

# Are Scientists Undercover Astrologers

**Abstract** -- Some supporters of astrology claim that various areas of science are really astrology in disguise. For example an astrological principle is that "celestial-terrestrial correlations exist", therefore any area is astrological if it involves things like biological clocks, bird migration, bee navigation, weather and earthquakes, as well as notions such as the Gaia hypothesis and Grand Unification theories in physics. But such things are irrelevant to what astrologers actually do. To describe them as astrological is to claim that modern astrology is scientific when in fact it is quite the opposite. In effect the claim tries to obtain support for astrology on the cheap. To paraphrase what Winston Churchill said of Mussolini, "Astrologers want Napoleon's victories without fighting Napoleon's battles." Are scientists undercover astrologers? Most definitely not. It may have been true in the Middle Ages but not today. 45 references.

## What's in a name?

Some astrologers and sympathetic defenders claim that scientists are often engaging in astrological research under new labels. Some examples:

Vaughan (1996a,b) says that such scientists are "intellectual land grabbers" who are "usurping entire conceptual frameworks originally developed and held by astrologers", and who are then claiming as their own their "discovery of what astrology has always known." Landscheidt (1989:7) says "most scientists do not realize that their findings confirm fundamental astrological ideas." Cornelius, Hyde and Webster (1995:166) say that astrology includes "electro-magnetic fields in the solar system, the ancient metal-planet affinities, and the statistical demonstrations of the Gauquelins." Erlewine (undated) says that studies on lunar activity, especially those involving geomagnetism, are consistent with astrological tradition. West (1991:312) says that if astrology cannot be disconfirmed then "a new branch of science may well take root", calling itself anything but astrology even though it involves "nothing but astrology."

The reasoning behind such claims is detailed best by Vaughan, so her comments will be the focus of what follows. Vaughan is the militant astrologer whose debunking of skeptics (Vaughan 1998) claimed that skeptics are ignorant, biased and misinformed. Her claim was disputed by Kelly (1999), who showed that Vaughan considers only misinformed critiques of astrology, never informed critiques, which are numerous and devastating. Her wordy, rambling rebuttal (Vaughan 2000) receives an extended reply in Kelly (2000a).

## How scientists are supposedly usurping astrology

According to Vaughan (1996a) scientists and other academics have been usurping astrology by rewriting history and by not admitting the astrological basis of their ideas. As a result "astrological language is already being depleted and supplanted by scientific terminology: we are being dispossessed of our astrological principles."

What are these astrological principles that scientists and other academics are supposedly usurping? According to Vaughan (1996a,b) a basic astrological principle is "celestial-terrestrial correlations exist." Therefore any area is astrological if it involves things like biological clocks, bird migration, bees orientating themselves by the sun, fractal geometry, planetary patterns that correlate with anything terrestrial (weather, earthquakes, human behavior, animal behavior, the stock market). It is also astrological if it involves theoretical ideas such as the Gaia hypothesis, morphic resonance, and grand unification theories in physics. Similarly, Landscheidt (1994) includes patterns of plant growth, sunspot cycles, long lasting weather patterns, and daily cycles in animal metabolism, under the astrology label.

Vaughan (1995) says these scientific labels are "plagiarized astrology, pure and simple, and [astrologers] should feel free to quote [such research] when discussing correct astrological prediction." Furthermore, they "are not simply new names for what astrology has known all along, they are also scientific proof that astrology works"; therefore, despite academic talk of astrology being dead, "many astrologers think we should be celebrating a revival", even though the revival is being absorbed by these revisionist "territorial grabbers" (Vaughan 1996b).

Here the basic astrological principle "astro correlations exist" is like arguing that a basic principle in marine biology is "watery life exists", therefore anything involving water is by definition marine biology, like gardening, or cooking, or lifesaving at pools. Obviously this is a poor argument. Instead we need to ask "is gardening, cooking, etc relevant to what marine biologists actually do?". In this case the answer is No. Similarly we need to ask "is bird migration, fractal geometry, etc relevant to what astrologers actually do?" Below, we show that again the answer is No.

