles were (in the order of preference): professor Hans J. Eysenck; then (ex aequo, in the alphabetical order): Marian Bollen, Françoise Gauquelin and Beverley Steffert; then Willy Blaas, Geoffrey Dean and Jacques Reverchon.

The most often praised articles were, far above the others, the "Time Changes in Europe", because of their direct practical usefulness.

Wishes for future issues were, "pell-mell" : more Gauquelin-research (thank you : there was precisely such an article programmed for the present issue); more research on "ordinary people" (thanks again, for the same reason); more "original hypotheses" of the kind Jacques Reverchon gave in the September issue; more "research material"<sup>1</sup>; articles about philosophical, mytho-psychological and counselling issues<sup>2</sup>; a section about the use of home-computers<sup>3</sup>.

As far as possible, all the expressed opinions will be taken into account in our future plans. Please continue to inform us about what you think of the printed articles. This contributes greatly to the general interest of the journal.

Marie Schneider

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1/ i.e. More interesting certified birthdata. At this time, we are unable to release further certified birthdata from the Gauquelin collection. Efforts are being made to resolve publication restrictions.

2/ This, in our opinion, does not belong to a research-journal; only when such issues give rise to statistical inquiries can they be published here; it was the case with Graham Douglas's article in issue number 2 and for Bob Dijkstra's article in issues 3 and 5 (i.e. the present one).

3/ We already considered this as a promising field; but the approached authors answered that too many brands, with different languages, made any article of general interest not transferable to practical use. Instead we have therefore inserted requests for private exchanges of ideas between owners of a definite brand, at the end of this issue.

EXTRAVERSION AND SUN SIGN

Alan G. Smithers<sup>1</sup>

ABSTRACT

Sun signs do not seem to be popular with anyone but the general public. To many astrologers they are a gross over-simplification and to most scientists so much nonsense. It is perhaps then a little foolhardy of me to attempt to argue that sun signs are worth taking seriously. But that is what I am going to try to do.

My interest in sun signs had a very slow and uncertain beginning. Joe Cooper, when we were both at Bradford University, came to me with some data apparently showing that occupation is linked to sun signs. After great initial scepticism I became satisfied that his distributions were not random. However, while we agreed that something appeared to be happening, Joe was inclined to interpret the patterns in terms of astrology, but I preferred to look towards social and biological factors.

One thing which we did in 1972, but did not report at the time, was to look at personality. This was possible because all students entering the University of Bradford in 1966 had been asked to take a variety of tests including the Eysenck Personality Inventory. Recently, I have re-analysed these data, and the distribution of extraversion scores ( $N = 591$ ,  $m = 490$ ,  $w = 101$ ) across the sun signs are shown in Figure 1.

I confess that at the time we first analysed these data, they did not seem very interesting. Joe did say the pattern was distinctly astrological, with the higher scores mostly being in odd-numbered signs, but since he could not explain why this should be so, I did not pay that much attention. The data were put away in a filing cabinet. But they were carried with me when I moved to Manchester in 1977.

They might have stayed in their file, had I not been visited by someone who had just been to see Professor Eysenck. She was excited by some of his recent findings and showed me an early copy of the graph that was to appear later in Mayo, White and Eysenck (1978). It looked familiar and comparison with our earlier graph showed the two distributions to be surprisingly similar (see Figures 1 and 4, on page 7).

I immediately wrote to Professor Eysenck and he offered to hold up his paper so that the two reports could appear side by side. They were published in the Journal of Social Psychology in 1978, with Professor Eysenck and his colleagues explicitly testing astrological hypotheses, while Joe and I, at my behest,

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1/ Professor of Psychology, University of Manchester, U.K. Article based on a paper given to the Third Maudsley Conference on Science and Astrology.



were still arguing for a seasonal trend. The papers attracted a great deal of interest and prompted a number of attempted replications, some of which have been successful. However, research such as that of Delaney and Woodyard (1974), Pavlik and Buse (1979) and Eysenck and Nias (1982) suggested that it all could be put down to knowledge-of-astrology, and that it wasn't really very interesting.

From that time, the brief flowering of scientific interest in sun signs has seemed to be over. But, paradoxically, as Professor Eysenck's attention has turned elsewhere, my own involvement - and remember I started out with seasonal effects in mind - has grown.

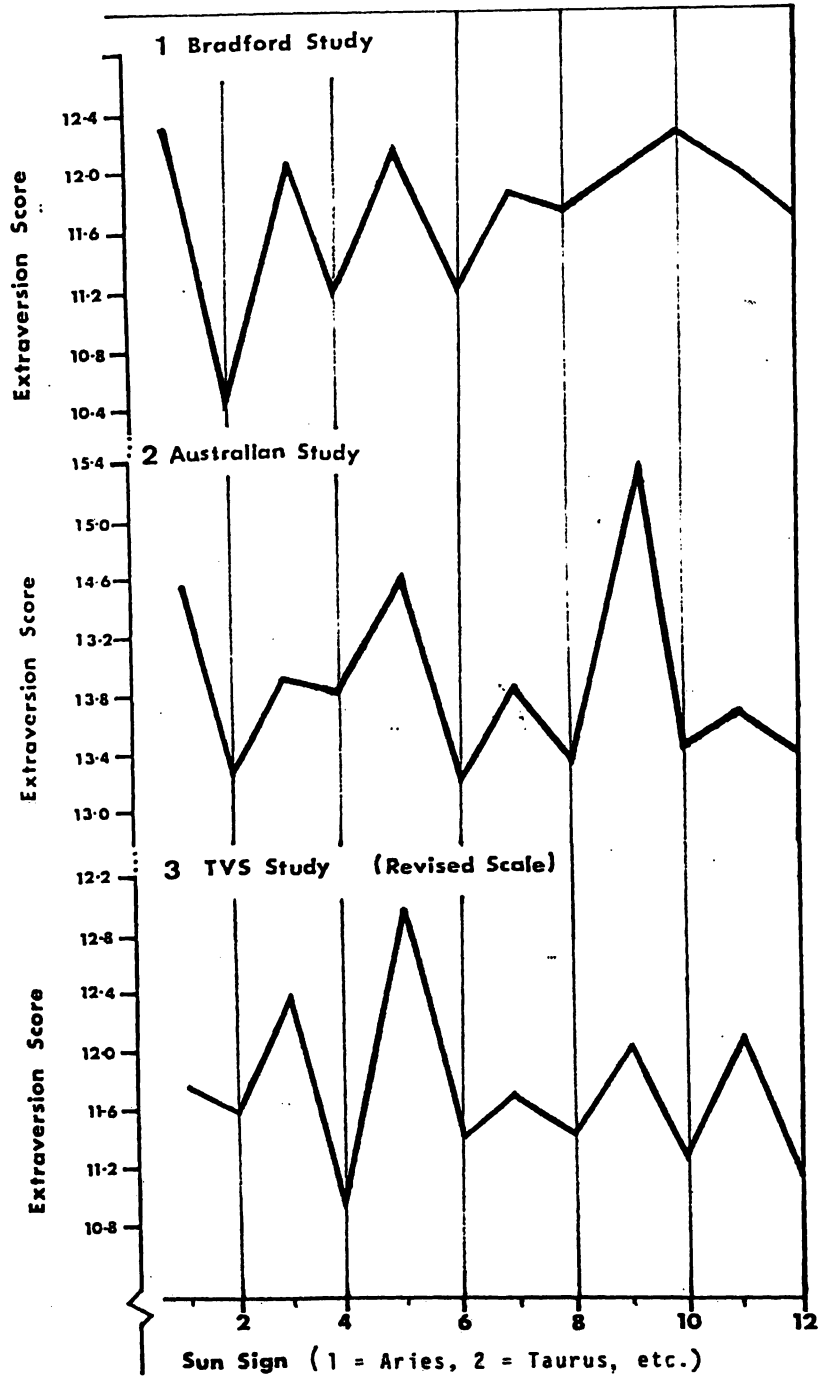
This has come about through the results of two other studies. When interest in the Journal of Social Psychology papers was at its height, I was contacted by the Australian Women's Weekly, who said they would like to do an article. As an afterthought, they said they would like to run a questionnaire. I couldn't simply print the Eysenck Personality Inventory; so I devised some Osgood-type rating scales. These appeared along with questions about date and place of birth, spouse's date and place of birth, illnesses and occupation. The respondents included 1108 women born in southern hemisphere, and their extraversion scores by sun sign are shown in Figure 2 (Smithers, 1981).

