

Modern Science, Epistemology and Astrology by Garry Phillipson

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[4] Abstract

Recent developments in science – particularly quantum theory – have been taken by some astrologers to herald a paradigm shift which would make it possible to validate and explain astrology as a science. The suggestion is made that this case is currently unconvincing. The realist (or foundationalist) model is considered as a philosophical tradition, with particular reference to Descartes. It is proposed that this tradition underpins much of the sceptical case against astrology (illustrated by reference to the work of Dean, Ertel, Kelly, Mather and Smit); but that its claims to provide a comprehensively explanatory model have been undermined by modern science. Two models of astrology – as an empirical science, and as divination – are considered. It is submitted for the reader's consideration that, by undermining the realist/foundationalist model, modern science (as defined in this paper) does make a contribution to the understanding of astrology; but that this is more supportive of astrology as a divinatory art than as a hard science.

Introduction

In the last thirty or so years it has become commonplace to see astrologers and writers about astrology cite recent developments in science as having the potential to validate astrology:

"Now it is precisely because astrology testifies to an unbroken wholeness that scientists will be increasingly in difficulty in denying its rationale. The reason is that physics itself has been discovering the underlying interrelatedness of all things." (Elwell 1999, p.6)

"...the cutting edge of much of the new science confirms the ancient world view of the astrologers." (Marshall 2004, p.374)

"We see that, with suitable cries of astonishment, scientists are groping their way back to the idea of hierarchies of order... The next step must be the realization that cosmic bodies are the primary unities of the manifested cosmos..." (Addey 1987, p.47)

Charles Harvey struck a more cautious note when he wrote: "Whilst we can be certain that it will indeed require a 'New Science' to accommodate astrology, we cannot evade the need for demonstrable, quantifiable evidence for astrological effects." (Harvey 1987, p.74)

When, in search of that evidence, astrology has been tested, it has failed to deliver to anything like the extent which Charles Harvey and his contemporaries would have hoped. [5] This is not to discount the importance of research which seems to support astrology on science's terms (the main example of which must surely still be the Gauquelin

work¹). But however interesting such findings may be, I will be passing over them in near-silence here. This is because such evidence as has emerged falls way short of being a complete explanation; it does not validate astrology as it is practised by most astrologers. It has, therefore, little significance for the big issue which (it was hoped) the 'new science' would answer: can astrology be accommodated, perhaps even validated, within the framework of science?

This article aims to consider if (and how) modern science helps to make astrology more plausible. Although it is generally taken for granted that, if modern science did help to make sense of astrology, it would do so on science's terms, I will be suggesting that this is not the case and that it actually supports a case for astrology as something which is *not* a science, and not capable of being understood in terms of the scientific method. In the course of this paper, I also hope to shed some small amount of light on the contemporary debate which exists concerning the authority of science. This can be sketched by juxtaposing the following comments – firstly by Mole in *Skeptical Inquirer*:

"If there are no valid criteria for accepting the truth of science, then virtually any idea about the empirical world is valid and there are no authoritative reasons to reject or accept any particular idea. There is only one idea students believe is objectively true, and that is the idea that all truth is relative. And in a climate of relativity, they feel free to campaign for their own subjective visions of reality and accept those ideas that best accord with their intuitive sense of what the world ought to be like. They dismiss questions about what the world actually is like as hopelessly naive or symptoms of the dreaded disease of elitism." (Mole 2004)²

And now, from two of astrology's leading thinkers:

"Scientific research relies on institutionalized socio-cultural praxis and on the ideological consensus which it influences... From this point of view, scientific rationality is not more 'objective' than Sumerian cosmology or Bantu mythology. Like all knowledge, it is in part a fiction, a presumption on the part of the human mind, an artifact of consciousness." (Guinard 2001, 1/4)

"I came to realize that science itself depended on various assumptions that were not only highly questionable but themselves unsusceptible to scientific validation. In other words, science was attended by as many mysteries and as

¹ For an introduction to the Gauquelin work, see: Ertel, S & Irving, K. (1996) *The Tenacious Mars Effect*, London, Urania Trust. For the ongoing controversy concerning the source of the effects measured by Gauquelin, see the section devoted to his work on www.astrology-and-science.com (checked 13 Feb 05) and <http://www.psych.uni-goettingen.de/home/ertel/ertel-dir/downloads/geffectsbroughtdown.pdf> (checked 25 Feb 05).

² Thank you to Geoffrey Dean for drawing my attention to Mole's article.

much ultimate uncertainty as astrology..." (Curry in Willis & Curry 2004, p12)

It is clear, I think, that Guinard and Curry are putting forward points of view of the kind to which Mole takes objection. (Worth remarking, too, how the point at issue sometimes slides from a purely philosophical to a political one, thus: "modern critics of science... are actively undermining the very foundation of the democratic society they claim to cherish." [Mole 2004]) In the course of this article I hope, as a secondary objective, to elucidate what it may mean to describe the scientific project as "in part a fiction, a presumption", and to consider whether this is necessarily destructive of science, democracy and society.

[6] This is a huge project, so let me be clear from the outset that I entertain no ambition to pronounce final words. I hope, however, that what follows may be useful in defining some of the issues at stake and encouraging constructive discussion about them.

New Science?

The term 'new science' featured in two of the opening quotations. Some definition is needed, since the phrase potentially has a very wide range. For instance chaos theory is sometimes described as the basis for a new science,³ but for this article I will not be considering this area, fascinating though it might be. Rather, I will be concerned mainly with the implications of quantum theory – the body of laws concerning atoms and sub-atomic particles, particularly the concepts of uncertainty and wave-particle duality. This is the focus of Fritjof Capra's influential *The Tao of Physics* and many subsequent books, by Capra and by other authors, for the popular market. Let us consider the kind of statements which are found in such books:

"Quantum theory... reveals a basic oneness of the universe. It shows that we cannot decompose the world into independently existing smallest units. As we penetrate into matter, nature does not show us any isolated 'basic building blocks', but rather appears as a complicated web of relations between the various parts of the whole." (Capra 1976, p.71)

"...what quantum mechanics says is that nothing is real and that we cannot say anything about what things are doing when we are not looking at them." (Gribbin 1991, p.2)

"May the universe in some strange sense be "brought into being" by the participation of those who participate? On this view the vital act is the act of participation. "Participator" is the incontrovertible new concept given by quantum mechanics; it strikes down the term "observer" of classical theory, the man

³ E.g. in Gleick, J. (1993) *Chaos – Making a New Science*, London, Abacus. Bernadette Brady's final dissertation for her MA at Bath Spa University College (just submitted at the time of writing – Oct 2004) is about chaos theory and astrology.

who stands safely behind the thick glass wall and watches what goes on without taking part. It can't be done, quantum mechanics says. Even with the lowly electron one must participate before one can give any meaning whatsoever to its position or its momentum. Is this firmly established result the tiny tip of a giant iceberg? Does the universe also derive its meaning from 'participation'?"⁴

A web of relations connecting everything in the universe; a world whose very existence somehow depends on our participation. These certainly sound like concepts which *could* be on astrology's side. But it would be naïve to argue that quantum physics shows interconnection, and therefore astrology – which also relies on interconnection – is proved. This is the beginning of the discussion, not the end; what is required is to tease out the implications of the world-view which the 'new science' opens up.

