

Part I - Science, Astrology and the Gauquelin Planetary Effects

by Kenneth Irving

I AM VERY interested in the general question of the relation between science and astrology. The main *raison d'être* of a monthly column I write, and of several lectures and workshops I have given in the last two years, is to explore the possibility of using the scientific work on planets, professions and personality begun by Michel Gauquelin in astrological interpretation. Gauquelin himself (and to a lesser extent, Françoise Gauquelin) tried to do this, but his efforts were largely ignored, perhaps in part because his presentation of the psychological natures of the planets tended to be static, though also because astrologers as a group seem to have strong resistance to the idea that “science” can tell them anything they don’t already know.

In part to address this habitual response to science by astrologers, the editor of *Correlation*, astrology’s only research journal that adheres to academic standards, envisioned a series of “key topics” to discuss basic questions about the relationship between science and astrology. The first question in the series (covered in Volume 13, No. 1, Northern Summer 1994, pages 11-53) was whether science is even relevant to astrology. The answers provided from both sides of the question were interesting, inasmuch as Editor Rudolf Smit and discussion leaders Geoffrey Dean and Arthur Mather managed to draw together a diverse group that included astrologers, independent researchers, and even several skeptical scientists.

No doubt some astrologers will wonder why that latter group was included at all, since most in the astrological community are highly sensitive about giving space in their publications to those hostile to astrology. That viewpoint is understandable, but I feel it is better to attempt a full dialogue than to purposely exclude people from the discussion. In the end, skeptics will probably remain skeptical and astrologers will remain astrologers, but if a dialogue is opened, each side might find that the other’s ideas are not as one-dimensional as previously thought.

As a contributor to the discussion in that first topic, I do have to say, however, that overall each group said what one would expect them to say: the scientists tended to criticize astrologers as too fuzzy in their thinking; the astrologers tended to criticize the scientists as being too narrow-minded. Though Dean and Mather seemed bent on resolving the conflict (and indeed, this was one of the stated purposes of the discussions), I see little immediate likelihood of that on the basis of what appeared here. In fact, as I pointed out in my own contribution, the main conflict between scientists in general and astrologers as a group will probably only resolve itself in the way other such sticky questions have resolved themselves in the past. If evidence supportive of astrology is found (and in my opinion it has been, in the work started by Gauquelin), this at *best* provides a basis for lessening the conflict, not resolving it.

How will the conflict be lessened? Not through discussion, even though this does have value. The reason for this is a very simple, human one, which is that people tend to invest their personal credibility in obdurate points of view. The scientist who pooh-poohs astrology in no uncertain terms is put in a difficult position by the findings of Gauquelin, Ertel or Müller linking the planets at birth to later success in professions. Those findings must be wrong, and, if not wrong, they must not be “astrology,” as

otherwise the skeptical scientist would have to admit that his own world-view has major problems. When faced with the Gauquelin results, the astrologer who says science, with its reductionist methods, can not possibly address the rich tapestry of astrology has the problem of reconciling something that seems to support traditional astrology on the one hand (the planetary natures) while denying it on the other (the strongest points falling in the cadent, rather than the angular, houses).

In each case, *one side or the other has a personal stake in the outcome of an experiment that denies the truth of its position*. Where science is concerned, the resolution of what is essentially a human problem generally comes only when a scientist who has not committed himself or herself on the issue considers the question of what supportive results really mean. With astrologers, the problem is somewhat the same, but there is also the additional difficulty that most astrologers are practitioners so that until some relatively powerful practical application can be found for the results of scientific inquiry, those results essentially have no meaning. In other words, while the problem of science is resolved by those who are opposed to the Gauquelin results retiring or dying, where astrologers in general are concerned, a change of generation will make little difference unless the results are *useful*.

Clarification, Not Resolution

In the meantime, an effort such as the key topics can serve to clarify conflict more than to resolve it. Consider, for example, an exchange between researchers Dean and Mather on the one hand and astrologer Nick Campion on the other, over a very fundamental objection often raised by astrologers about the relevance of the scientific process to astrology. Most astrologers feel that a birth chart is more than the sum of its parts, that the interpretive schema and the interaction with clients produces something that can not be studied in the way science generally studies things, by reducing the object of scrutiny to bits and fragments that are weighed, measured and analyzed.