Even allowing for criticism (eg. Kelly and Saklofske, 1982), we did seem to have a situation where a number of people were describing themselves in accord with astrology, but with something of a question mark about the extent to which respondents had been led to give the answers that they did.

An opportunity to test whether respondents had, as it were, been led by the nose came by chance through the TVS science programme "The Real World". In 1982, David Cohen, the producer, devoted some 10 minutes of a programme on "Mysteries" to work of the Gauquelins (eg. Gauquelin, 1980). No favourable mention was made of sun signs or possible connections with date of birth. In fact, the context was critical.

As part of the programme, David Cohen had the idea of trying to test out some of Michel Gauquelin's ideas on an English sample. Since exact time of birth is not recorded on birth certificates in England and Wales (though it is in Scotland), it has not been possible to directly replicate the work in this country. David prepared a simple questionnaire asking for date, place and precise time of birth, how exact time of birth was known, and whether birth had been induced or was by Cesarean section. Personality was assessed through twenty questions like those of EPI, but again, for reasons of confidentiality and copyright, the inventory itself was not used.

Anyone who wanted to participate was invited to write in for a questionnaire. Eight thousand did so, and 3,480 returned completed questionnaires (w = 2712, m = 692). Those giving precise time of birth and good reasons for accepting it (2,704) were



Figures 1 to 3 : Three studies by Professor Smithers

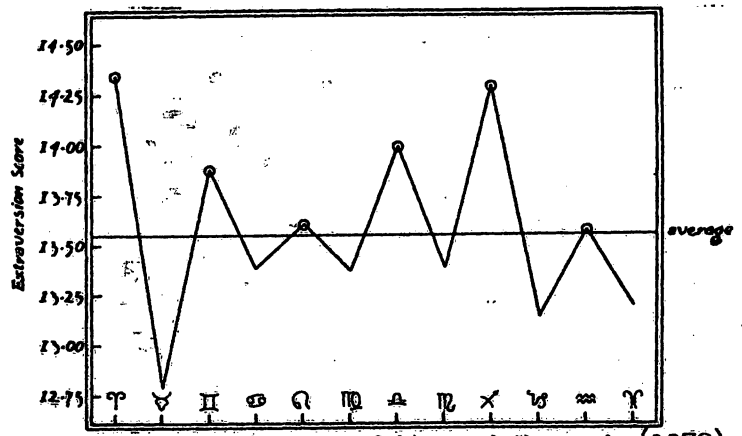


Figure 4 : Study of Mayo, White and Eysenck (1978). The scores for extraversion/introversion are plotted against sun signs.

sent to be run for possible planetary and sun-sign associations by Neil Michelsen, director of Astro-Computing Services, San Diego. The remainder, which were not suitable for time of day studies, but nevertheless gave date of birth, or which came in too late to be sent to America, were forwarded to Manchester, to see if there were any time-of-year effects.

A follow-up programme on TV5 had been pencilled in about three months after the first. Since we were using a scale with only face validity to test an astrological hypothesis, I was not at all optimistic, to put it mildly. But when we unravelled the computer output, much to my amazement, in both analyses, there was a clear sun-sign link, though no great support for Gauquelin's (1980) findings.

Subsequently, we have had a chance to look at the data in more detail and refine the scale by eliminating the items which did not seem to be effectively measuring extraversion. Results from the revised 10-point scale are shown in Figure 3, with an alternating pattern across all twelve signs.

Let me emphasize that these results were obtained following a television item about the Gauquelins' work with no positive reference to sun-sign astrology. Whatever is giving rise to the pattern, it is not simply the transfer of hints from the context, as might have been the case in the Australian study. It is evidently something more enduring.

So, from disbelief, I now find myself accepting that there may be some connection between the sun signs and self-reported personality. All three studies with which I have been associated - Bradford, Australis and TV5 - have shown the saw-tooth pattern to some extent.

If other people are not perhaps as impressed as I, it is probably because I seem to be the only person who consistently gets the pattern. There have been other demonstrations - notably the first by Mayo, White and Eysenck (1978), by Jackson (1979) in New Zealand and by Pawlik and Buse (1979) in Germany (in some circumstances, which I shall come to).

However, others have looked for the alternating pattern and not found it. The current state of play is summarized in Table I. As the table shows, there are more negative findings, since they can arise in many different ways. One possibility for some of the apparently negative results is small samples: Kelly and Saklofske only analyzed 241 cases, Russell and Wagstaff 350, Jackson and Fiebert 174 - all samples below 360 cases, which is not many spread across 12 periods. Interestingly, in Veno and Pamment's study involving 692 southern-hemisphere born students, although not statistically significant overall, there were peaks in periods 1, 5, 9 and 11 suggesting that a pattern might have emerged in a larger sample.



TABLE 1: SAWTOOTH PATTERN FOR EXTRAVERSION

PRESENT	ABSENT
Mayo, White and Eysenck (1978)	Angst and Scheidegger (1976)
Smithers and Cooper (1978)	Pawlik and Buse (1979)
Jackson* (1979)	Veno and Pamment** (1979)
Pawlik and Buse (1979)	Jackson and Fiebert* (1980)
Smithers (1981)	Eysenck and Nias (1982)
Smithers and Cohen (1982)	Kelly and Saklofske* (1982)
	Russell and Wagstaff* (1983)

\* sample size less than 400

\*\* rudimentary pattern in sample of 692

But I don't wish to duck the issue. Angst and Scheidegger studied a large representative sample of 3074 young men in Zurich (50% 19 year-old male population). They measured extraversion using the Freiburger Personality Inventory, and no alternating pattern emerged (although the highest mean scores were in periods 11 and 1). So the saw-tooth pattern does not appear on all occasions.

It may surprise some to find Pawlik and Buse entered in both columns in Table 1. They gave a German version of E.P.I., and "belief in" and "familiarity with astrology" questionnaires to 799 adults. The results showed some tendency for an alternating pattern to emerge where there were high scores on belief in astrology, but not otherwise.

It seems then that we are dealing with an astrologically associated pattern, which is found on some occasions but not others. It could arise:

- 1) through some direct astrological effect,
- 2) through knowledge of astrology influencing self-reported personality,
- 3) through something else.

Whatever the explanation though, I would want to argue that there is here something worthy of taking seriously, and that knowledge-of-astrology simply doesn't explain it all away.

Of the possibilities, astrology as a source of apparent self-knowledge is the most favoured explanation. This would account quite well for Mayo, White and Eysenck's results, and those of Smithers as well as Smithers and Cohen, but not, I think, Smithers and Cooper.

#### Results explained by the knowledge of astrology

Even if knowledge-of-astrology turns out to be the main factor, it is not merely knowledge-of-astrology. The results suggest that people can be influenced by astrology in their views of themselves to quite a large degree (Smithers, 1981). The scores also have something to say about personality measurement by self-report inventory. If astrological attributions cause scores to go up or down in the ways that have been found, how much more likely are other more immediate social and environmental factors to have an influence. We should never forget that the numbers generated by personality inventories depend on what people know about themselves and what they are prepared to tell us. While accepting that the knowledge-of-astrology hypothesis should be the first to be tested, the thought of those male science and technology students at Bradford in 1966 also makes me want to consider other possibilities.

#### Results explained by a direct astrological effect

A direct astrological effect is less likely, since no mechanism has been suggested. It is possible that, as we come to understand the Mars effect (Gauquelin, 1980), a similar sort of explanation may apply to sun-sign patterns. But it would have to explain why a pattern shows up on some occasions but not others, which knowledge-of-astrology does very well.

#### Results explained by something else

It is possible that something quite different is happening. Wendt (1978), for example, has proposed a chronobiological explanation of the alternating pattern.

I should like to be fanciful for a moment: conceivably; sun-sign astrology could be looked at as a particular example of Sheldrake's idea of "morphic resonance" (1981): it may be true because sufficient people believe it to be true. According to this idea, the long tradition of astrological belief would "formatively cause" the astrological personality patterns that we observe at the present time. This could operate through expectations and attributions, and could be tested, in part, by examining whether the saw-tooth pattern only occurs when personality is measured through self-report inventories. A number of seemingly analogous cultural beliefs, for example the Ashanti belief in the importance of the day of birth, seem to have an empirically verifiable validity simply because people hold them to be true.