The Implications

Capra suggests that recent developments in science leave us in need of a new paradigm, which he characterises by saying that it "involves a shift from 'objective' to epistemic science". (Capra 1997, p.40) He illustrates this by quoting Heisenberg: "What we observe is not nature itself, but nature exposed to our method of questioning". (Capra 1997, p.40) And he suggests that this applies, not only in quantum physics, but in biology, psychology and ecology too. The full reach of this thesis – which he characterises as a shift towards 'systems thinking' – is far too broad to encompass here. [7] In order to focus on the precise way in which Capra's argument impacts upon astrology, I want to emphasise a single quotation – it is this article's axis, around which everything will revolve:

"In the Cartesian paradigm, scientific descriptions are believed to be objective, i.e. independent of the human observer and the process of knowing. The new paradigm implies that epistemology – understanding of the process of knowing – has to be included explicitly in the description of natural phenomena." (Capra 1997, p.39)

There are two crucial elements in this quotation for the present discussion: Firstly, the explicit inclusion of epistemology in the frame of reference. So philosophical questions about the nature of knowledge are in play. Secondly, the identification of Descartes and Cartesianism as defining the world-view which has prevailed to the point of being unquestioned in the last three or four centuries.

An aside on Post-Modernism: Whilst there will be no direct discussion of post-modern philosophy in this article, one writer summed that movement up as follows: "It is not an easily

⁴ Zukav, G. (1979) *The Dancing Wu Li Masters*, London, Rider, p.54. Original source given as: Charles W. Misner, Kip S. Thorne, John Archibald Wheeler in: *Gravitation* (Freeman N.Y. 1973, 20th printing 1997). The same, or similar, quotations from Wheeler appear at e.g.: Goswami, A. (1993) *The Self-Aware Universe*, New York, Jeremy P Tarcher/Putnam, p.75; Capra (1976) p.145; Gillott J & Kumar M (1995) *Science and the Retreat from Reason*, London, Merlin, p.256.

defined movement or tendency but it can be characterized negatively: it is against Cartesian foundationalism.” (Bracken 2002, p.121) So to that extent, a certain amount of post-modern ground will be covered, implicitly, here.

To articulate the issues as accurately as possible, I will be drawing heavily on the critique of astrology presented in the *Phillipson Interview*⁵ by Geoffrey Dean, Suitbert Ertel, Ivan Kelly, Arthur Mather and Rudolf Smit; and also in other articles by members of this group. The reason for starting from these sources is that they provide a thorough and closely-argued account of astrology’s shortcomings as they appear to people with a scientific background, and crucially, Dean et al are familiar enough with astrology that they can make informed criticism of astrological practice.

Given the tenor of much comment in the world of astrology, it seems necessary to emphasise this point: whilst they are not above using an occasional rhetorical device, the arguments which Dean et al raise are worthy of close attention. They are arguments which astrologers need to deal with convincingly if progress is to be made in clarifying the nature of astrology. Therefore – I suggest - astrologers should see their arguments as an opportunity to respond and, in responding, move towards clarity.

Does Modern Science Support Astrology? The Case Against

In responding to the suggestion that various developments in modern science make astrology more plausible, Dean et al remarked:

“Claiming that such ideas make astrology more plausible, or that they explain why Leos are generous, is like claiming that rhubarb explains why airplanes fly. Until the steps in the argument are spelled out, it remains circular — astrology is made feasible by the kind of thing that, if it existed, would make astrology feasible. To bring support to astrology we need to know exactly how astrology is supported, but astrologers never tell us. Their arguments never even get started.” (Dean et al 2003, p.50/16.2)

[8] Some readers will recognise the rhetorical device here, something that Dean et al employ quite frequently: belief in astrology is compared to a belief in something absurd, such as, ‘aeroplanes use rhubarb for fuel’. There is usually, however, a serious point being made beneath the hyperbole and such is the case here, in the observation that, if astrology is to be supported in terms of first principles, it will not be enough for astrologers to wave vaguely at ‘modern science’. I think Dean et al would probably concede that they are playing to the gallery when they employ hyperbole in this way – after all, three of them used to be astrologers, so

⁵ Dean, G; Ertel, S; Kelly, I; Mather, A; Phillipson, G; Smit, R. *The Phillipson Interview – Five Leading Researchers face 150 Questions About Scientific Research into Astrology* (Henceforth ‘Dean et al 2003’). NB that this interview is a greatly expanded version of the interview which comprises Chapters 9 & 10 of Phillipson’s *Astrology in the Year Zero* (2000, London, Flare) and whilst much material is common to both, about half is found only in the online version. Subsequent refs are in the form ‘page number/section number’.

presumably they do not see astrology as being so obviously implausible as their remarks here suggest. In fact, it is very much to the point to consider the way in which the three members of the group who became astrologers thought about the plausibility of the subject initially: "We started in much the same way as any astrologer starts — we calculated charts, saw that they seemed to work... we became more and more convinced that astrology worked." (Dean et al 2003, p.3). Subsequent to this initial honeymoon phase, "...we began to make our own tests. That is, we controlled for artifacts and other sources of error, something astrologers rarely did... We were dismayed to find that artifacts and errors seemed to explain everything. At which point our beautiful world of astrology began to collapse." (Dean et al 2003, p.3)

This judgement brings us to a distinction, which Dean et al introduce and make much of - that is, the distinction between 'subjective' and 'objective'. Let us consider their definitions of the terms in some detail:

*"In subjective astrology only subjective values matter. The correctness of a particular statement, or of a chart reading, or even of the chart itself, is of no direct concern. What matters are issues like: Does astrology give a direction and purpose to our life? Does it provide benefit, self-understanding, insight, empowerment? Do astrologers feel that it always works? Are clients always satisfied by astrology? Does it enrich our lives in ways that the rational cannot? As say religion, myth, poetry and fiction do? **To be accepted, subjective astrology does not need to be true.***