One example of this conflict between “holistic” and “fragmentary” thinking is the whole range of scientific studies on various aspects of the relationship of Sun signs to occupation, personality and many other aspects of human endeavor. Quite frankly, astrologers tend to have it both ways with such studies, praising the positive results and falling back on comments about the limitations of science when the negative results arrive. Still, the objection that one can not study bits and pieces of a chart is raised again and again when astrologers comment on such studies, so it bears a closer look and some effort at a definitive answer.

There were several opportunities for this in the discussion on the first key topic, most of which were missed. One prime example is seen in that above-mentioned exchange between Campion, Dean and Mather. Before getting into the details, I should note that the format of the key topic required Dean and Mather to write an initial statement of the problem and their own suggestions about how it might be resolved. Following that were commentaries by a variety of authors, with some directly taking issue with points in the key topic statement itself and others simply addressing the central issues. Following some of these comments were brief statements of “clarification” by Dean and Mather, and at the end of the commentaries was an overview by Dean and Mather and two sets of “rejoinders” to particular comments - one set apparently jointly written and an additional set by Mather alone.

In my opinion, while some attempt at overview was necessary, the reader should have been spared most of the clarifications and both of the rejoinders, as at these points the discussion tended to get off track, and a great deal of space was wasted allowing Dean and Mather to score what seemed to be mainly personal points. The exchange with Campion illustrates this, especially since one can sense in his remarks hostility toward Dean and Mather, who are controversial figures in astrology, since they approach the subject scientifically and do not hesitate to criticize either cherished astrological ideas or astrologers themselves. If only for that reason alone, it would have been best to let someone else (or no one else) have the last word, as with this format the discussion became one-sided. However, I am grateful for what Dean, Mather and Smit did in organizing this discussion, despite any criticisms I make.

Testable Claims

The point of Campion's that interests me was addressed to a list of astrological statements given by Dean and Mather as examples of testable claims made by astrologers (see the table on the previous page). The source of each is referenced, with most coming from well-known writers on astrology.

"Testable Claims" Listed by Dean and Mather

- An accurate birth chart is essential.
- Aquarians are gregarious and enjoy social interactions.
- Leos have yellow bushy hair, Aquarians are never short.
- Positive signs are characterized by extraversion.
- Planets mostly below the horizon indicate introversion.
- Saturn rising indicates an inhibited personality.
- Neptune in fourth house is artistic and musical.
- Easy Mercury-Mars aspects have good eyesight and hearing.
- Hard Moon-Uranus aspects incline men to divorce.
- Adverse Mars transits incline to accidents and injuries.
- Bucket patterns inspire or teach or become an agitator.
- Progressed Sun-Venus contacts usually indicate marriage.

Campion protests the above list in the following way, however:

"...I am slightly concerned about the misrepresentation of astrology. Nowhere in the discussion of the list of testable factors given in #9 is it stated that each factor can be negated by other factors. For example 'Aquarians are gregarious and enjoy social interactions.' Dean and Mather must know that according to the rules of astrology, a person both with the Sun in Aquarius conjunct Saturn and Neptune in the twelfth house would most certainly not be gregarious and would hate social interactions. However, if the Moon was conjunct Jupiter in Sagittarius, the individual would most probably appear to be gregarious, while frequently withdrawing into solitude. Dean and Mather are perfectly familiar with these subtleties as are most astrologers. But Dean and

Mather's scientific readership will not [sic]. They will, ironically, accept Dean and Mather's authority. They will not know that 'cookbook' interpretations are not intended to stand alone, but are to be synthesized into a final interpretation. See Hone for this basic approach to interpretation...."

Precisely the same point is made later on by Dr. Glen Perry, who says:

"Note that in #9.3 the authors cite what they consider numerous testable claims in astrology. Yet each of these assertions needs to be considered as a part of a whole system. Granted the 'reputable authors' who allegedly wrote these assertions might not have sufficiently emphasized that every unit in the chart 'is constrained by, conditioned by, and dependent upon the state of the other units,' but this most assuredly is so as any reputable astrologer will agree. Accordingly, these statements are not testable in the conventional sense since to subject them to experimental design requires isolating each statement from the chart to which it belongs."

Perry then follows this with suggestions about how so-called testable claims such as those listed by Dean and Mather might be handled in a more holistic fashion, "holistic" here being my term and not his. The common point made by Campion and Perry is that it is impossible to isolate the basic elements of interpretation - individual signs, planets, houses, etc. - from the interpretation itself. Thus, to study gregariousness in relation to Aquarius by having a group of people of that sign submit to a psychological test would be useless, since Sun in Aquarius will play a different role in each chart, and the group's gregariousness will not necessarily be related to "Aquariusness" as such.