## Conclusion

If the aim is to evaluate astrology, a failure to find some direct effect may be disappointing. But looked at more generally, the apparent sun sign associations are very interesting. At the very least, they could tell us something about personality measurement, and there is just the chance they could take us into a new mode of scientific explanation along the lines suggested by Sheldrake.

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RESEARCH ON ASTROLOGICAL FACTORS BETWEEN MARRIED COUPLES

Thomas Shanks<sup>1</sup>

ABSTRACT

This article was briefly mentioned in Prof. Eysenck's "Happiness in Marriage" (A.P.P.2, p.21); but its careful design and thorough completion deserve to be shown here with full details.

Several standard astrological relationships between married couples are subjected to statistical tests, by computer tabulation of factors and comparison to a generated control population.

No significantly positive results appear on the classical synastries.

Background

One of the contentions of students of traditional astrological concepts is that there are particular relationships to be found between the natal horoscopes of individuals who have an affinity for each other, such as married individuals. The study of astrological factors across two horoscopes is termed "synastry".

Typically, a casual astrologer might predict Sun-Moon contacts between married individuals, or Mars-Venus contacts, or again Moon-Ascendant contacts. A Sun-Moon contact means that the Sun in one horoscope is in an aspect relation (angle of 0°, 90°, 180°, etc.) to the Moon in the partner's horoscope.

In 1952 psychologist Carl G. Jung published a partial account of a study he had made of 483 married couples, divided into three groups, in which he compared several of these cosmic factors at the moment of birth of each person, by couples. The study included cross-comparisons of the positions of Sun, Moon, Mars, Venus and Ascendant, presented in tabular form according to the aspects of conjunction and opposition. Jung judged his results to be generally insignificant according to statistical criteria, based on the advice of a mathematician he consulted. However, the methodology of the statistical analysis as presented is inadequate. Tsutakawa (1957) doubts the correctness of his assumption of uniform distribution of geocentric planetary positions. He therefore suggests particular nonparametric methods based on work by Dwass (1957) after Pitman (1937), which would be superior for subsequent investigations. These suggestions have been adopted in this study.

General description of the research

The current research is an investigation of specific astrological factors at the moment of birth of 960 married couples.

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A computer program was used to determine the positions in ecliptic longitude of astrological factors for each individual at the moment of his birth. Then a subsequent computer program was used to tabulate across all couples the frequencies of occurrence of various specific relationships between these factors for the married couples, according to the hypotheses being investigated. These tabulated frequencies were compared with analogous control frequencies developed from samples of 960 opposite-sexed pairs repeatedly matched randomly from the subject population, using the same tabulation procedure as for the married pairs. The hypotheses were then tested for level of significance by comparing the observed frequencies with those from the randomly combined pairs.

### The data

Michel and Françoise Gauquelin have published the data collected for their "Experience d'Hérédité" (1970-71). This data consists of the birth data, with time and location, of about 25000 individuals, grouped in families. Of these family groups, 2819 have data for both the husband and wife. These 2819 couples with birth dates ranging from years 1850 to 1925 form the general subject pool for the study. Technical considerations related to density of subjects by date of birth suggest elimination of all couples with male members born prior to 1875. This leaves a subject pool of 2730 couples. From this group a study population of 960 couples was randomly selected. A procedure for this selection was devised utilizing the Rand volume of random digits. The birth information for each of the 1920 persons was converted to a format suitable for computer input, including date and time of birth, latitude and longitude of birth, and subject number. Corrections for daylight time and changes in the time zone standard were made.

### Hypotheses to be tested

Three hypotheses are presented in decreasing order of expected strength of finding, based on Jung's study and Tsutakawa's analysis.

In each case the null hypothesis is the same :

$H_0$ : The standard astrological factors tested do not occur more frequently among married couples than for unmarried pairs.

The three alternative hypotheses are :

$H_1$ : Sun-Moon aspects occur more frequently among married couples than among unmarried pairs.

$H_2$ : Sun-Ascendant aspects occur more frequently among married couples than among unmarried pairs.

$H_3$ : Moon-Ascendant aspects occur more frequently among married couples than among unmarried pairs.

Operationally, these hypotheses were tested by tabulating frequencies of occurrence of the various aspects in the sample

of 960 pairs, for both the actual married couples and the randomly matched opposite-sexed pairs. In each case the aspects of conjunction and opposition were separately tested for significance. For each hypothesis the level of significance was tested separately for each sex pairing, e.g. female Sun conjunct male Moon and female Moon conjunct male Sun.

In testing these aspects, a  $10^\circ$  orb was chosen, due to the assumed degree of error in the Gauquelin data, which is largely recorded to the nearest hour, with an expected error in the Ascendant and Midheaven placements of at least  $3.75^\circ$ .

### Testing hypotheses, establishing levels of significance

According to Dwas (1957) and Tsutakawa (1957), we define the following:

$s$  = number of randomized samples; here  $s = 199$ .

$x$  = observed frequency of given aspect in married population.

$x^{(i)}$  = observed frequency of aspect for the  $i$ -th randomized sample.

$n(x)$  = the number of randomized samples for which  $x^{(i)} \geq x$ .

We have the following relationship:

where  $\alpha$  is the level of significance.

$$\frac{d\alpha + 1}{s + 1} = \alpha$$

With  $s = 199$ , we obtain for the significance levels 0.05 and 0.01:

$$\begin{array}{ll} \alpha = 0.05 & \alpha = 0.01 \\ d_{.05} = 9 & d_{.01} = 1 \end{array}$$

We can reject  $H_0$  when  $n(x) \leq d$ , at the  $\alpha$  level of confidence.

In practice this means that in testing a particular hypothesis we need simply to count the number of times,  $n(x)$ , the frequency in a randomized sample,  $x^{(i)}$ , is equal to or exceeds the observed frequency for the married couples,  $x$ . With 199 randomized samples, when this count is less than or equal to 9, we reject  $H_0$  at the 0.05 level; when this count is less than or equal to 1, we reject  $H_0$  at the 0.01 level.

### Results

	factors		aspect	count*	level of significance
	male	female			
$H_1$ :	Sun	Moon	conj	95	$p < .48$
			opp	45	$p < .23$
	Moon	Sun	conj	120	$p < .61$
			opp	162	$p < .82$
$H_2$ :	Asc	Sun	conj	38	$p < .20$
			opp	13	$p < .07$
	Sun	Asc	conj	50	$p < .26$
			opp	142	$p < .72$
$H_3$ :	Asc	Moon	conj	154	$p < .78$
			opp	157	$p < .79$
	Moon	Asc	conj	5	$p < .03$ **
			opp	73	$p < .37$

\* number of times that frequency of aspect occurrence for randomized sample equals or exceeds the frequency of aspects for the subject population

\*\* exceeds the  $p < .05$  level



	male	female	aspect	count	level of significance
Other:	Asc	Asc	conj	45	$p < .23$
			opp	33	$p < .17$
	Asc	MC	conj	41	$p < .21$
			opp	67	$p < .34$
	MC	Asc	conj	148	$p < .75$
			opp	132	$p < .67$
	MC	MC	conj	17	$p < .09$
			opp	57	$p < .29$
	MC	Sun	conj	186	$p < .94$
			opp	23	$p < .12$
	Sun	MC	conj	118	$p < .60$
			opp	57	$p < .29$
	MC	Moon	conj	146	$p < .74$
			opp	59	$p < .30$
	Moon	MC	conj	48	$p < .25$
			opp	90	$p < .46$
	Sun	Sun	conj	161	$p < .81$
			opp	54	$p < .28$
	Moon	Moon	conj	86	$p < .44$
			opp	147	$p < .74$

### Discussion of the results

The results for Hypothesis 1 and 2 clearly do not provide evidence for rejecting the null hypothesis at the  $p < 0.05$  level. Hypothesis 3 does have one finding which reaches the desired level of significance: the male Moon is conjunct the female Ascendant at a frequency which allows a probability of  $p < 0.03$  that this is not a chance occurrence. However, it must be recalled that it would be expected that one statistic in every twenty would reach or exceed the  $p = 0.05$  level due to random fluctuation. Thus, coupled with the other values calculated for Hypothesis 3 which give no ground for claiming significance, we find little evidence for rejecting the null hypothesis.