## How can scientific research be seen as astrology?

Vaughan provides three arguments for seeing scientific research as astrology, namely history, as-above-so-below, and similarity, but none are persuasive. Her arguments are as follows:

(1) History. Originally astrology consisted of natural astrology (the forecasting of natural phenomena such as tides and eclipses), and judicial astrology (the judgment and prediction of human affairs such as wars). That is, astrology had a foot in two different camps, namely physical science and divination. So Vaughan (1996b) argues that from the earliest days "astrologers were also astronomers, meteorologists, and mathematicians", therefore astrology has original land titles to these areas. But Vaughan fails to point out that natural astrology was absorbed by science in the 17th century, so that judicial astrology is "the only meaning of astrology since end of 17th C" (OED 1991 edition). To argue otherwise, as Vaughan does, is like arguing that chemistry is still alchemy, or psychology is still natural philosophy, or that much of science is still philosophy and theology. But it just ain't so.

(2) As-above-so-below. Vaughan says astrology involves "as above so below", so it involves anything terrestrial-celestial. But this fails because, as in (1), it tries to revive an obsolete natural astrology as modern astrology. Indeed, many astrologers flatly disagree with Vaughan, arguing that astrology deals with symbolic connections, not physical connections, so (2) fundamentally misrepresents astrology's core beliefs. For example, Negre (1998) argues of physical links that "by no means should they be confused with astrology", while Guinard (1997) argues that such links could never explain "the [astrological] transformations which occur at another level of reality" or support "the understanding of a birth-chart."

(3) Similarity. Vaughan says that chronobiological explanations are similar to astrological explanations, for example stellar effects on bird navigation are similar to those claimed by astrology on people (Vaughan 1996b). But they are not similar. Birds use stars in real time like street signs, which is nothing like people supposedly acting out their lives according to stars fixed at birth. Thus the latter "provide the physiologist with none of the usual electrical, mechanical, hydraulic, or biochemical variables to record and analyze" (Wheeler 1990:82-83, see also Hughes 1999 on sensory exotica). To link chronobiology with astrology is not plausible.

The implausibility of Vaughan's three reasons is further revealed by comparing the procedures and achievements of astrology with those of the supposedly usurping research, as follows next.

## Procedures: Science vs astrology

The scientific study of celestial-terrestrial correlations is described easily enough. It is what the relevant scientists actually do, which in broad terms is the same as in any science -- they test ideas against empirical data and against competing ideas (Pennock 1999, Sober 1999). For example, the idea that birds navigate by the stars can be tested in planetariums where stellar positions and visibility can be controlled at will. Ideas that are disconfirmed are either modified or replaced by others, which are then examined and tested in turn. In other words the ultimate arbiter of success is nature herself.

Similarly, we can examine what astrologers actually do, both in their practice with clients and in their ideas given in astrology books. In broad terms, astrologers make judgments from birth charts. No chart, no astrology. But here the arbiter of success is not nature but personal experience -- if it seems to work then it does work. What could be more reasonable? In fact it is quite the opposite, simply because experience can be unreliable. In the 19th century phrenology was all the rage because it seemed to work, but we now know that phrenology is totally invalid. By relying on experience, thousands of phrenologists and their clients had been led astray. The same is happening in astrology.

We can now see the huge difference between the procedures of science and astrology. Science is evidence-based, astrology is experience-based. Science relies on nature, astrology relies on analogy and mythology (eg Mars the red planet indicates blood, anger and war). Science thrives on criticism, astrology drums critics out of the corps. As a result, astrology has nothing to do with reliable ideas tested against nature, and everything to do with unreliable experience.

Astrologers generally ignore this unreliability, which nevertheless is more than enough to explain astrological claims (Dean et al 1999, Beyerstein 1999). That is, astrology delivers nothing that cannot be explained by non-astrological factors. This conclusion is confirmed by decades of research into astrology, which has found nothing commensurate with astrological claims (Dean et al 1996, Dean et al 2000).

To put it another way, if the scientific study of celestial-terrestrial correlations can be considered "astrology", then one expects more than the banal nonspecific claim that "celestial-terrestrial correlations exist." One expects astrologers to provide testable explanations along with fruitful approaches to research. But in astrology such suggestions are entirely absent (read any astrology book).