*"In objective astrology our subjective values do not matter. That millions of people may feel empowered or dismayed by astrology is of no direct concern. What matters are issues like: Are the statements of astrology true? Are Leos more Leonian than non-Leos? Which techniques are the most accurate? Do rectified times agree with actual times? Can astrologers pick the real chart from a control? Can clients pick their own interpretation from a control? Does astrology provide information not available from elsewhere? **To be accepted, objective astrology needs to be true.**" (Dean et al 2003, p.8/4.1⁶).*

In these terms, their initial experiences with astrology had them believing that it had a strong objective component – whereas, when they analysed it, it turned out to be entirely subjective. Members of the group (Dean, Kelly & Mather in the following quotation) sometimes choose to emphasise the fact that they still see value in astrology, viewed as a subjective art:

"Like religion, myth, poetry and fiction, it can enrich our lives in ways that the rational cannot." (Dean et al 1996, p.95)

⁶ Emphases are in original.

But at the same time, in the interview Dean et al are emphatic that *science* deals only with the objective, and not at all with the subjective:

[9] *"...for astrology to change present beliefs about the world will require an objective astrology based on sound arguments, convincing evidence, and an underlying theory agreed to by astrologers worldwide, which are precisely the things it presently lacks... A subjective astrology is of course incapable by definition of changing science-based beliefs about the world. However, this might no longer apply if the beliefs became religion based as in the Middle Ages, as might happen if Islamic fundamentalists were to realise their aim of conquering the world."*(Dean et al 2003, p.35/11.6)

The relevance of religion, and the attitude of Dean et al towards it, will emerge as a point of interest later. For now, having illustrated the key role which the subjective/objective distinction plays in Dean et al's evaluation and judgement of astrology, I should like to consider the relevance to this of the axial Capra quotation cited above, beginning with the legacy of Descartes.

Descartes was, famously, a dualist, making an absolute distinction between mind and body central to his philosophy; "the mind, by which I am what I am, is entirely distinct from the body..." (Descartes 1968, p.54⁷) Concerning this, Capra writes: "Descartes' fundamental division between mind and matter, between the I and the world, made us believe that the world could be described objectively, i.e. without ever mentioning the human observer." (Capra 2002, p.37)

And indeed to reach that pinnacle of objectivity was Descartes' avowed intention: "Archimedes... asked only for a point which was fixed and assured. So also, I shall have the right to entertain high hopes, if I am fortunate enough to find only one thing (in experience) which is certain and indubitable." (Descartes 1968, p.102⁸) He proposed, in fact, to lay down the basis for an entirely objective knowledge of the world, beginning from that one Archimedean point of certainty (which, he decided, famously and infamously, to be 'I think therefore I am'). This image of an isolated thinker, rationally investigating the rest of the world from a vantage point of total objectivity and certainty (the first entailing the latter), was an important factor in the way both philosophy and science developed in the next four hundred years.

In philosophical terms, all of this places Descartes in the philosophical position of *Realism*.⁹ The import of Realism in this context is that one

⁷ 'Discourse on Method', Discourse 4.

⁸ 'Meditations on the First Philosophy...', Second Meditation

⁹ It would be controversial to describe Descartes as a Realist, period. But so far as the status of scientific knowledge is concerned, the philosophy of Descartes had strongly Realist implications as is noted, e.g., in the following: "In the case of all three of these thinkers, Galileo, Campanella and Descartes... there is no doubt that the 'new science' is true, and true about the real nature of the physical world. There is no epistemological Pyrrhonism, but a kind of Realism. Science is not the constructive issue of complete doubt, but a kind of knowledge that is not open to question either on

believes that: "Science describes not just the observable world but also the world that lies behind the appearances." (Chalmers 1999, p.226) In the Realist view there is an objectively real external world made up of objectively real things existing independently of us; and if we apply ourselves correctly our senses will provide us with accurate information about that (objectively real) world.

It is, surely, in the ranks of the Realists that we should consider Dean et al to belong. That is to say, their work consists in applying to astrology, "the Realist or positivist idea that our (objectively) mistaken beliefs are duly corrected by our encounters with an autonomously resistant reality, at least when all is well, as in (good) science." (Hernstein-Smith 1997, p.xxi)

If I might anticipate one other possible objection: Dean et al might want to object that it is not accurate or relevant to identify their ideas as placing them in any particular philosophical camp. They might want to do this with a suggestion that I am taking their **[10]** definitions of 'subjective' and 'objective' into areas which they specifically said did not apply. So: when I suggested that many astrologers would view astrology as belonging in an area between subjective and objective, they replied:

"For such astrologers the distinction is a philosophical one, as for example in whether or not we create the world we live in. But this is not the distinction we mean." (Dean et al 2003, p.7/4.1)

Taking a stance on the question "whether or not we create the world we live in" is a key factor in defining the Realist position (Realists say we don't, anti-Realists say we do), and this objection is therefore very much to the point. Can Dean et al claim to remain aloof from such philosophical distinctions? I think this question can be answered by asking the question: when they use the term 'objective' – objective *for whom?* It seems clear that 'objective' as they use it means objective for everyone; that is, 'objective' in the Realist sense of an absolute, immutable objectivity. So like it or not, their use of 'subjective' and 'objective' root them in Realist epistemology.¹⁰

The debate between Realists and Anti-Realists is a major epistemological issue in the philosophy of science. Indeed – and this does not always follow – it has also occasioned a great deal of soul-searching by scientists. For instance, we can see Einstein desperately defending his instinctive

the theoretical or philosophical level." Popkin, R.H. *The History of Scepticism – from Erasmus to Descartes*, New York, Harper, 1968, p.153

¹⁰ A digression on –isms: It would be possible, instead of discussing Realism and Anti-Realism (which are the terms I will mainly use in this paper) to discuss Foundationalism and Anti-foundationalism. Foundationalism is "The theory that knowledge of the world rests on a foundation of indubitable beliefs from which further propositions can be inferred to produce a superstructure of known truths." (O.R. Jones in Honderich T (1995) *The Oxford Companion to Philosophy*, Oxford, Oxford University Press, p289). Obviously, the overlap of this position with Realism is considerable, and in fact the 'Aside on Post-Modernism' earlier in this article specifically identified Descartes as a foundationalist. I tend, however, to the view that it is best to keep the philosophical –isms to a minimum, so will henceforth restrict myself to 'Realism' and 'Anti-Realism'.