The other factors which were tabulated are also listed in Table I, including all remaining pairs of factors across couples from among Ascendant, Midheaven, Sun and Moon. None of these pairings yield a frequency among the married couples which exceeds the  $p = 0.05$  level.

In general, the distribution pattern of the probability levels calculated does not provide evidence for judging that the astrological factors tested have any effect. There appears to be a fairly uniform distribution of probability levels across the entire range of 0.0 through 1.0, which is precisely what would be expected under the assumption of no astrological effects. Therefore, we conclude that on the basis of the evidence presented, there is no difference in frequency of occurrence of the tested astrological aspects for married couples than for unmarried randomly matched couples.

MOON RESULTS WITH A PROJECTIVE TEST

Françoise Gauquelin<sup>1</sup>

ABSTRACT

Previously, in the researches of Michel and Françoise Gauquelin, the stress has been on renowned personalities for significant correlations with the planetary positions. Now Françoise Gauquelin looks for similar correlations with ordinary people. She has used a simple projective test for this purpose.

For thirty years my husband Michel Gauquelin and I have mainly studied famous people in our statistical tests of astrological hypotheses. We have found that the more renowned the persons were, the stronger were the planetary results in professional groups (1972). This finding was criticized by sceptical scientists (Kurtz et al., 1979).

Do renowned persons display a stronger temperament than non-renowned ones ?

Some years ago, we made an attempt to study non-renowned persons through questionnaires (Gauquelin M., 1981), but without results. Therefore the question arose : do only renowned persons display a planetary effect ? Several researchers who failed to obtain results with psychological tests asked this question (Nias, 1981; Dean, 1981; Shanks, 1983).

The use of a projective test

In order to investigate this problem, I decided to try out a projective test which uses spontaneous reactions of ordinary people for defining their type of temperament. In the same way that a graphologist finds character types in the handwriting, it was my impression that drawings can partially reveal the subjects' temperament. But would such observations provide correlations with the planets ?

Since 1980 I submitted a little drawing test named "Six Geometric Figures" to members of astrological Societies, and asked them also to give me their precise birthdata. These groups seemed to provide good subjects, because most of them :

- 1) were not renowned,
- 2) were able to give me their precise birthdata,
- 3) were willing to help such an investigation.

---

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Figure 1 : the test

Can you express graphically your personality ?

Below we have drawn for you six geometric figures.  
Please complete them in the way you wish.

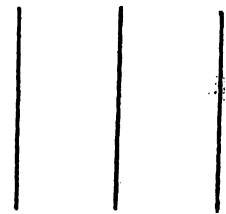
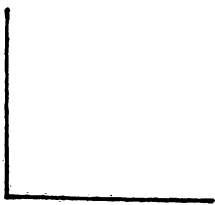
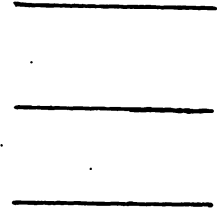
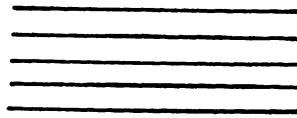


TABLE I

First results with the six geometric figures

(E = Extraverted answers, i.e. the most decorated ones;  
I = Introverted answers, i.e. the least decorated ones)

PLANET	MOON		JUPITER		SATURN	
HYPOTHESIS	E = +	I = -	E = +	I = -	E = -	I = +
Answers	E	I	E	I	E	I
50 in 1980	+ 0.5	- 2.0	+ 2.5	+ 3.0	- 0.5	+ 1.0
360 in 1981	+ 1.8	- 3.5	+ 2.9	- 5.5	- 1.5	- 2.3
238 in 1982	+ 4.9	- 2.6	+ 0.8	+ 2.5	- 1.5	- 2.9
T O T A L	+ 7.2	- 8.1	+ 6.2	- 0.0	- 3.5	- 4.2

Table I gives the first results obtained with the test shown in Figure 1. In these first attempts, the numbers of subjects were too small to give significant results. It was obly possible to verify if the direction of the results, i.e. the plus or minus sign, confirmed the starting hypothesis or not.

This does not seem to be the case for Jupiter or Saturn: the "I" columns suggest for these planets that the short answers, which we called "introverted", were often concise for other reasons than introversion. Perhaps the Marsian and Jupiterian personalities had a tendency to get rid of the test as quickly as possible, and their answers were short not out of introversion but impatience.

For the Moon however, column E as well as column I show results which are all in the predicted direction. The total is not quite significant; but it could become so, if the tendencies remain the same in subsequent samples.

A new experiment with German subjects

The first attempts of 1980-82 were made in England and the U.S.A. In these countries the birthtime is not always recorded in the official birth records, and many subjects knew it only through family memories, which are less reliable than a record made shortly after the birth.

- But in October 1982 I made the acquaintance of Peter Nienke, a German psychologist who was working on a doctorate in the same field at the University of Freiburg : he was testing astrological hypotheses on ordinary people through questionnaires, and had prepared excellent basic data for it:

- a) a great number of subjects had filled out his questionnaire and expressed a willingness to participate in a follow-up study.
- b) He had required of them that they write to the registry office of their birthplace for an official indication of their birthtime, which is always recorded in Germany.

He most generously offered me the use of his file of addresses; and 500 of his subjects agreed to complete my test of the Six Geometric Figures. Their answers were divided into three subgroups : "extraverted", "neutral" and "introverted".

Thanks to the better defined birthdata, the results became more evident : the subgroup of extraverted answers (137 on the whole) showed a highly significant distribution of the positions of the Moon in its diurnal movement (see Table II and Figure 2).

TABLE II  
Moon results with German subjects

Sectors	1	2	3	4	5	6	7	8	9	10	11	12
observed frequencies	14	6	11	20	12	9	15	8	12	11	10	9

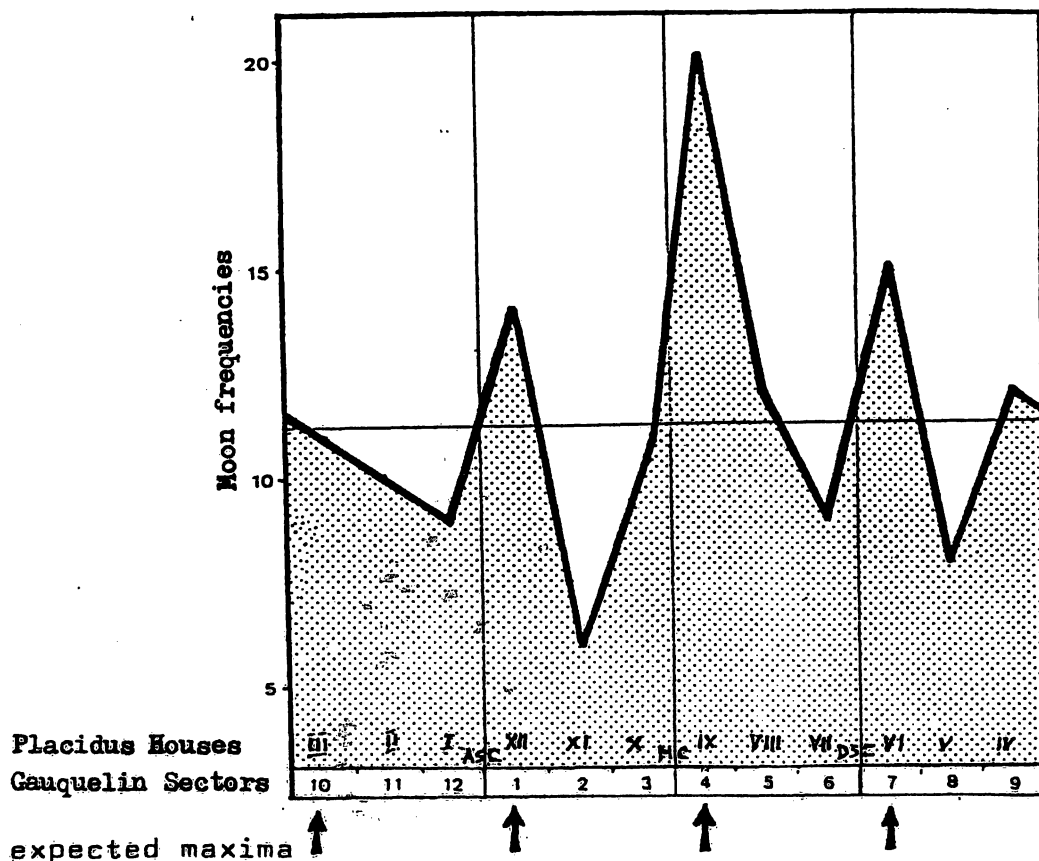


Figure 2 : Moon distribution for extraverted answers to the test

In the group of extraverted answers, the Moon distribution is thus quite similar to our former results, with peaks after rise, culmination and setting of the celestial body.