Indeed, astrology lacks even the resources to provide such approaches. Thus appeals to analogy and mythology have gotten nowhere in solving problems for astrologers (Kelly 1997). A few astrologers recognise this, for example McDonough (2000:1) points out that the confusion of chart factors now on offer is "Because there has been no way to toss anything out."

As a result, astrology has been reduced to a mixture of factions, each of which supports its own claims with testimonials and self-serving non-threatening "studies" instead of stringent research. In any case, how would stringent research actually be used? Astrologers do not tell us how a factual discovery would explain the disagreement between astrologers on mostly everything (eg on which zodiac, house system, planets, aspects, to use), or how it would be incorporated into astrological practice with clients. Indeed, astrologers rarely incorporate astrological research findings into their work, let alone celestial-terrestrial research findings.

In short, in terms of procedure, "what astrologers do" is about as different from "what celestial-terrestrial scientists do" as one can get. Vaughan's argument to the contrary may have been relevant to what some astrologers were doing in the Middle Ages but not today (see Brackenridge 1980 for a brief history of scientific astrology).

### **Achievements: Science vs astrology**

Astrology had once motivated astronomers such as Kepler, albeit not others such as Galileo. But for the last three centuries its influence on academic disciplines has been entirely absent. Birth charts did not help in discovering Uranus, Neptune, Pluto, asteroids, quasars, and black holes; or circadian rhythms, solar flares, geomagnetic disturbances, biological clocks, human geomagnetic effects, and bird navigation; or fractal geometry, the Gaia hypothesis, morphic resonance, and grand unification theories, despite the claim that all of these are astrology. Nor could they when astrology lacks the component essential to such discoveries, namely the critical testing and improvement of ideas.

In short, astrology since the 17th century has been spectacularly unfruitful in guiding our inquiries into nature. Which is why scientists and philosophers ignore astrology except for historical purposes, or for the insight it provides into the formation and maintenance of unwarranted beliefs. The reverse is also true. No astrology book cites celestial-terrestrial discoveries to support specific claims like Mars is aggressive, or that opposite sun signs are compatible (or not compatible). Nor do they consult Wolf numbers or geomagnetic indices as part of a chart reading. And for a good reason -- such areas are simply irrelevant to what astrologers actually do. In effect, in labelling parts of science as astrology, Vaughan is claiming that modern astrology is scientific, when in reality it could hardly be less scientific.

Finally, there are pragmatic reasons for rejecting Vaughan's claim. First, if astrology is so marvelous, if scientists are indeed dabbling in "what astrology has always known" (Vaughan 1996b:13), why aren't astrologers publishing in *Nature* and *Scientific American* and scooping the field? Vaughan (1998) says the answer is lack of staff, labs, and research grants. But who needs these things when horary astrology will supposedly answer any question? And there are plenty of even yes/no questions to be answered -- is nature supersymmetric, is the cosmological constant really constant, does supergravity theory describe nature (Johnson 2000). If, as many astrologers claim, astrology is The Map to reality, answering such questions should be child's play.

Second, if scientific research is so marvellous and so relevant to astrology, why does it play such a blatantly non-existent role in the daily practice of astrologers?

### **Usurping is normal**

The usurping by modern science of previously unrelated areas is quite normal and is not unique to astrology. In the 1960s psychology was "constantly being annexed by other sciences -- biochemistry, biology, genetics, biophysics, physiology, neurophysiology, and so on" (Scriven 1964:164). Four decades later the annexing shows no signs of stopping. Thus much of neuropsychology has been lost to medicine, much of social psychology is being re-examined by evolutionary psychology (which is closer to biology), and so on. While psychologists may be unhappy with such annexes, we do not find them complaining that the annexes are still psychology.

Usurping is normal because new approaches from other fields can uncover new ideas about old problems, so the problems and their labels shift to where they can best be solved. In astrology this has already happened, where advances in relevant areas (astronomy, psychology, statistics, research design) and a decisive technology (home computers) have answered all the important questions about how and why astrology works (Dean and Kelly 2001). So astrology is not a mystery any more. In the unlikely event that important questions still emerge, the same thing would happen -- they would be examined, then annexed by the relevant discipline, and answered in ways not limited by appeals to analogy and mythology. Any complaints by astrologers would be regarded as ludicrous. The following additional comments can be read separately. They enlarge on some of the topics mentioned above.