Realist stance in Wolfgang Pauli's recollection of a conversation they had a year before Einstein's death:

*"'Like the moon has a definite position' Einstein said to me last winter, 'whether or not we look at the moon, the same must also hold for the atomic objects, as there is no sharp distinction possible between these and macroscopic objects. Observation cannot create an element of reality like a position, there must be something contained in the complete description of physical reality which corresponds to the **possibility** of observing a position, already before the observation has been actually made.'" (Laurikainen 1988, p.164¹¹)*

With this Einstein was, of course, arguing against the 'participatory' interpretation that events at the quantum level seem to demand. We saw the participatory position being espoused earlier, by John Wheeler. So here we have the viability of the philosophical position *Realism*, coming to life as a matter of great practical and personal importance to scientists. This is already significant insofar as it shows that the epistemological position of Realism is not of merely academic (in the pejorative sense) import, but has practical implications where the fundamental building blocks (or, as it now seems, block-tendencies) of our reality are concerned. On top of this, it is interesting to note that the only way Einstein could see to justify a Realist stance was to insist that, somehow, things must be other than the scientific findings suggested – in other words, to fall back on belief. This is just what opponents of Realism are often accused of. In recent times, the evidence has become stacked against Einstein – has suggested that observation does indeed play a crucial role in determining 'physical reality' (the phrase thus having earned its inverted commas).

Thus the physicist KV Laurikainen wrote:

*"It is natural, on the ground of Cartesian dualism, to come to the conclusion that the observer's effect on his test results can always be eliminated. The primary object in science is the idea that one can [11] assume the 'external world' of matter to be totally independent of the 'I' – that is, the observer... (however) According to the Copenhagen philosophy concerning the interpretation of quantum mechanics, every observation must be viewed as an **interaction** between the 'observer' and the 'external world'. This idea **destroys the basis of the Cartesian distinction.**"¹² (Laurikainen 1988, p.57-8)*

Laurikainen also quoted Heisenberg to similar effect:

"If one follows the great difficulty which even eminent scientists like Einstein had in understanding and accepting the Copenhagen interpretation of quantum theory, one can trace

¹¹ Cited as Letter 0014.51 in the Pauli Letter Collection at p.169 of Laurikainen (1988).

¹² Emphasis is in original.

the roots of this difficulty to the Cartesian partition. This partition has penetrated deeply into the human mind during the three centuries following Descartes and it will take a long time for it to be replaced by a really different attitude toward the problem of reality." (Laurikainen 1988, p.58)

As part of his strategy to fortify the detached observer, Descartes wrote: "There exist no occult forces in stones or plants. There are no amazing and marvellous sympathies and antipathies, in fact there exists nothing in the whole of nature which cannot be explained in terms of purely corporeal causes totally devoid of mind and thought."¹³ Yet despite this denunciation of all things occult, as Lynn Thorndike puts it, "Astrology in especial sought support and justification from Cartesianism." (Thorndike 1958, Vol VII p.559) This inevitably involved seeking a causal, physical explanation for astrology – as for instance in the opinion of the would-be Cartesian astrologer Gadroys that "It is important to note the positions of the planets at the moment of birth, because immediately thereafter the parts of the brain set themselves and conserve all through the course of life the first impressions which they have received."¹⁴

I will presently suggest that it is useful, perhaps even important, to allow a model of astrology which does not conform to Cartesian/scientific/Realist principles. The fact that Descartes' ideal of a detached observer is crumbling does not establish that this will yield anything useful; but the fact that astrologers rushed to fit their subject to a frame of reference which proved not to be the ultimate truth of all things, at least suggests that the subject may need an opportunity to re-group and re-consider its nature. The 'problem of reality' to which Heisenberg referred may yet prove to be relevant.

The fact of there being a 'problem of reality' did not seem to concern Dean et al too much when I mentioned that

"It is a commonplace of philosophy that we create our own reality to some degree":

"Does it matter? Like clients, we are concerned only with whether astrologers can do what they claim to do. How is reality relevant?" (Dean et al 2003, p.57/18.5n.)

The rationale for this dismissal of the 'problem of reality' emerges when (in the *Phillipson Interview*) I raised the spectre of epistemological anarchy¹⁵ – that all our knowledge of the world might be due to reasoning errors. Dean et al replied:

"We might mistake a pen for a pencil or by mistake forget to order lunch, but could we be mistaken that other people exist or

¹³ Cited in Midgley, M. (2001) *Science and Poetry*, London, Routledge, p.43. Ref given is to "Descartes *Principles of Philosophy* in Alquié (ed.) *Oeuvres Philosophiques*, p.502, note".

¹⁴ Thorndike (1958) p.561 – NB that the sentence quoted is Thorndike's summary of Gadroys' position. Thorndike also mentions Kirchmaier (p.559) and Magerlinus (p.562) as astrologers who tried to establish Cartesian foundations for their subject.

¹⁵ Cf Feyerabend P (1993), *Against Method (3rd Ed)*, London, Verso, p.9: "...anarchism... is certainly excellent medicine for *epistemology* and for the *philosophy of science*."

that the world exists? [12] Your comment implies that our reasoning is always so faulty that we can reach any conclusion we like, in which case car repairs would be effectively denied. Obviously this is not so. With care we can avoid reasoning errors, repair cars, and reach sound conclusions." (Dean et al 2003, p.58/18.8)

So we know whether a model of 'how things are' is sound or not, by whether it enables effective action in the world; whether – in this example – it enables us to repair cars. This recalls the German philosopher Hans Vaihinger, who wrote: "It must be remembered that the object of the world of ideas as a whole is not the portrayal of reality – this would be an utterly impossible task – but rather to provide us with an *instrument for finding our way about more easily in this world.*"¹⁶ (Vaihinger 1935, p.15) This has interesting consequences.