### Conclusions

We can conclude from this result that ordinary persons display as strong characteristics as renowned professionals. This, assuredly, must appear obvious to practicing astrologers; but didn't it have to be demonstrated also for skeptical scientists in their statistical language ?

Of course we admit to have found positive results only for one of the five planets which were significant in our previous results. This shows that our little test does not measure all the dimensions of the personality, which cannot surprize us. Many other tests must be tried out, until all the planetary components of human temperaments can be identified in ordinary people as well as in famous personalities. This will be our aim in the years to come.

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THE PROBLEM OF THE TIME IN PREVIOUS CENTURIES

Angelo Libranti<sup>1</sup>

ABSTRACT

When we calculate a chart for a date before the time in use was organized in Time Zones, no correction for the Longitude of the birthplace, Time Zone and Daylight Saving Time is necessary; we just apply the time indicated for the birthmoment, with the impression that it was much simpler during that epoch. Angelo Libranti however reveals how fallacious such an impression may be, by giving an overview of the numerous problems surrounding the time given by records before Time Zones were in use in Italy. It will appear as an extreme case of complication. But our own experience with records of people from the countryside of France, for the Heredity-experiment, reveals similar problems: before 1850, the birthtimes recorded at the Registry Office oscillate wildly instead of showing the regular daily demographic curve and provide no Planetary Effect when they come from small villages. The call for caution with old birthtimes by Angelo Libranti has therefore to be taken seriously. It is a useful complement to the article of Grazia Bordoni, et al. (see N° 2, March 1983)

How the problem arose

Wishing to make an astrological study of my ancestors, I requested the birthdata I needed from the relevant Registry Office and Parish Registrar. There was no problem in obtaining them, for the village of Ispica, in the province of Ragusa, has only one Parish, and the Registry Office has kept in good order all the records since 1820. The complications began when I had to interpret the birthtimes given to me. One was called "hora secunda die" (second hour of the day) in 1729; another one "ore nove di notte" (hour nine of the night) in 1832.

For solving this question I consulted specialists in ancient history, then personally conducted research at the National Library in Rome. I learned thus that the Church used for the baptism and death records "ore canoniche" (canonical time), while the States of this epoch, "Regno delle Due Sicilie" (Kingdom of the two Sicilies) and "Stato Pontificio" (Pontifical State) began the day half an hour after sunset; this way of measuring the day was also in use in the rest of Italy and was called "ora Italiana" (Italian Time).

Examples

The classical literature gives us examples of this way of timing the day. In particular Manzoni in the celebrated novel "I Promessi Sposi" (the betrothed), when he describes the vicissitudes of Renzo escaping from Milan after a riot, specifies that he passed through Gorgonzola "alle ore 24" (at hour 24),

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while the sun was about to set; and that he left again in the direction of Bergamo early in the morning "alle 11" (at eleven) after having slept in a remote cabin on the banks of the river Adda.

Doing research in Sicily, I had the opportunity to read a collective contract for handworkers, in which they were requested to arrive to the workplace "alle ore 12" (at 12). I erroneously deducted from this that our ancestors were rather lazy, if they began their work at noon, not knowing that the mentioned time meant in reality 6 a.m. !

After the historic explanations, I looked for other means for comparing the conventional time and the solar time. A booklet from 1866 teaching how to build a sundial confirms the beginning of the day half an hour after the Ave Maria, and it specifies that, at Noon, we have the hour 18 on the first of February, and the hour 16 in mid-August.

#### A table giving the correspondences

With the help of tables giving the rising and setting times of the Sun for each season, I constructed Table I which gives the time-correspondences at the beginning & middle of each month. It should help deciphering the daily time in past centuries.

TABLE I

Time-Correspondences  
(explained on next page)

	Tramonto	Albore	Mezzanotte	Alba	Levata	Mezzogiorno			
J 1	16,30	18,35	1,15	24 6,40	6,20	13,00	8,05	14,15	12 18,40
J 16	17,05	18,50	1,15	24 6,25	6,15	12,35	8,00	14,25	12 18,25
F 1	17,30	19,15	1,15	24 6,00	6,05	12,05	7,50	13,50	12 18,00
F 14	17,50	19,20	1,00	24 5,40	5,45	11,25	7,30	13,10	12 17,40
M 1	18,10	19,40	1,00	24 5,20	5,35	10,55	7,05	12,25	12 17,20
M 16	18,30	20,00	1,00	24 5,00	4,50	9,50	6,35	11,35	12 17,00
A 1	18,50	20,35	1,15	24 4,55	4,35	9,30	6,05	11,00	12 16,55
A 15	19,10	20,55	1,15	24 4,20	3,55	8,15	5,40	10,00	12 16,20
M 1	19,30	21,30	1,30	24 4,00	3,15	7,15	5,15	9,15	12 16,00
M 16	19,50	21,50	1,30	24 3,40	2,55	6,35	4,55	8,35	12 15,40
J 1	20,00	22,15	1,45	24 3,30	2,40	6,10	4,40	8,10	12 15,30
J 15	20,10	22,25	1,45	24 3,20	2,35	5,55	4,35	7,55	12 15,20
J 1	20,15	22,30	1,45	24 3,15	2,40	5,55	4,40	7,55	12 15,15
J 16	20,10	22,10	1,30	24 3,20	2,50	6,10	4,50	8,10	12 15,20
A 1	19,50	21,50	1,30	24 3,40	3,10	6,50	5,10	8,50	12 15,40
A 16	19,30	21,15	1,15	24 4,00	3,40	7,40	5,25	9,25	12 16,00
S 1	19,00	20,45	1,15	24 4,45	4,15	9,00	5,45	10,30	12 16,45
S 15	18,35	20,05	1,00	24 4,55	4,15	9,10	6,00	10,55	12 16,55
O 1	18,05	19,35	1,00	24 5,25	4,50	10,15	6,20	11,45	12 17,25
O 16	17,35	19,05	1,00	24 5,55	4,55	10,50	6,40	12,35	12 17,55
N 1	17,10	18,55	1,15	24 6,20	5,20	11,40	7,05	13,25	12 18,20
N 15	16,55	18,40	1,15	24 6,35	5,35	12,10	7,20	13,55	12 18,35
D 1	16,40	18,25	1,15	24 6,50	6,00	12,50	7,45	14,35	12 18,50
D 16	16,40	18,25	1,15	24 6,50	6,15	13,05	8,00	14,50	12 18,50

Tramonto = Setting  
of the sun

Albore = End of daylight

Mezzanotte = Midnight

Alba = Dawn

Levata = Rising of the  
sun

Mezzogiorno = Noon

(Note that in many Moslem countries, the official time still follows a 24 hours day beginning at sunset. So the problem continues into the modern era.

Thomas Shanks, Referee)

### How to use the Table

Table I was calculated for the Time Zone 15° East, and can be used for translating birthtimes since October 10, 1582 (Reform of the Gregorian Calendar) until about 1859 in Central Italy. Some twenty minutes have to be added progressively for towns in the direction of Otranto (extreme South-East point of Italy) or subtracted for the towns in direction of Aosta (extreme North-West point of Italy).