## **Additional Comments**

### **Astrology is not a scholarly discipline**

Astrology is completely unlike a scholarly discipline. In astrology, testimonials from astrologers and clients are the Gold Standard against which everything is evaluated; they over-rule the findings of studies, no matter how well conducted. If a study does not confirm what an astrology book says, then the study is in error, not the book. The dependence on testimonials is illustrated in *Astrology in the Year Zero* (Phillipson 2000), where astrologers say things along the following lines (the excerpts have been paraphrased):

"Let me tell you about the amazing thing I did last week. The client had a daughter who suffered from headaches, so I looked at her birth chart and correctly identified the source of the headaches as a liver disease. And all without seeing either the mother or daughter" (p.71). "A man wanted to buy a ship. The horary chart had a Moon-Pluto conjunction in Scorpio on the IC, with the Moon applying, and I just knew that the bottom of that ship was rotten. Which it was" (p.54). "A woman lost her shawl. Her chart showed it was in a French restaurant a couple of doors away from her home" (p.71). "I looked at her birth chart and noted that Saturn and another planet were thirteen degrees from the cusp of the 4th house. I asked if she was raped by her father when she was 13, and she was" (p.64). "The astrology showed that it would rain all day, which it did" (p.71).

In the astrological literature such stories are taken at face value. They are assumed to be meaningful and to provide powerful evidence for astrology. Interestingly, such a credulous attitude conflicts with the everyday experience of people in other areas. Thus we all know that stories and testimonials can be exaggerated, that they tend to improve with the telling, and that essential details can be left out. In science, stories and testimonials would merely be an incentive to conduct careful follow-up studies, but in astrology they are considered to be the end product, self-validating, error-free, and above criticism.

### **Negative studies are not simplistic**

The astrologer McDonough (2000) argues that the problem with negative studies is that they are simplistic, testing one factor at a time. He says that studies should "consider the combined effect of multiple factors to get good results." But this is an inaccurate and out-of-date assessment. It did tend to apply back in the 1960s, when organized research was just getting underway and had to start somewhere, for example one of the early projects of the newly formed Astrological Association

in Great Britain was to look at the sun signs for 7000 doctors. But even then people like Vernon Clark were looking at the whole chart, getting away from isolated factors, and the trend has continued ever since. Today, the researcher who focuses on single factors like sun signs would be considered almost an anachronism, the Gunther Sachs's of this world notwithstanding.

In any case, as Eysenck and Nias (1982:31) argued, if single factors have the meaning claimed in astrology books, they should be confirmable in large enough samples. Especially when astrologers claim that daily experience confirms these meanings. For example in Phillipson (2000) we endlessly read claims like the following:

"the Midheaven in the chart for the time a trophy horse race begins will describe the winner" (p.57). "Venus and Neptune create an artist" (p.66). "when I had Mars at an angle, I knew I was going to have a very hectic day" (p.81). "she works frenetically (she has Moon square Mars)" (p.93).

If an astrologer can experience the meanings of isolated factors so easily, why would they suddenly become beyond reach when researchers study them? Pluralism in astrology hinders more than it helps

There are a variety of very different astrologies around the world as well as factions within each. Thus several astrologers in Phillipson (2000:186-7) argue that "different systems of astrology (such as Western and Vedic) may claim to be different fingers pointing at the same Moon", which means that "the complexity that can appear to astrology's critics as evidence against it, is -- from this perspective -- inevitable."

On this view, the different astrologies are different human responses to one complex transcendental reality. But this is more puzzling than helpful. What is the transcendental reality that is the analogue of the "same Moon"? And how do such astrologers know when they have it?

Furthermore, given the fundamental differences that supposedly underly the different worldwide astrologies, it would be deeply problematic (perhaps unintelligible) to claim that they are all talking about one reality (see Kelly 1997:1057-8). If each worldwide astrology reduces to a different fragmentary view of one complex reality, it would seem to contradict the cherished self-understanding of each. See Schellenberg 1997 and Hick 1997 for more on the problem of religious pluralism.