In *The Web of Life*, Capra refers extensively to the work of the neuroscientists Humberto Maturana and Francisco Varela, under whose model of how living organisms are organised – called *autopoiesis* – "The activities of nerve cells do not reflect an environment independent of the living organism and hence do not allow for the construction of an absolutely existing external world." (Capra 1997, p.96¹⁷) Again, we see scientific research contradicting the Realist model. Their work leads Maturana and Varela toward a pragmatic account of truth, similar to that of Vaihinger. As Varela puts it:

"In a pragmatist sense, something can be false only, to put it very bluntly, if it kills you. Everything that works is true... Birds and humans experience coloured objects [differently]; their different truths, however, are not due to a correspondence between their views of reality and reality itself, but to the mutual determination of subject and object. The perceptions of birds and humans and innumerable other living beings are all viable because they allow the continuous coupling with the world." (Varela 2004)

This is why a pluralistic model of reality need not lead to the fulfilment of Mole's nightmare that "...virtually any idea about the empirical world is valid and there are no authoritative reasons to reject or accept any particular idea". (Mole 2004) Under the pragmatic approach advocated here by Varela, it is accepted that one model of reality is not sufficient; but this does not mean that the scientific world view will be discarded; simply that, like any other intellectual map of reality, it is 'true' because, and to the extent that, it is useful. The fact that it has proven very useful in many areas does not mean that it has become an infallible and absolute (as if God-given) truth which should be applied to all areas of life. Capra puts it this way: "Science is a particular way of gaining knowledge, next to many other ways. And one aspect of the new thinking in science is that

¹⁶ Emphasis is in original.

¹⁷ Quoting Paslack, R. (1991), *Urgeschichte der Selbstorganisation*, Viewig, Braunschweig, Germany, p.155.

science is not the only way, not necessarily the best way, but just one of many other ways." (Capra et al 1992, p.11) The truth of science, therefore, is a function of its usefulness, not the converse. This is, as already remarked, a pragmatic account of truth.

It can be noted that, in fact, Dean et al often espouse a pragmatic approach – for instance, at a point in the *Phillipson Interview* when they respond to the suggestion that astrology might be untestable by saying: "It is like saying we don't know how gravity works, therefore we cannot test the fall of apples." (Dean et al 2003, p.24/8.3) With this move, Dean et al attempt to define the whole question of astrology's validity as lying [13] outside the reach of any theory about reality. The suggestion is that we can fall back on a pragmatic approach: forget 'reality', just look at whether astrology delivers. There is, however, a problem for them here: as they emphasise, astrology frequently does *seem to work*. But their evaluation is that this is mere appearance; it does not really work, and we are deceived if we think that it does. Where does this distinction between the way things seem to be, and the way they actually are, come from? My suggestion is that it can be traced back, via their subjective/objective distinction, to Realist assumptions about the world. So that there is an incompatible mixture of pragmatist and Realist approaches in their work; and their evaluation, which was supposed to be independent of any theory of reality, in fact depends upon a theory of reality.

Having said all this, I think it has to be acknowledged that Dean et al are grappling with a very difficult issue here. Some of them have experienced at first hand the elusive nature of astrology – how it can seem to work amazingly well, yet prove useless when tested. In the face of this, they reached the conclusion that, in order to understand it, a division into two distinct categories – two differing accounts of what astrology is – are required. This seems a useful approach to me, and I intend to emulate it now.

Two Models of Astrology

So let me suggest a slightly different distinction between two different approaches to astrology. This, broadly speaking, comprises one Cartesian/Realist model (Model #1) and one model which signally fails to conform to those criteria (Model #2 – Astrology as Divination). The portrayal of these two polarised positions is not intended to imply that astrologers are faced with a simple either/or choice between these two models. But the attempt to delineate the possible nuances and shadings of intermediate positions would take us too far from the focus of the present discussion.

Model #1: Astrology as an Empirical Science

This is the view that astrology in its entirety is a science, based on empirical observation and subsequent correlation of celestial events with human events: I see someone crash his chariot and also see that Saturn is transiting over the ruler of his 3rd house; I see similar events coincide

several times, and a rule is born. And *this type of procedure accounts for every situation in which astrology 'works'*.

This position is basically one which sees all astrology as *natural astrology*.¹⁸ In fact I would have used that term were it not for the fact that historical variations in its usage have left its meaning unhelpfully flexible. Another way to get at the nub of the 'astrology as an empirical science' model is to say that Dean and Mather's assessment from 1977 is absolutely applicable to it: "...it is clear that the significant blind trials have not demonstrated that astrology works but only that astrologers work. Hence to adequately test astrology the participation of the astrologer must be eliminated." (Dean & Mather 1997, p.554) If astrology is an empirical science, then this must follow, because "...if astrologers can observe the claimed correlations, so can scientific researchers, and vice versa." (Dean et al 2003, p.6/3.8e)

So the challenge facing astrologers who adhere strictly to this model of astrology is to address the critique of Dean et al, which (given this model) they have to accept as largely valid. For instance, they would need to explain why astrology has not performed better in the tests so far conducted; why the lives of twins and time-twins do not follow more obviously similar courses; why different astrologers use very different systems of astrology; and so on. The task, so far as I can see, is impossible. And I would suggest that the astrological community should show far more gratitude than is normally evident [14] to Dean et al for demonstrating that this model of astrology is simply not viable *as a complete explanation*.

Model #2: Astrology as Divination

The divinatory view of astrology seems always to have been with us. To characterise astrology this way has often, however, been seen as in indictment: typically because it involves dark forces¹⁹, or represents a trivialisation of the subject²⁰. The divinatory account of astrology has, all the same, been gaining ground for the last 25 years or so.²¹ This may be due to a combination of two things: the critique of empiricist/scientific astrology presented by Dean et al; and the growth of interest in horary astrology – which, since the inception of its charts refers only to the subjective process of addressing a question, is innately less promising as a candidate for scientific status than natal astrology, wherein charts at least correspond to the birth of physical entities.

¹⁸ For further definition: Cornelius, G. (2003) p.74-5; Curry, P. (1989) *Prophecy and Power*, Cambridge, Polity Press, p.8-9.

¹⁹ "...when astrologers give replies that are often surprisingly true, they are inspired, in some mysterious way, by spirits, but spirits of evil... These true predictions do not come from any skill in the notation and inspection of horoscopes; that is a spurious art." - Augustine (tr. O'Meara, J) (1984) *City of God*, Penguin, London, p.188.

²⁰ "Astrologers who insist that astrology is merely divination are indistinguishable from the Tarot readers and rune casters – my vision for the future of astrology is something altogether more tangible and objective." – Dennis Elwell in Phillipson (2000) p.182

²¹ For a thoroughly-researched account of the development of the divinatory approach in astrology, with particular reference to Geoffrey Cornelius, see: Little, K. (2004) *Defining the Moment: Geoffrey Cornelius and the Development of the Divinatory Perspective*, <http://www.astrozero.co.uk/articles/Defining.htm> (checked 26 Oct 04)

In order to characterise how Model #2 astrology differs from Model #1: Geoffrey Cornelius says, "...the ground for the coming-to-pass of astrological effects or showings is *not founded in a coincidence in objective time* of heavens above and event below... (rather) we should look in the direction of *significant presentation of the symbol to consciousness*." (Cornelius 2003, p.38)

The emphasis is, then, strongly subjective - a fact which is reinforced when Cornelius remarks, "...the horoscopes we work with are not astronomical records of an event in the physical world. They are symbols in a world of human significance." (Cornelius 2003, p.253) This positions astrology as similar to (for instance) reading the tarot or the I Ching. The appearance of objectivity which was conferred by the planets is, then, considered to have been largely, or entirely, appearance only.