The first line of the table should be read in the following way : Hour 0 of old times corresponds in modern times to 16:50 o'clock (or 4:50 p.m.) on January 1st; it corresponds to 17:05 o'clock on January 16th. On January 1st the daylight ended at Hour 1,15 of the old time, corresponding in modern times to 18:35 o'clock (or 6:35 p.m.). On January first, it was 6,40 in old times when it is 24:00 o'clock (or midnight) today... and so on, to the Noontime of our days which would correspond to 18,40 of the old days (or rather 6,40 daytime).

### A confusing period

From 1859 on (and sometimes before) the introduction of the telegraph induced some States in Italy to measure the day starting from midnight as we do today, dividing it in 12 hours a.m. from midnight to noon, and 12 hours p.m. from noon to midnight. So from 1859 to 1866 intuition and common sense are often necessary for interpreting the original documents and understanding what kind of time was in use.

The confusion was great also because each town had its own time. A message sent from Rome at noon could be said to arrive at 12:20 p.m. in Taranto because this town lies in the East of Rome, even if the message was sent by telegraph and arrived in reality at nearly the same time as it was sent from Rome.

For putting an end to such problems, the "Regio Decreto n.3224" of September 22, 1866, imposed on the main land the local time of Rome, its ecclesiastic capital. But Sicily continued to follow the time of Palermo and Sardinia the time of Cagliari, their respective headtowns. Thus unity was not yet achieved. Apart from Sicily and Sardinia determining their time separately, many villages in the countryside retained the habit of beginning the day at sunset.

For ending the confusion, a new decree was issued in August 10, 1893, according to which all the Italian Kingdom adopted the Middle European Time corresponding to 15° East of Greenwich, and a division of the day in 24 hours of equal length starting at midnight. This royal decree came into force on the first of November 1893 and is still valid. Therefore since November 1, 1893 the time zone has been MET. Subtract 1 hour for obtaining GMT and add the longitude of the birthplace in minutes and seconds for local time.

TABLE II  
The Time Used by the Church

<u>Canonical hours</u> (ORE CANONICHE)	<u>Solar hours</u> (ORE SOLARI)		
MATTUTINO	24 - 3	dopo mezzanotte	= after midnight
LODI	3 - 6	al canto del gallo	= when the rooster crows
PRIMA	6 - 7	al sorgere del sole	= when the sun rises
SECONDA	7 - 8		
TERZA	8 - 9		
QUARTA	9 - 10		
QUINTA	10 - 11		
SESTA	11 - 12	a mezzogiorno	= at noon
SETTIMA	12 - 13		
OTTAVA	13 - 14		
NONA	14 - 15		
DECIMA	15 - 16		
UNDICESIMA	16 - 17		
VESPRO	17 - 18	al tramonto del sole	= when the sun sets
COMPIETA	dopo le 19	prima di andare a letto	= before going to bed
SEXTA NOCTIS	24	a mezzanotte	= at midnight

It is easier to understand the "ore canoniche" (canonical hours) in the church records: the habit of frequent public prayers, practiced since medieval times, caused the Church to codify their succession into a regular pattern giving points of reference to the civil life: the "lodi" (praise) begins when the rooster crows; the "prima" (first hour) begins at sunrise, the "sesta" at noon; the "vespro" (vespers) finish the day. The nocturnal hours received less attention, for darkness interrupted the social activities and everyone remained at home. But religious people prayed again at "compieta" (when the day was completed) and at "mattutino" when midnight was over and a new day arrived.

Table II gives the mean solar hours corresponding to the canonical division of the day. But these divisions vary with the time of the year, being equally divided between sunrise and sunset: in summer the canonical hours of the day are longer than those of the night; in winter the canonical hours of the night are longer than those of the day.

### Conclusion

The theme is not exhausted by this short article. Many other considerations should be taken into account, especially between 1830 and 1860, when the old system began to change into the new one. We have tried here only to give a starting point to more thorough research about the ways in which old birthtimes were recorded. Allow me to thank in advance those who care to add their critical remarks or corrections to this subject in order to eliminate inevitable gaps.

To the investigators of old charts, the EDIZIONE CAPONE, Via Morazzone 16, Turin (Italy) announces that they have published an Ephemeris from 1582 (beginning of the Gregorian Calendar) to 1700. It was calculated on the computer of Ciro Discepolo, with the help of P. Mauro. The hardcover book of 83 pages costs 25 000 Lire Italiane payable by international money order to Edizione Capone.

<b>SUMMER TIME CHANGES IN POLAND</b> Marius Karlinski <sup>1</sup>
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We had asked a Polish friend, Marius Karlinski, about the Time Changes in his country. In July he sent us the following table about summer times, with a note saying that it was an excerpt of a more detailed article by Stanisław Ktys (1981). We intended to publish more time changes than only the summertimes for Poland, as we had done for other countries (see previous issues of this Journal). We therefore consulted various references about this problem, but found too many contradictions between them. The complex political past of this country has probably involved different kinds of time changes for different regions with changing governments ruling them. More precise documents about what has actually happened are needed.

Meanwhile we publish the table about summertimes received from our Polish friend. He lives in Poznan, in the central part of present Poland, and the table is certainly quite accurate for recent births in this region. What happened in less central parts and at less recent times will be investigated and published in another issue of this Journal. Readers who wish presently more information can consult the thorough, detailed, but complicated article of Jan Sar Skapski in "The Ecliptic", 1981.

When the first World War began, the legal time in Poland was Middle European Time (MET): i.e. GMT + 1h  
 The introduction of Summertimes added 1 hour to it: GMT + 2h  
 from 30 April 1916 24:00 to 30 September 1916 24:00  
     16 April 1917 03:00      17 September 1917 03:00  
     15 April 1918 03:00      17 September 1918 03:00

When independence was achieved, in the Fall of 1918, the Eastern European Time (EET) was introduced: i.e. GMT + 2h  
 The Summertime added one hour to it: GMT + 3h  
 from 15 April 1919 02:00 to 16 September 1919 03:00

Return to the Middle European Time on 1 June 1922 00:00 GMT+1h  
 The Summertime added one hour to it: GMT + 2h  
 from 23 June 1940 02:00 uninterrupted  
     1941 uninterrupted  
     1942 uninterrupted to 2 November 1942 02:00  
     29 März 1943 02:00      4 October 1943 02:00  
     3 April 1944 02:00      4 October 1944 02:00  
     28 April 1945 24:00      31 October 1945 24:00  
     13 April 1946 24:00      6 September 1946 24:00  
     4 May 1947 00:00      5 October 1947 00:00  
     18 April 1948 00:00      3 October 1948 00:00

<u>No Summertime</u> from 1949 to 1956		i.e. GMT + 1h
<u>Summertime</u>		GMT + 2h
from 2 June 1957 01:00	to 29 September 1957 02:00	
30 March 1958 01:00	28 September 1958 02:00	
31 May 1959 01:00	4 October 1959 02:00	
3 April 1960 01:00	2 October 1960 02:00	
28 May 1961 01:00	1 October 1961 02:00	
27 May 1962 01:00	30 September 1962 02:00	
26 May 1963 01:00	29 September 1963 02:00	
31 May 1964 01:00	27 September 1964 02:00	

<u>No Summertime</u> from 1965 to 1976		GMT + 1h
<u>Summertime</u>		GMT + 2h
from 3 April 1977 01:00	to 25 September 1977 02:00	
2 April 1978 01:00	1 October 1978 02:00	
1 April 1979 01:00	30 September 1979 02:00	
6 April 1980 01:00	28 September 1980 02:00	
29 March 1981 01:00	27 September 1981 02:00	
28 March 1982 01:00	26 September 1982 02:00	
27 March 1983 01:00	25 September 1983 02:00	

N.B.: It happened however in several cases that the centrally decided summertime in fact was not applied for lack of the necessary official decree of application.

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THE PLANETS OF THE ASTROLOGERS

Marie Schneider<sup>1</sup>

ABSTRACT

In the last issue of this journal (number 4, page 5), the author asked her readers to write which factors of the horoscope they would consider as the most significant ones for becoming an astrologer. She describes here the answers she received and the empirical results she obtained.

Not many readers answered my request for information about which factor of the horoscope they consider as indicating a tendency to be interested by astrology.

But I knew from astrological textbooks what the traditional planet is : Uranus would be responsible of such interests. The renowned French astrologer André Barbault, for instance, mentions his Uranus in the first House as the factor which has led him toward astrology.