Dean and Mather offer rejoinders to both Campion and Perry, but only in the case of Campion do they offer a specific response to the question of testing isolated elements. Unfortunately for readers who might want to hear a reasonable answer to this oft-stated objection, most of what they offer is polemic, ridiculing Campion by offering a list of Sun-sign columns he writes, as well as Sun-sign forecasts offered via telephone. While this may be useful rhetorically in putting down Campion, it sidesteps the question, for the simple reason that such forecasts are, in fact, interpretations, and even statements about the nature of the signs in such forecasts are made within the context of current planetary activity. Thus to say that "Sagittarians have a lack of concern with any unified design concept," as Dean and Mather quote Campion, is to say that this trait is being emphasized by current aspects or transits.

Thus, it does no good to criticize Campion as practicing something that contradicts what he says, since it most assuredly does not. Astrologers can and do criticize the basis for Sun-sign astrology, which treats each sign, the whole sign, as if it were the Ascendant and generally (though not always) ignores other elements of the natal chart. But, that basis having been accepted, the rest of what follows involves the same kind of "holistic" interpretation that is used with a complete birth chart.

As Dean and Mather point out, they do try to address this objection in the original discussion, but I feel they do not get to the central issue. In order to do this, it might help to try to state the Campion-Perry objection in simpler terms. To say that there is no way to study the characteristics of Aquarius in isolation from other chart factors is to contend that the various elements of a chart can only, in effect, be combined with each

other through complex interpretation. In other words, these factors are not independent of each other and one cannot add their individual effects together in a linear fashion.

Random Variables...Structured Results

A statistician would say that Campion and Perry deny that the elements of chart interpretation can be treated as “random variables,” whose effects are independent and additive. Most familiar statistical tests, and particularly those of the sort objected to by Campion and Perry, require this assumption. For example, if an astrologer says that Mars should be emphasized in the charts of soldiers and surgeons, we would be justified in assuming that if we gathered together a great many charts of soldiers or surgeons (particularly the most successful ones), then as a group they would tend to show this Martian emphasis in some way, as other factors would tend to cancel each other out.

In Margaret Hone’s *Modern Textbook of Astrology*, cited by both Dean and Mather and by Campion, she does indeed list “active soldier” and “surgeon” under “Matters and occupations under Aries and of which Mars is the significator,” and in the Gauquelin professional studies, eminent soldiers and physicians do show a Martian emphasis, thus indicating that it is possible to add individual factors across a group of charts.

In this case, even though the results for Mars with physicians and sports champions are not precisely what astrologers would expect, a Martian emphasis is in fact there. The failure of, say, Aries to show similar results could be taken as indicating that signs might be exempt from the “independent and additive” requirement while planets are not. However, in another place in Hone’s textbook she specifically instructs the student to add up sign factors in just the way both Campion and Perry (and many other astrologers) deny they can be added, indicating that there are no such exceptions.

In Chapter 8, where Hone discusses the preliminaries of completing a chart form prior to interpretation, under the heading “Triplicities,” she instructs the student to: “Count the planets in each Element and list them. Whichever Element is predominant will be strongly represented in the life.”; under “Positive and Negative,” “Add number of elements in Fire and Air for the Positive category. Add those in Earth and Water for the Negative category.”; under “Quadruplicities,” she says, “Count and list planets as found. Predominance of any one quality will be shown in the life.” Here Hone *explicitly* treats the triplicities, quadruplicities and polar opposites as additive - the more of any category that shows in a person’s chart, the more the person can be described by its general characteristics. Later, in Chapter 9, she notes specifically that “The entire nature of the person will be strongly as described for the sign in Chapter 4....,” essentially identifying the Sun sign as an influence of such priority that it can be considered separately from all others in the chart.

All of these instances strongly imply the possibility of testing at least some individual chart elements in the way they are usually tested, thus supporting, at least in general, Dean and Mather’s list of testable claims and denying to some extent the contention of Campion and Perry.