In the terms used so far, this is – clearly enough, I think – a non-Realist, participatory view of astrology's working. It should also be clear enough that astrology under this model could not claim to be empirically-based. To illustrate that point, consider this definition: "Empiricism has its roots in the idea that all we can know about the world is what the world cares to tell us; we must observe it neutrally and dispassionately, and any attempt on our part to mould or interfere with the process of receiving this information can only lead to distortion and arbitrary imagining." (Lyon 1995, p.226) It is clear from Cornelius's account of divinatory astrology that the attempt is not at all to observe data neutrally, but rather to allow the mind to work creatively with the data – in what he has characterised as an "act of imaginative assignation". (Cornelius 2003, p.241)

It seems to me that the critique of Dean et al falls squarely, and rightly, on the shoulders of any astrologer insofar as they take a Model #1 approach; there is a clear case to answer, and the discoveries of the 'new science' (at least those referred to here) change things not one bit. Where Model #2 is concerned, 'new science' and its implications are (I will suggest) more relevant, and it is with this version of astrology that I shall be concerned in what follows.

The Relevance of Science

The question might be asked, whether Model #2 astrology could be understood scientifically. The signs do not seem auspicious. Cornelius suggests that to think of divination as "foretelling the future" is mistaken, that it is better to think of it as asking the gods "what *should* be done". (Cornelius 2003, p.130) This puts clear water between a judgment given and the way things actually turn out. For example, if a client asks, [15] 'Will I get this job?' and the astrologer says 'Yes'; this might not mean 'you will get the job', but rather, 'it will be a good thing if you act *as if* you are going to get the job'.

Now, given that scenario, how is science going to make its evaluations? Dean et al would suggest, reasonably enough, that this is not possible: "If no possible observation could rule out a particular claim, then the claim is

untestable, and scientific research is irrelevant. It is as simple as that." (Dean et al 2003, p.7/3.8e) And so – it seems - agreement is nigh. Sceptic and astrologer will simply shake hands and agree that "What we cannot speak about we must pass over in silence." (Wittgenstein 1961, p.74)

But no. Dean et al in fact conclude that if astrology is untestable, it is also *ipso facto* unviable:

"...if astrology is almost impossible to test then it is almost impossible to discover in the first place, or to claim that some techniques work better than others, which... would wipe out astrology textbooks... the idea that astrology is almost impossible to test cannot be true when astrologers are so readily convinced that it works..." (Dean et al 2003, p.60/18.12)

A similar point was made recently by Dean and Kelly:

"The failure of astrologers to get correct answers when reading birth charts under blind conditions... could not, as some astrologers claim, be due to some property of astrology that makes it untestable by science, because this would immediately deny their experience that astrology works, just as our experience that a TV set works would be denied if we could not tell works from does not work." (Dean & Kelly 2003, p.190)

Underlying these arguments is the assumption that the scientific method can and should be applied to every kind of activity: if we know anything, we know it because we have formed a theory and tested it, acting as proto-scientists. Hence Dean's assertion that "Interpreting a birth chart requires a theory of how astrology works." (Dean 1996, p.18) This, however, is problematic insofar as it simply dismisses the possibility that astrology might work without the astrologer having an accurate intellectual model of what it is that they are doing. Green sea turtles, after hatching, dig their way to the surface in a collective endeavour, wait for night to fall before they emerge (so as to be less at risk from predators), and as soon as they reach the surface, head straight for the sea. Somehow the turtles know how to do what they need to do, without (it seems reasonable to say) forming and testing theories. The suggestion can be made (and is, by Geoffrey Cornelius in the following quotation) that knowledge of astrology (under Model #2) is similarly innate: "Symbolic perception appears to me to be a natural human faculty, or faculty of mind; and all the technical superstructures that then are built up around it advance that perception not one inch. It's like saying, 'how can you improve your sight?' One sees, and everything we do around that might complicate the act of seeing. It's like consciousness itself – there can be no technique of that."²²

²² Phillipson (2000) p.183. NB that the final sentence here appeared in the original interview but not in the excerpt published in the book.

The most notable critique of the assertion that astrology must be theory-based is perhaps that of Mike Harding (Harding 2000) who asks whether – for instance – children need to have a theory about burned fingers before pulling their hand away from a flame. The point has probably been dwelt on sufficiently for the purposes of this discussion: the attempt to explain *all* human knowledge as being arrived at through a process of observing an independently-existing reality, forming theories about it, and then testing [16] those theories, seems untenable. It is the approach which Descartes advocated, but in the end, even he had to confess that many things are doubtful and uncertain. The way Descartes found around the problem was to assert, “nevertheless, from the fact alone that God is not a deceiver, and that consequently he has permitted no falsity in my opinions which he has not also given me some faculty capable of correcting, I believe I may conclude with assurance that I have within me the means of knowing these [doubtful] things with certainty.” (Descartes 1968, p.158²³) This, I would suggest, is the point at which the outgoing view-structure of religion passed the baton of omniscience to science; as time went by, God was forgotten, but the unspoken assumption remained that all things can be known, with certainty, by applying the scientific method.

The Status of Knowledge Derived Through Astrology

So (with one eye still on the threat of epistemological anarchy) what can be said about the status of knowledge under Model #2 of astrology? In order to address that question, I think it is first necessary to ask, *what* do we know through astrology? This question does not generally get much attention. And indeed, it is not an obvious one to ask. But consider the following:

- The Bigger Picture

A man goes to visit a psychic, who tells him, ‘Your mother is speaking to me from the other side, and says she knows that you have her photograph in your wallet’. If we were to analyse this event simply in terms of the man being given two items of information: (a) your mother is dead; (b) a photograph of her is in your wallet - we would miss the point. Although that is the ostensive information, the fact of it being conveyed at all means that much more significant, *implicit*, information is being communicated – which has to do with post-mortem existence and a continuing personal connection.