But when we check the Uranus positions in the horoscopes of a large group of practicing astrologers (410 cases, see Table and Figure 2), their distribution appears fairly regular, without peaks in angular Houses, nor in the Gauquelin key sectors.

Recently a German astrologer told us he had obtained empirical results showing that not Uranus alone, but the aspects between Uranus and Mercury were relevant for becoming renowned in astrology. We requested to see the names of his collection and the obtained figures, but didn't receive anything. When we checked the Uranus-Mercury aspects in our group of practicing astrologers, no significant result appeared. The obtained percentages were : expected 67 %, observed 64 % .

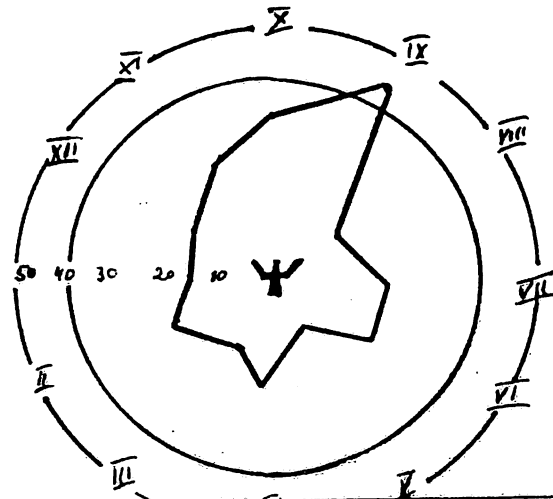
Instead of the announced Uranus-Mercury aspects, I received another result : Heinz Specht had found, on 245 birthdata of astrologers collected in astrological magazines, a high peak of Neptune in the Ninth House (see Table and Figure 1 below).

TABLE and FIGURE 1

Neptune positions in Houses :

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
15	19	14	20	11	21	22	13	42	30	22	16

Total : 245 cases from Heinz Specht



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But in our group of astrologers (410 cases, see Table and Figure 2) the distribution of Neptune has a slightly negative frequency in the Ninth House and a trough in the Third House that just reaches the 2σ significance level. Without information about the data collected by Heinz Specht, we cannot examine what caused the high peak in his group. We only state that it is not reproducible, and that a slowly moving planet like Neptune is prone to astronomical irregularities which have nothing to do with astrology.

What is then the astrologers' star ?

In her article (see pages 16-21) Françoise Gauquelin mentions various groups of astrologers who gave her their birth-data. Her whole collection did not reveal any planet or sign that would irresistibly lead to an astrological career. But some subgroups have interesting features showing what kind of talent could be expected from a successful counselor :

1) Californian astrologers show a slight predominance of Jupiter in key sectors (see Table and Figure 2). The group contained several former actors who had tried their luck in Hollywood before becoming counselors. Jupiter is the planet of actors and of leader-personalities. If you expect much guidance from your astrologer, look for one in Hollywood.

2) Other qualities can be preferred in a counselor. Theo de Weert, for instance, writes :

"In my opinion, a good astrologer would have the following planets in key sectors:

- Venus for empathy, charm, extraversion and sociability,
- the Moon to be a likable person, loved by others,
- a combination of Venus and the Moon seems therefore the best.
- A less successful counselor would have Saturn (introversion) or Mars (aggressivity) in key sectors."

This can be observed in other subgroups. For instance members of the Rosicrucian Fellowship, who devote their time during a period of their life to helping suffering humans, have a predominance of the Moon in key sectors.

Unfortunately the numbers of cases in such subgroups are too small for being significant. They only suggest that you should not go to an astrologer without examining first his horoscope, preferably of course with a Gauquelin-list of typical traits in your hand! It might help you find the ideal counselor you are dreaming of. Good luck!

SECTOR	1	2	3	4	5	6	7	8	9	10	11	12
HOUSE	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
<u>Uranus</u> :	43	40	37	41	35	40	27	26	23	32	34	32
(Françoise Gauquelin: 410 astrologers)												
<u>Neptune</u> :	32	41	36	30	28	37	40	43	41	20	29	33
(Françoise Gauquelin: 410 astrologers)												
<u>Neptune</u> :	16	22	30	42	13	22	21	11	20	14	19	15
(Heinz Specht : 245 astrologers)												
<u>Jupiter</u> :	28	22	27	34	23	27	28	16	31	30	29	25
( subgroup California : 320 astrologers)												

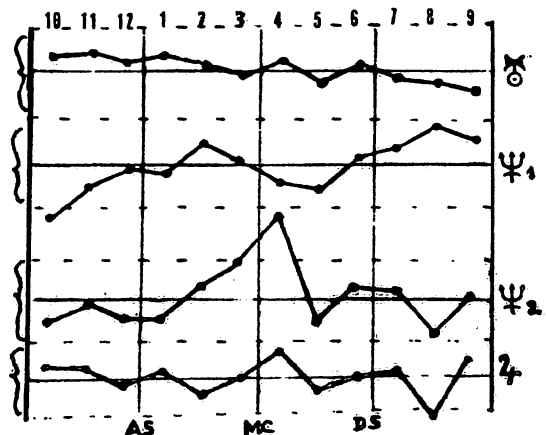


TABLE and FIGURE 2

Dotted lines : ± 2σ Significance level

LETTERS FROM OUR READERS
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In answer to the articles of G. Le Clercq and W. Martinek (A.P.P. I, 4)

Dear Madam,

I would like to raise a few points concerning the methodology of some of the articles in the last issue of "Astro-Psychological Problems".

First, in the article "Identification of an Artefact in Cosmoplanetary Research", Guy Le Clercq claims that the significant SO-MC aspects that he found in the birth-charts of a collection of famous writers could be explained as an artefact arising from the tendency for the birth-times to be recorded in whole hours.

While I agree that this is a very plausible reductive explanation for the finding, I cannot accept that Mr. Le Clercq has demonstrated its truth. The point is that, if SO-MC aspects do indeed promote the traits that make for success in writing, as astrology might hypothesise (though I don't know that it ever did), then birth-times among writers would be expected to cluster around whole hours. So-MC aspects could show up in no other way. Thus all that Mr. Le Clercq has done is to demonstrate the equivalence between having such an aspect and having a birth registered to a whole hour. In order to demonstrate that the aspect effect is an artefact, it is also necessary to show that there was a tendency for the birth-times to be IMPRECISELY ROUNDED to the nearest hour.

There are a number of pieces of evidence that Mr. Le Clercq might have drawn upon to convert his demonstration of a mere equivalence into an identification of an artefact. Probably the most important is contained in an article published in 1971 in which **Françoise Gauquelin** reported that the great majority of all births prior to 1930 are recorded to the nearest hour ("Terrestrial Modulations of the Daily Cycle of Birth" J. Interdiscipl. Cycle Res., 2(2) 211-217). This means that any sample whatever would be expected to show significant SO-MC aspects provided the births did not take place recently.

This expectation has been largely borne out in a second article that could have been profitably cited. It was published by **Tom Shanks** and is called "Sun-MC Aspects in the Gauquelin Professional Data" (Cosmology Bulletin, N°6, Sept. 1977). It reports on the results of a study of the aspects at the births of not only the Gauquelin writers, but also the scientists, actors, and sportsmen. By counting conjunctions in the first 36 harmonic charts, Mr. Shanks discovered that three of these professional groups had an excess of SO-MC aspects in several of the harmonics, especially the 3rd, 4th, 6th, 8th, 12th, and 24th harmonics. Such a result is to be expected if birth-times are imprecisely rounded. The only anomaly here is that the

sportsmen did not show this effect; but this could be explained if these subjects tend to be born more recently than the other professional groups, since precision in birth-times has improved during this century (F. Gauquelin, op.cit.). Perhaps Françoise Gauquelin could provide some exact statistics to resolve this anomaly<sup>1</sup>?

The other issues that I would like to raise concern the article "Drug Addiction and Horoscopes" by Wolfgang Martinek, and the comments on this article by Françoise Gauquelin.