Let us take this a step further, however, to point out something which is rarely considered in answering the objection about the impossibility of singling out individual elements. This is that the ultimate aim of the kind of scientific inquiry that begins with

the isolation of chart factors is not (or at least should not be) simply to test “claims.” Rather, through a series of individual experiments, we should be able to discern a pattern in the results, an underlying structure that can be used to place those individual experiments in a larger context. This possibility is often lost sight of in the back-and-forth between astrologers and scientists about claims-testing.

To return to the example of Gauquelin’s work, after his initial findings in exploratory studies on planets and professions, Michel Gauquelin undertook to examine a set of occupations which had “a direct relationship with the great poles of attraction for the mind,” thus carefully choosing the range of professions for further study. While one can argue whether this or that result confirmed or disconfirmed some facet of astrology, there is a *structure to those results as a whole* that very definitely reflects something astrological, and this too argues against the idea that individual elements of the horoscope can not be studied one at a time.

Before going into what that “something astrological” is, I want the reader to understand that I am saying that testing of individual chart elements is perfectly permissible based on statements that astrologers themselves make, but that in testing these individual bits and pieces of the chart, the point is to discern underlying patterns through which those individual elements work together. Just how this should be done, I will leave for Part II.

Part II - Science, Astrology and the Gauquelin Planetary Effects

by Kenneth Irving

IN PART I, I CONSIDERED the often-repeated criticism leveled at scientific studies of astrology that it is impossible, if not improper, to try to study individual elements of the chart in isolation from one another. In other words, can individual bits and pieces of the horoscope such as planets, or signs, be considered in some sense independent and additive? My answer was to point out that it is in fact a common practice in astrology to treat at least some chart elements in just this way, for example by adding up the triplicities, quadruplicities and polar opposites as part of the preparation for analyzing a chart.

One does not have to strain hard at a gathering of astrologers to hear statements such as “He has too much Fire in his chart,” and these are usually based on simple counting (i.e., adding together) of the properties of the signs holding the Ascendant, Sun, Moon and planets. If this counting can be done within a chart, it can also be done across charts, which is where statistics comes in. Thus it is fair to say that a group of people with “too much Fire” in their charts ought to be in some observable sense different from a group of people with “too much Water” in their charts, as otherwise such statements are meaningless.

However, even if the astrologer’s argument about analyzing isolated parts of the horoscope is incorrect in itself, still it is often based on an intuitive rejection of scientific studies that are mere “claims-testing.” Those who see astrology as a rag-bag of claims to be examined and nit-picked in order to show how false they are often do in fact have a problem with seeing only the parts and ignoring the whole. If you look through studies on various facets of astrology, particularly those that have made it into scientific journals, you will note a tendency to consider that any disproof of any part of astrology constitutes disproof of the idea underlying astrology itself, which is that the planets “up there” in some sense affect the lives of people “down here.”

Thus, the dispute between astrologers and scientists often reduces to:

Scientist: I have tested a claim made by an astrologer and found it wanting. Therefore, astrology as a whole is false.

Astrologer: You *can't* test a chart factor in isolation.

The astrologer, as I have shown, is wrong to say that you can't test isolated factors. On the other hand, the scientist is wrong to think only in terms of claims and to draw such a broad conclusion from his narrow test. Both arguments are based on false premises and neither actually addresses what the other is saying anyway. Or, to coin a saying by giving a twist to the moral from the fable of the blind men and the elephant - “Neither is partly in the right, and both are in the wrong.”

What both sides generally miss is the fact that research aimed at “bits and pieces” is in itself useless unless it is undertaken with some sense of a larger structure those bits and pieces are related to. That larger structure is not what critics of astrology often call the astrological hypothesis, for there is no such thing. Instead, at this point in the history of

the scientific investigation of astrology it must be what some would call a paradigm and others, a nomological network; or, less grandly, a framework for observation.

At the extremes of the debate between astrology and science, where it tends to be both at its noisiest and its least productive, there is no sense of this on either side, as our little conversation between the two straw stereotypes above reveals. In the middle, on the other hand, there are good examples of this sense of structure, perhaps the best of which can be found in the work of Michel Gauquelin. For example, in the last chapter of his first book (in which he revealed basic findings on professional groups and Mars, Jupiter, Saturn), he laid out the results in a way that emphasized their overall structure and then spent the rest of the chapter trying to develop a hypothesis that might address the problem presented by the results as a whole, in order to suggest further areas of investigation. Figure 1 below, which lays out this structure, is adapted from a similar diagram found in that chapter.