The parallel is this. Under Model #2 of astrology it is considered that the astrologer is in some sense communing with the divine – they are, after all, practising ‘divination’. The underlying model is that, as a psychic might be supposed to connect one with a deceased relative, the astrologer connects one with the universe. The *implicit* information in astrology is, therefore, always the same: that such a connection is possible in the first place; that there is some kind of sympathy or resonance between the individual and the world. And this may *in itself* be the biggest part of what one learns from astrology – more important, by an order of

²³ ‘Meditations on the First Philosophy...’ Sixth Meditation.

magnitude, than any specific information about the whereabouts of lost keys etc, just as the explicit information provided by a psychic about the small details of daily life is outweighed by the implicit information that there is life after death. The fact of communication being possible at all is more important than any details passed on – the medium, one might say, *is* the message.

None of this is intended to pre-empt discussion of the usefulness, validity or truth of either psychics or astrologers. In either discipline, the practitioner needs to deliver information which in some way touches the client, striking them as surprisingly accurate or appropriate. Without this, the perception of being in touch with a deceased relative, or with 'something greater', is unlikely to arise in the first place. But to analyse the interaction as if the provision of this information is the whole point, may be to miss the bigger part of the picture. To evaluate Model #2 astrology as if it were simply a celestial version of *Google*, delivering information on request, is inadequate.

[17]

- Descriptive v Advisory Signs

The relationship of Model #2 astrology to a testable, consensual reality is further complicated if we consider Geoffrey Cornelius's remark that astrology is not "foretelling the future", but is better thought of as asking the gods "what *should* be done". Under this model, the signs which astrology gives are not simply descriptive. A sign given by astrology is not, then, the same as a straightforwardly informative road sign – e.g. 'Low Bridge Ahead'. Instead, the signs of astrology are like advisory road signs which depict – e.g. – deer running across the road. The point is not to tell the driver that deer actually will be running across the road, but that it will be best if s/he acts *as if* some kind of wild animal might be about to do so.²⁴ This, as I understand it, is very similar to the point which was made by Heraclitus, and repeated by Iamblichus: the obscurity of oracles is a design feature, the gods "neither talking nor concealing...(but) giving indication by signs".²⁵ And signs are not facts – they are at once less, and more.²⁶

- Predictions and Interventions

Building on the previous point, any hope that it might be possible to *scientifically* evaluate astrology under this model, is further eroded by Curry's observation: "every prediction is necessarily also an intervention."²⁷ If an astrological reading is taken as indicating how one

²⁴ I am aware that this characterisation of astrology will be seen by some astrologers as, at best, partial. For instance, some may acknowledge that this 'as if' model is a factor in astrological judgments, but argue that there is a hard core of objective information to be found over and above this. Some may argue that this applies to horary judgments, but that natal readings convey an accurate psychological profile. In the terms I am employing here, such an approach comprises elements of Model #1 and Model #2 astrology – and, to the extent that a core of objective information was claimed, it would be open to testing under the basic model of Dean et al.

²⁵ Iamblichus (tr. Clarke E.C., Dillon J.M., Hershbell J.P.) (2003) *On the Mysteries*, Atlanta, Society of Biblical Literature, p.157 (sect.135-6); Iamblichus is – as noted – quoting Heraclitus, ref. given as frg.93 in Marcovich, M. (1967) *Heraclitus: Greek Text with a Short Commentary*, Venezuela, Mérida.

²⁶ Cf Wood, M. *The Road to Delphi*, 2004, London, Chatto & Windus *passim*; e.g. p.59: "...the sign is just the beginning of the labor of interpretation. Ambiguity, we might say, is the name impatient people give to language they don't want to work on."

²⁷ Curry in Willis, R. & Curry, P. (2004), p.55. In fact, see p.55-8 for discussion of many of the issues raised here.

should act, and one acts that way, then the state of affairs with which it would need to be compared (i.e. one's life, minus the action of following the astrological sign) never comes into existence. There is therefore no possible basis for an *objective* evaluation of whether an astrological reading 'worked' or not.

In an Interconnected Universe, Interconnection Gets Everywhere

As may be apparent by now, Model #2 astrology edges into the domain of religion. This is shown very clearly by the following from John Frawley: "it is an inescapable consequence of the very premises of horary [astrology] that the judgment given will be the right one, whether it be 'correct' or not." (Frawley 2000, p.45) "If the q[uestion] can fall only at its appropriate time, it must fall also at its appropriate place - i.e. onto the head of the appropriate astrologer in whatever state of good or bad form he is in at that moment. As Al-Ghazali says... every raindrop has its own angel appointed to guide it to its destined place (i.e. the essence of the life of that thing, whether a raindrop or a question or a human, can unfold only as it is destined to unfold)."²⁸

What Frawley is talking of here is providence – "God's foreseeing protection and care of his creatures".²⁹ The etymology of the word (as with its Greek precursor *pronoia*) is that of seeing beforehand (*pro videre*) and thus *providing*. If this is what God (or the gods) do, then it would figure that the practice of divination should involve the diviner in somehow participating in this process. Frawley concludes, "Also relevant here is the necessity of shunning that pernicious illusion that the astrological consultation is somehow outside the life"³⁰ – a very similar sentiment to that just quoted from Curry, that "every prediction is necessarily also an intervention". Let me recall the comparison made by Dean and Kelly (cited earlier) wherein astrology was compared to a TV set. This embodies the view of astrology as "somehow outside the life" – that is, something whose workings are understood, which can be looked at 'objectively' in terms of well-defined functions. It is, in short, a Cartesian, Realist model. When it comes to the workings of providence, the whole point is that this is precisely the situation we are *not* in. The very idea of providence is, of course, easy to ridicule (I think of Voltaire's Professor Pangloss). The issue here is, however, not whether one should or should not believe in a providential universe; only that this decision does not fall within the purview of science. And it may also be worth recalling the assertion of Descartes, that "God is not a deceiver, and...has permitted no falsity in my opinions which he has not also given **[18]** me some faculty capable of correcting". (Descartes 1968, p.158) To believe that this world is ultimately knowable through science is also a position which relies upon divine providence.

²⁸ Email from John Frawley to the author, 18 September 2004, quoted with permission. I have so far not been able to trace the Al-Ghazali quotation, but cf Matthew 10, 29-31: "Are not sparrows two a penny? Yet without your Father's leave not one of them can fall to the ground. As for you, even the hairs of your head have all been counted. So have no fear; you are worth more than any number of sparrows."

²⁹ *Collins Dictionary of the English Language* (1979), London, Collins p.1176

³⁰ Also from Frawley's email to the author of 18 Sept 2004.