First, I think it needs to be said that Mr. Martinek tells us nothing of his sampling procedures, nothing about the drug addicts themselves except that 20% of the 116 subjects were "addicted" to "soft drugs" (a contradiction in terms?), nothing about the statistical tests he used except the significance levels attained, and he omits to tell us which rows of one of his tables represent which planets. Instead, his whole article is taken up with entirely ad hoc astrological interpretations of his results which seem to owe everything to wishful thinking and nothing to the data.

Françoise Gauquelin was quite correct in pointing out that Mr. Martinek had omitted some crucial astronomical and demographic corrections from his analyses. However, there is also an error in her comments. She claims that the expected frequencies for the AS and MC in the zodiac signs should be derived from the annual birth-frequency curve; but in fact irregularities in these distributions have almost nothing to do with seasonal variations. They are mostly due to the geometry of the geocentric framework. A good approximation to the expected distribution of the MC in the 12 signs can easily be had by consulting any table of houses. I have done this with the following results :

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 Relative frequencies of the MC in the 12 zodiac signs

Sign	AR	TA	GE	CA	LE	VI	LI	SC	SA	CP	AQ	PI
E(f)	.078	.083	.089	.089	.083	.078	.078	.083	.089	.089	.083	.078

=====

These relative frequencies can then be used to test the distribution of the MC for the 116 addicts. A chi-square test with 11 degrees of freedom yields a value of 18.73, which is not significant at the 5% level, though it does not fall far short.

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And if the demographic correction is also performed, then the distribution of the MC appears quite normal.

F.G.

1 - Françoise Gauquelin: Yes, sportsmen becoming famous already in their twenties, their birthdates go from 1850 to 1950 in our data collection, while the other groups go from 1800 to 1910-1920 only. There are thus more rounded hours in the other groups and less in the sportschampions' group.

In answer to the article of Jacques Reverchon (A.P.P. I, 4):

Dear Marie Schneider,

J. Reverchon has given opportunity, in Vol.I Nr.4, to a rather interesting discussion. I think that the "clustering-effect" goes FAR BEYOND astrology. A point which I shall try to make clear by citing the research work of the following people :

1. Von Neuman, the well known mathematician, used to call statistics "black magic", referring to the fact that we do not know WHY statistics work. A. Koestler illustrated this with examples from real statistics : for instance, every year dogs bite men (1) and horses kick soldiers to death (2). This can be measured by statistics in the form of a Poisson distribution; an average is then calculated, and it is approximately the same each year. But HOW do dogs know, or HOW do horses know that they did their share for the year ?

2. The statistical card guessing experiments of J.B. Rhine revealed CLUSTERS of correct answers or "hits". This clustering-effect was found times and times again. I am not against the existence of telepathy, precognition, etc., but I think there may be ANOTHER REASON for this clustering-effect (3).

3. In 1967, an interesting experiment was held by the Society for Psychical Research in London : 220 people performed it, 200 of them functioning as "transmitter", and the remaining 20 as "receivers". Images were projected on a screen for the "transmitters"; the "receivers" had to telepathically guess which they were. On a total of 2112 answers, 35 were correct (= 1.6%). So what ? Another piece of evidence for telepathy ?

Now comes the interesting part : the leaders of the experiment made an ingenious "control-experiment"; a number was given to the 2112 projected images; then 20 of them were selected by chance, using random tables; these 20 random numbers were treated like the answers of the "receivers"; it appeared that they presented the same kinds of "clusters" or groupings of two, three or four times the same number (4) ! The control-experiment had thus a similar, statistically significant outcome as the initial experiment with people. However, in the control-experiment, only numbers representing the answers, and no people were used. Therefore the "clustering-effect" was NOT due to telepathy; scientifically speaking, it was due to chance, and chance alone. And as Von Neuman says, we do not know why chance operates the way it does.

4. In her answer to J. Reverchon, F. Gauquelin writes : "there are always some clusters of data in a time series; it can never be completely flat !" Quite true. But shouldn't it be flat in theory ? Yes, it should. But it is not. Thus the theory does not fit reality. So, either the theory is wrong, or THERE IS A REASON WHY IT IS NOT FLAT. If you ask : why are clusters there, the answer is : there must be a REASON for the clustering-effect. This reason may be unknown, but we should at least CONCLUDE TO AN UNKNOWN LAW, one which provides the clustering-effect.

5. I think it would be very interesting to continue J. Reverchon's kind of statistics, for I believe that he would find still more babies being born in clusters. I also think this effect is not limited to babies of the same temperament, but that a significant clustering-effect will be found for a population of heterogeneous temperaments as well. In other words, if one was to analyze the data of all people born naturally in one area for a certain period, one would find that they were born in clusters.

I think all this is due to an overall law in man and nature, which tries to make similar events happen at the same time. The more alike parameters of the first happening are with other, potentially similar situations, the more clusters you will get.

References :

- (1) Koestler, A. (1975): Face au néant, Calman-Levy, Paris.
- (2) Weaver, W. (1982): Lady Luck, the theory of probability. Dover Publ.Inc., New York, p.267.
- (3) Koestler, A. (1972): The Roots of coincidence. London.
- (4) Koestler, A. (1973): The Challenge of Chance. Hutchinson & Co. Ltd, London.

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Dear Theo de Weert,

Your reasoning about J.Reverchon's clustering-effect is interesting, but forgets one point : a frequency distribution is expected by the theory of probabilities to become "flat", i.e. perfectly fitted to the calculated probabilities, only in an infinite population, never in a limited sample.

Let us take the example of the dice. If you throw them six times, you don't expect each face to come up exactly one time each, despite their equal calculated probability of  $1/6$ . In a sample of 6 trials, you know that some will come up two or three times, and others not at all. This is a perfect example of "clustering-effect" that is nothing but random. Now, if you throw the dice 60 times, the irregularities of the frequency distribution will be less pronounced; if you throw it 6 millions of times, the irregularities will be barely perceptible, your frequency distribution will appear as flat as theory predicts it.

J.Reverchon expects a Poisson-distribution for his selection of births, i.e. the distribution of exceptional events. Such events appear necessarily "in clusters" as long as the sample is not big enough to smooth the frequencies into the curve calculated by Poisson for an infinite population of this kind of events.

Now, of course, some kinds of clusters may have a special sense. I don't want to deny that possibility. But before adopting such a view and "concluding to an unknown law", one must be certain that their cause was not simply a too limited sample.

Marie Schneider



### Rectification

In the March issue of 1983, Prof. Eysenck mentions my name in connection to a study on marriages and astrology carried out in Holland a few years ago. Prof. Eysenck overestimates my contribution, when he says that I replicated the original study of Dr. Kuypers on 438 couples with a large sample. I do not know how this wrong information came about, but let me state the facts.

The original study, by Dr. Kuypers of Apeldoorn (Holland), showed indeed a significantly high occurrence of certain aspects between the Sun and the Moon with 438 couples. A group of the Dutch Society for the Scientific Investigation of Astrology, of which I was only a member and not the leader or co-ordinator, made a replication of this study, which showed the same effects to a lesser extent, but for one aspect a total reversal. The other aspects were not significant, but gave the same tendencies.

Dr. Kuypers continued then the research, and so far he has analysed more than 6000 birthdata. The results all taken together are very remarkable :

- there is a peak for the square between Sun and Moon with a probability of less than 0.01,
- there is also a peak for the opposition:  $p = 0.05$
- there is a deep low for the inconjunct ( $150^\circ$ ):  $p = 0.001$
- the conjunction, semi-sextile, sextile and trine are all close to average.

This whole result seems very interesting and calls for deeper investigations. Dr. Dean, of Perth (West Australia), however, dismisses it because the correlation test did not yield positive results. This may be so, but further investigation seems necessary, as a sample of more than 6000 observations with significant results cannot be swept off the table that easily. There is more to consider here than a possible artifact.

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Answer : Thank you for bringing this important research to our attention. However it seems that the large and careful work of Thomas Shanks on married couples reported in this issue (see page 13) represents a negative replication which has also to be considered seriously. Could we ask you to send a copy of the documents, which we would submit to various specialists for asking their opinion. Perhaps a new replication could then be organized.

Marie Schneider

### Wish to correspond

Do you know of any French student of Astro-Psychological Studies who would wish to correspond ? Mes amitiés.

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Computer analyst and astrologer, possessing program of astrological calculations for APPLE II 48 K, would like to exchange informations and techniques with other astrologer(s).

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