### **Examples of "research" produced by astrologers**

McDonough (2000) notes that astrological theory offers little help in distinguishing between techniques that work much of the time, some of the time, or little of the time. So he suggests that astrologers need better qualitative research to set up hypotheses that can be examined on a larger scale by quantitative (statistical) studies. It sounds good, but we suspect that astrologers in general will not be interested, see below under "Astrology could not be scientific and stay in business".

As an example of the non-threatening "research" produced by astrologers, consider two articles published in the August/September issue of *The Mountain Astrologer*, which are typical of their type:

- In Paone's (2000) "Weather watches and warnings for August-September 2000", some of the predictions (which are mostly of storms) are testable while others could mean anything ("severe thunderstorms if moisture is available" p.39). But there is no concern with actually following-up the claims, or with reconsidering what should happen if the claims were untrue. One might well ask, if astrology can predict a chaotic system like weather so well, why does the author not give a tally of hits and misses for his previous predictions? Why not challenge weather forecasters to beat astrology's accuracy? Evidently it is more comfortable for astrologers to have their heads in the clouds than their feet on the ground.

- In Markin's (2000) "The Astrology of Natural Disasters", the argument reduces to selecting a disaster and then finding something in the chart that fits, when the real question is whether the authentic chart fits better than some other chart. Without controls the exercise is pointless, so why bother?

Consider also the research of Cunningham (1999) who went through an astrology data bank, extracted public figures sharing Venus-Neptune contacts, and looked for relevant themes in their biographies. Not surprisingly, nothing is uncovered that could possibly require a rethinking of basic premises. This is because looking for confirmation is always successful when one is dealing with symbolic associations; that is, we can always find some connection between any two symbols, as when astrologers accidentally fit a client to the wrong chart and nobody notices. Such studies cannot fail. Again, the real question is whether charts with Venus-Neptune contacts show more Venus-Neptune themes than charts without such contacts, but such questions are almost never considered by astrologers including Cunningham. In any case the answers, if unwelcome, are without effect because astrologers always have ways to explain them away, for example the outcome was atypical or it was contradicted elsewhere in the chart.

### **Scientists were not doing astrology under another name**

Vaughan (1996b) says some early scientists in the area of cycle research acknowledged that they were doing astrology. She says that in the 1960s and 1970s the journal *Cycles*, published by the Foundation for the Study of Cycles, "overtly recognized astrological cycles in weather, stock market, etc ... [but later] they stopped using the A-word almost completely. They were practicing Astrology but calling it something else, and this is what's at the crux of recent developments"

But this is incorrect. The Foundation for the Study of Cycles (FSC) was set up by Edward Dewey in 1940. In 1931 he had been hired by the US Dept of Commerce (later he became their chief economic analyst) to try and find the cause of the 1929 Great Depression. Over the years he talked to many economists and was not impressed by them. He also talked to scientists and became aware of cycles in business, wildlife, on the sun, and so on, many of which seemed to have the same length and turning points. What caused such synchrony? The problem had to be approached on a broad front. Hence the formation of the FSC.

Dewey (1971:168) in his book *Cycles: The Mysterious Forces that Trigger Events*, which summarizes the findings of the FSC up to then, puts it rather differently from Vaughan: "My investigation of a possible connection between planetary cycles and earthly cycles, if I should ever have time to make it, would have nothing to do with astrological beliefs. It would have nothing to do with birth dates and other mumbo jumbo. It would concern electromagnetic or similar forces in the universe that might affect weather and various life processes, including human beings 'in the mass'" The astrology connection claimed by Vaughan did not exist.

### **Internal consistency in astrology means nothing**

Internal consistency is viewed by Vaughan (1999a) as providing plausibility to astrology. She says "Astrology has a highly complex internal order such that the individual symbols and meanings all make sense with regard to each other. We can see this consistency in the planetary rulerships. Mars rules Aries -- an aggressive planet rules an assertive sign. Jupiter, the biggest planet, rules the most expansive sign, Sagittarius." Further "We can look to ancient mythology to confirm these associations. For example Pluto was the Greco-Roman god of the Underworld, so his hidden nature fits with a rulership of Scorpio."