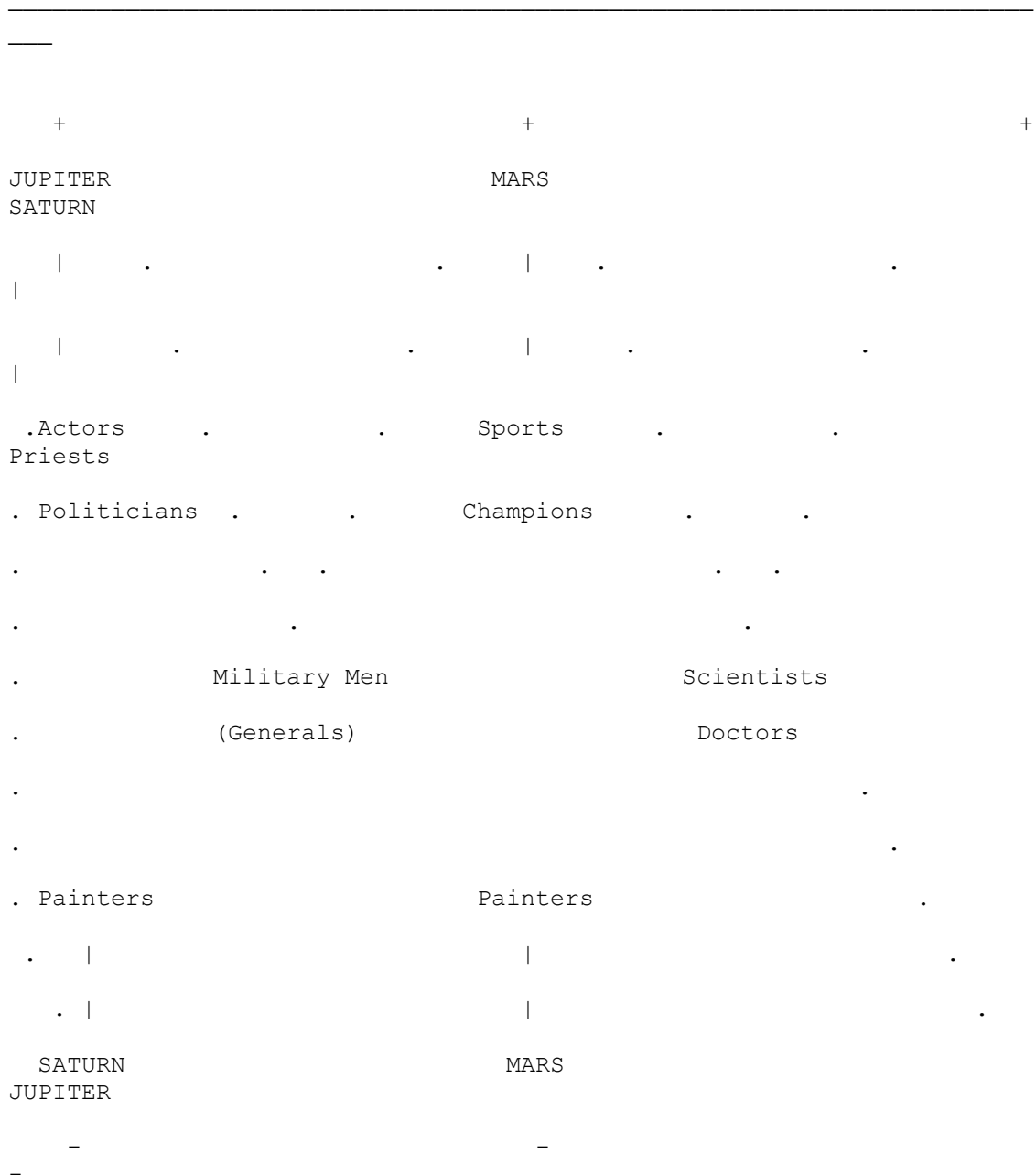


Figure 1: *As this is based on a diagram from Gauquelin's first book, L'Influence des Astres, it differs slightly from Table 2, which is based on replications and further studies over the next thirty years. In particular, Saturn for priests was not replicated in later studies, and indications of a positive nature were later found for both Moon and Venus. The thing to note in relation to Table 1 and Figure 2 is the structure of the results, and how it reflects an ancient astrological tradition.*

Contrast what Gauquelin did (as shown in Figure 1) with the approach of the average skeptical scientist to the Gauquelin planetary effects, as well as with the usual view of Gauquelin's research offered by astrologers. For the skeptical scientist, remember, disproof of any single claim will disprove the whole, something which can logically be true only in the most extreme cases of outright fraud. The whole sorry series of episodes known as the "Mars effect controversy" would not have happened if it had not been for the dependence of three skeptic groups on this twisted notion that disproof of just one result in just one case would "disprove" not only any other work by Gauquelin but also the whole astrological notion of planets affecting people. And for them disproof did not require much, as all they needed was a single result the merest thousandth of a percent on the wrong side of a standard statistical benchmark.

On the other hand, astrologers tend to fix on the seemingly inexplicable emphasis the Gauquelin findings place on the 12th and 9th houses. Even though the planets linked to famous people of various professions agree somewhat with astrological tradition, the fact that these planets for the most part fall in the "wrong" houses is what astrologers are most aware of. It seems to reinforce the astrological notion that isolating Mars from other chart factors leaves odd bits and pieces lying about unanswered in the final results. It also stands in the way of actually making these results useful, the major prerequisite for interesting the average astrologer in scientific work.

So the scientists seem to be mainly interested in bits and pieces called claims and the astrologers seem to be mainly interested in bits and pieces they can plug into the horoscope in precisely the right places. Both hesitant astrologers and skeptical scientists, however, might learn more if they were to consider the kind of structure shown in the diagram above. Note, for example, the way in which generals and physicians "bind" Mars and Jupiter and Mars and Saturn, respectively; or the way in which painters are to some extent the reverse of physicians in respect to Mars and Saturn; or the way actors are the reverse of physicians in respect to Jupiter and Saturn. This is not the best way to present this information, but I use this diagram to make the point that from the beginning, even though he was testing individual elements of the chart, Michel Gauquelin was always looking for ways in which the results of individual tests could combine to show in some sense how the whole chart works together.

Now look at a table and a diagram that ought to help make the point. The first is simply a summary of all of the professional results, showing the pattern of significant deviations from chance in Gauquelin's "plus zones" for all planets in all professions.

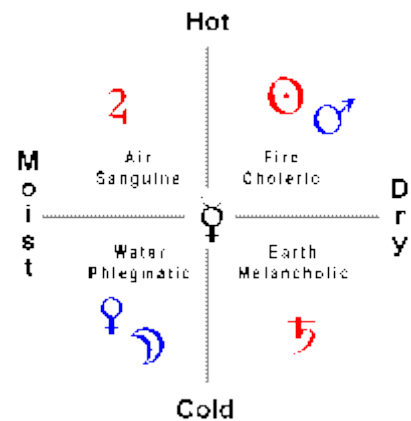
Here we see again, and more clearly, I think, how Mars tends to work with either Jupiter or Saturn, but never with both at the same time; how Jupiter and Saturn act as opposites; how Mars tends to act as an opposite to Venus and the Moon, while Jupiter tends to work in the same direction as these two planets, despite its connection to Mars.

Table 1

The Gauquelin Professional Results					
Group	Mo	Ve	Ma	Ju	Sa
Actors				+	-
Doctors			+	-	+
Sports	-		+		
Military			+	+	
Executives			+	+	
Politicians	+			+	
Journalists				+	-
Playwrights				+	
Scientists			+	-	+
Writers	+		-		-
Painters		(+)	-		-
Musicians		(+)	-		

It should be obvious that a common structure links Table 1 with the ancient diagram of Figure 2, a diagram which relates the planetary natures along two dimensions, styled hot-cold and wet-dry. Not only is this diagram fundamental to astrology, but it also has a historical connection to modern psychology. And the fact that the pattern of planetary relationships it proposes makes its appearance in the Gauquelin professional results shows that even though the Gauquelins were disassembling the horoscope, so to speak, in order to study the relationship between planets and professions, the end result was naturally ordered in a decidedly astrological way.

In Part I, I called attention to the fact that even the instructions in an astrological textbook indicate it is perfectly permissible to treat various elements of the horoscope as if they were, at least at one level, independent of one another and that this is exactly what the use of most standard statistics requires. In that case, I favored the “scientists” (Geoffrey Dean and Arthur Mather) over the astrologer (Nick Campion). On the other hand, the kind of structure shown here is often ignored by astrology’s scientists as they concentrate on examining isolated parts of the horoscope and on random proposals made by astrologers. Thus, assessing the general results of investigation into astrology becomes a mere matter of weighing and measuring the number of claims tested against the number of claims found wanting.