More revealing than what Vaughan says is what she does not say. Planetary rulerships are a contentious issue in astrology, as are most astrological ideas, because astrologers are unable to agree on the correct system, see previous comment on pluralism. Instead there are various competing systems, all defended by considerations of coherence. The obvious (and only) way to choose between them, namely by empirical tests, is seldom considered. Why have threatening tests when you can have non-threatening arguments?

Furthermore, Vaughan's perceived consistency is superficial. The relation between "aggressive" and "assertive" is different from that between "biggest planet" and "most expansive sign" -- behaviourally, being aggressive and assertive are similar, but being big is a physical attribute, and being expansive is a metaphor. But such loose analogies are common in astrology.

### **Astrology could not be scientific and stay in business**

Could astrology be scientific? Most certainly, since many astrological ideas could be tested against competing astrological ideas, against other symbolic perspectives such as numerology, and against competing ideas in the social sciences and biology. But this would require a change of epic proportions in astrological practice.

First, it would require that astrologers replace their dogmatic attitude that astrology is in some sense true by definition, with an open-minded attitude in which the

truth of astrology has to be established by proper testing as in any other discipline. Second, it would require them to abandon appeals to analogies, testimonials, and unreliable experience. Third, because careful research has failed to find any astrological claim that cannot be explained by non-astrological factors, it would likely require much of astrological tradition to be abandoned.

The last is discussed by Dean et al (2000), and is further illustrated by Harrison (2000), who points out that traditional astrological connections with health persisted in British medical circles well into the 19th century, but were eventually abandoned when scientific viewpoints proved to be more fruitful. Even if astrological effects were to be supported, their effect on people is likely to be trivial compared to other influences on people. Which is why Bagley (1999:32) says that at best "astrology can only offer partial explanations of human motivation and behavior", and Ertel (2000:70) says "I suspect [other] variables are too numerous to leave much room for additional astrological contributions."

Clearly, the logical consequence of adopting an evidence-based astrology instead of an experience-based astrology would be a huge restriction of astrological claims, and the elimination of much astrological practice with clients. Unsurprisingly "most astrologers are completely unmoved by the results of all the research findings and statistics" (Cornelius 1998:4). Or as Kelly (2000b) puts it, "Vested interests 1, scientific integrity 0."

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Astrology is not a very scientific way to answer questions. Although astrologers seek to explain the natural world, they don't usually attempt to critically evaluate whether those explanations are valid "and this is a key part of science. The community of scientists evaluates its ideas against evidence from the natural world and rejects or modifies those ideas when evidence doesn't support them. Astrologers do not take the same critical perspective on their own astrological ideas. Science cannot be absolutely defined; however, scientific endeavors have a set of key characteristics, Astrologers and believers may shout at the top of their voices calling astrology a science, but skeptics think otherwise, and they have plenty of reasons to do so. That this so-called science is doing more harm than good to the beautiful world of planets, stars, and other celestial bodies out there, is good enough reason to put it under the scanner. Astrologers and believers may shout at the top of their voices calling astrology a science, but skeptics think otherwise, and they have plenty of reasons to do so. That this so-called science is doing more harm than good to the beautiful world of planets, stars, and other celestial bodies out there, is good enough reason to put it under the scanner. Abhijit Naik. Last Updated: Jan 5, 2018.

One scientist who did is Kary Mullis, who in 1993 won the Nobel Prize and the Japan Prize for his work in chemistry. In his hilarious *Dancing Naked in the Mind Field* he recounts how his curiosity about astrology was kindled after three people on different occasions told him he must be a Capricorn. He set out to draw up horoscopes himself, from the Nautical Almanac (the hard Capricornian way) and found that astrology worked. (Their remarks appear as 'additional comments' to their polemic 'Are Scientists Undercover Astrologers?' to be found on Smit's website.) [Note P.G.: Astrology and Science ]. 2. By Their Methods Shall Ye Know Them. There are a lot of similarities between modern day data science and Vedic astrology, astroYogi explains the scientific aspects of Vedic astrology from a data science perspective. Astrologers are old school data scientists! Vedic astrology is way too advanced in comparison to whatever technology the modern generation boasts about. It is known as the eye of the supplementary Vedic literature because it is devised to see what is not seen now.