Take the following, for example, which occurs in Section 3 of the discourse (Dean and Mather, 1994) mentioned in Part I: “...over the last few decades a small number of scientists (perhaps 1 in 10^6 of all scientists) have investigated the claims of astrology in what probably now amounts to well over 200 man-years of research, which excludes a much larger amount of non-scientific work by astrologers. But whenever the methodology has been appropriate the tests have failed to find support commensurate with the claims...”

As an appended note quoting H. J. Eysenck and D. K. B. Nias makes clear, that last statement is intended to indicate that even when these things called claims are supported by scientific studies, they tend to show small deviations which could not be of any obvious practical importance. Moreover, “...as methodology improves the deviations from chance expectancy tend to get smaller and smaller...”

So the scientific study of astrology seems to reduce to a simple equation: a number of scientists, in amount **X**, have studied a number of astrological claims, **Y**, and by improving methodology, **Z** have diminished these claims to a number of effects of size, oh, let’s say **U**, for **useless**. The statements cited seem to be based on facts, and indeed I’m sure they are, but what is missing here is some sense of the context in which those facts exist and the context to which they are addressed. The first passage quoted above is an example of something called “vote counting.” In tallying up the negative studies on one side, the positive studies on the other, and the number of scientists in between, it ignores the likelihood that the published studies of astrology which are most amenable to examination and critical analysis will be found in scientific journals, a venue in which negative results are more likely to be published than positive results. This is not because there is a vast conspiracy to make astrology look bad, but simply because scientists, journal editors and referees are human and have their biases.[\[v\]](#)

A classic demonstration of the problem was a 1970 study (Goodstein and Brazis, 1970) in which a group of psychologists were given an abstract of a journal article detailing a study on astrology and then asked to comment on the methodology used in the experiment. The experiment described was completely fictitious, but some psychologists were given an abstract reporting an outcome favorable to astrology while

others were given an abstract (otherwise identical to the first) that reported a negative result. Those given the abstract with the negative outcome tended to approve of the procedures described, while those given the positive outcome tended to criticize the experiment as deficient.

Now that was twenty-four years ago. Can we suppose the situation has changed much? Note 10 in the discourse quotes a survey reported in the *Skeptical Inquirer* to the effect that belief that astrology has a scientific basis has declined from 50% in 1979 to 40% in 1992. If this is so and such belief has really declined in the general population, could we expect that the outcome of a study similar to the one done in 1970 would show much improvement? I think not, and this being so, counting up numbers of scientists, man-years they have devoted to testing astrological claims, and their essentially negative conclusions, is likely to be highly misleading.

On the other hand, taking a more careful look at work published in the few refereed journals that seem to allow study of astrology with a minimum of bias (I can think of four offhand, though there are probably more - *Correlation* and *Personality and Individual Differences* in the UK and *The Journal of Scientific Exploration* in the U.S., plus at least one in Germany), and work by those scientists who seem willing to report positive results with the same vigor given to negative results would reduce the already small number of scientists mentioned above by quite a few orders of magnitude, and the number of man-years just as drastically. If we were then to further confine our survey to researchers who are working within some kind of paradigm, we wouldn't be left with such impressive numbers at all - but we would probably be dealing with more meaningful information. [\[v2\]](#)

And when looking in this more limited range of researchers and journals we would find that the proposition that improvements in methodology tend to whittle early results down considerably, if not eliminate them entirely, has some very interesting exceptions. Thus, while the proposition may be true in a vote-counting sense, if we look at those situations in which it does not seem to hold this tells us where we should look and how we should proceed in examining astrology scientifically. [\[v3\]](#)

For example, in research into the planetary effects discovered by Michel Gauquelin, an improvement in methodology (Gauquelin, 1984 and 1989) did indeed shrink their size somewhat when data originally calculated by hand was recalculated by computer. In this case, it was found that in doing their hand calculations, the Gauquelins or their assistants would tend to round off results in a way that slightly favored the key areas known to be the center of planetary activity. A very thorough look at all of the Gauquelins' data on sports champions by Suitbert Ertel (Ertel, 1988) further revealed that knowledge of the Gauquelin sector positions of Mars had been unintentionally allowed to affect decisions about whether some sports figures belonged in the "champion" group or in the "control" group of low-achieving athletes, a form of bias which is presumably true of the other professions as well.

In both cases, correcting these problems lowered the size of the Mars effect for sports champions shown by Gauquelin's original data, in accordance with what we might expect based on the discourse. On the other hand, in the same article in which that second kind of bias was reported, a new methodology for defining achievement in sports (ranking sports figures by the number of citations found for each one in a group

of standard reference works) raised the level of Mars in Gauquelin's "plus zones" for the highest eminence levels above the highest figure previously reported in a formal study, and when Gauquelin's bias in determining which group (champions or low-achievers) someone belonged in was corrected by simply combining the two groups, this raised the general level of significance already shown by ranking the athletes in citation groups. Thus, an "effect size" which had previously been around 5% had, over the course of a series of adjustments that also included expanding the sensitive area of the chart very slightly, risen to a possible range of about 8% from the lowest eminence rank to the highest in the case of Mars for sports champions.

But this can be taken even further. For example, consider the range of the "Mars effect" across professions: The proportion of Mars in plus zones found in the highest eminence rank in the case of sports champions is approximately 32%; in the highest eminence rank for artists it is around 17%, which means that the full range of the Mars effect looked at in this way is perhaps +/- 7.5%. Consider that four other planets show the same kinds of patterns, and this begins to approach what in another note in the discourse is called "Big Stuff."

The larger numbers found in these ranges can mislead us if we are not careful, since we are talking about larger and larger effects for smaller and smaller groups. However, the principle underlying the numbers is what we are really after here: when we divide populations of successful professionals into coherent classes, such as ranking them by eminence or dividing them by occupation, from class to class we find notable differences in the deviation from the expected proportion of just *one* planet in just *two* places in the diurnal circle. What we really are talking about, then, is a set of underlying *functional relationships* rather than a set of isolated claims. So while siding with the scientists last month in saying that individual elements can indeed be analyzed, we must side with the astrologers now by pointing out that the fragmentary view of astrology this type of analysis too often promotes obscures the picture by emphasizing vote-counting and claims-testing while ignoring structural relationships.

We may not as yet be able to specify what those relationships are, but we do have some indications of the direction we should take in trying to find this out. It is not too much to suppose that further improvements will show us other ways of classifying individuals in a way that will again show such large deviations. And it might in fact be possible that one fine day these little bits and pieces of planets and sectors and modes of classification will add up to something that looks very much like a new astrology. But this will only begin to happen when people move away from both extremes in what has, up to now, been a very unproductive debate. Breaking the intellectual deadlock that blocks this movement toward common ground is, in fact, the general aim of the series of discussions planned for future issues of *Correlation*, and we hope it is fulfilled. But this can only happen if both sides stop wasting time and energy arguing the fine points of branches, bark and whether those green things are needles or leaves...while the enchanting forest stands silent around them, waiting to be explored.

Later note to those reading this on the Web: The hopes expressed in the last paragraph have not been fulfilled. Instead, the "key topic" series continued in the same mode established in the first one, with a small group of commenters offering an alternative viewpoint in the second

topic and the third topic taking up nearly half of one issue of *Correlation* (with no counter-commentary at all) to inform the reader that astrology a) needed a "theory" which would make it acceptable to those in the sciences, and b) had no such theory. The work discussed in the two-part article posted here was deemed irrelevant to any such theoretical consideration. I will cover this in more detail in another area of Planetos.

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[v] Head-counting might be a more appropriate term, though the heads have been sprinkled with a generous portion of numerical pixie dust, as no basis for those awesomely rigorous-looking numbers, 10^6 and 200, is either given or implied. One is left to presume that Dean and Mather are referring to the work of scientists they mention elsewhere, such as Crowe (1990) and Eysenck and Nias (1982), or even Dean (1987). Crowe and Dean are vote counters, while Eysenck and Nias are more careful in their judgments, considering sources and experimental design while treating positive results such as Gauquelin as at least scientifically interesting rather than as losing "votes" in a scientific election about the validity of astrology.

[v2] This only generally suggests the depth and breadth of the problem of assessing the results of astrological experiments, a process which presents both statistical and evaluative problems.

[v3] Dean and Mather's use of Eysenck and Nias suffers from two fundamental and irreparable problems, as what the former say is not only outdated as a general statement in regard to astrological research, but is also wrong in regard to Gauquelin's work even in 1982, when the Eysenck and Nias work cited, *Astrology: Science or Superstition?* was written.