Varieties of Truth

Suppose I say that Model #2 astrology, if one engages with it, and actively chooses to believe in it, has the potential to be a beneficial force in one's life. This is not something with which Dean and Kelly could argue too much, since they have made almost exactly the same point. They wrote:

"(From astrology) You get emotional comfort, spiritual support, and interesting ideas to stimulate self-examination. In a dehumanised society astrology provides ego support at a very low price. Where else can you get this sort of thing these days? In short, there is more to astrology than being true or false. But note the dilemma - to get the benefits you have to believe in something that is untrue. The same dilemma can apply elsewhere as in psychotherapy and even religion, so it is not unique to astrology."³¹

So astrology, like Tinkerbell, only exists for so long as you believe in it? My feeling is that there *is* an important truth in this suggestion. And Model #2 astrology is certainly closer to religion than to science. Note, however, that in the passage just quoted, Dean and Kelly describe astrology as "something that is untrue". The argument I have presented in the latter part of this article is that Model #2 astrology is *untestable*. Which is not the same thing as saying that it is untrue. The move from 'untestable' to 'untrue' rests upon a particular (Realist, rationalist) view of the world, which cannot be considered to be authoritative and definitive. One may choose to believe in a Realist, rationalist account of the world; one may choose to believe in a participatory world. Given the current state of our knowledge, this can be nothing but a personal choice. Therefore, astrologers need to recognise that sceptics are fully entitled to hold their beliefs and to practise in accordance with them.

Am I Scoffing Yet?

At this point we should revisit the concerns of Phil Mole, mentioned early in this article; has the present writer fallen into the trap of "...the "marginalized" souls who scoff at criteria of judgment and decry the elitism of anyone claiming to have real knowledge about the empirical world"? (Mole 2004)

Whilst there is no way to legislate for the ways in which people will misapprehend and misapply ideas, I do not see anything in the line of thought put forward here which need lead to the epistemological anarchism of which Mole writes. To question the suitability of the scientific method as an overarching philosophy of life and solution for every problem, does not entail questioning its utility in many fields. A smidgeon of pragmatism would suggest that one can evaluate different approaches in terms of their efficacy: which method is most suitable, and

³¹ These comments appear in an expanded abstract of Dean & Kelly (2003) at: <http://www.butterfliesandwheels.com/articleprint.php?num=32> Checked 24th August 2004

gives the best results, in trying to make sense of a given situation? Thus far, there is little which the sceptic could criticise.

When it comes to Model #2 astrology, the axiomatic question – it seems to me – is, what part the individual is considered to play. If we are talking of “the man who stands safely behind the thick glass wall and watches what goes on without taking part” of Wheeler (Zukav 1979, p.54) then one set of consequences follows. But to observe in this way is already to implicitly deny the validity of the divinatory approach to astrology. Where [19] divine knowledge is concerned, a paradigmatic statement is Anselm’s, “I commit myself in order that I may understand.”³² Without investing personal commitment (or faith), one will not reap understanding. Interestingly enough, Descartes was largely responsible for developing the opposing idea – that it is possible to understand *everything* whilst remaining aloof, unengaged. As Foucault puts it: “Before Descartes, a person could have access to the truth only by carrying out beforehand a certain work upon himself which made him susceptible of knowing the truth.”³³

A central tenet of astrology might be mentioned here. The phrase attributed, in the *Emerald Tablet*,³⁴ to Hermes Trismegistus – ‘As above, so below’ – has been adopted as expressing the essence of astrology for many a long day. In the 20th century this was largely due to the influence of HP Blavatsky’s theosophical texts where it was quoted (as above) many times.³⁵ Alan Leo then quoted it a few times in his books,³⁶ and it seems likely that this is the main route by which it attained its current ubiquitous status amongst astrologers – though it was certainly familiar to at least some earlier astrologers.³⁷ The significant point here is that in the full text of the *Emerald Tablet* the phrase appears as follows: “What is below is like that which is above, and what is above is like that which is below, to accomplish the miracles of one thing.” (Shumaker 1972, p.179) As Robert Hand has pointed out, in this full version, “...we not only get

³² Armstrong, K. (1999) *A History of God*, London, Vintage, p.235. Armstrong argues that “commit myself” is a more accurate translation than the more usual ‘have faith’ or ‘believe’. She also mentions the injunction in Isaiah, “Unless you have faith, you will not understand”, which Anselm is reflecting upon.

³³ Quoted: Hadot, P. (tr. Chase, M.) (2004) *What Is Ancient Philosophy?* Cambridge Mass, Belknap Press, p.263. Hadot is a notable exponent of the thesis that the practice of philosophy requires an individual to engage not just intellectually but through their entire lifestyle; as is implied by the title of another of his books, *Philosophy as a Way of Life*.

³⁴ For a good introduction to the *Emerald Tablet* with references to many other sources see: van den Dungen, W. (2002) *Tabula Smaragdina – The Emerald Table* at www.sofiatopia.org/equiaeon/emerald.htm (checked 15 Feb 05)

³⁵ E.g. Blavatsky, (1877) H.P. *Isis Unveiled*, London, WJ Bouton, p.35 and many other places. Various book by Blavatsky, including *Isis Unveiled*, can be downloaded from: <http://blavatskyarchives.com/contents.htm> (checked 29 Oct 04). Thanks to Kim Farnell for Blavatsky refs.

³⁶ E.g. Leo, A. (1912) *The Art of Synthesis (3rd Edition)*, London, LN Fowler, p.29. Thanks to Kirk Little & Maurice McCann for tracking down refs in Leo.

³⁷ For instance: Nicholas Culpeper cites it (in Latin) in his 1655 *The Judgement of Diseases from the Decumbiture of the Sick* (reprinted c.2000 by Ascella) – p.7; William Lilly’s friend and supporter Elias Ashmole cites it (also in Latin) at p.446 of his alchemy text *Theatrum Chemicum Britannicum* (1652). This text can be viewed at:

<http://dewey.library.upenn.edu/sceti/printedbooksNew/index.cfm?textID=ashmole&PagePosition=1> (checked 29 Oct 04). It would be a major project to attempt to excavate the full history, both of the phrase from the *Emerald Tablet*, and of the underlying idea, in its evolution in, and influence upon, western occultism. If anyone would like to put forward additional information, please let me know.

created – we *create*". (Phillipson 2000, p.186) In other words, the model is not of an independently-existing set of influences playing upon the world, but rather of a participatory cosmos.

This does not, of course, prove anything. The provenance of the Emerald Tablet is too obscure for it to be possible even to be certain of the intentions of the original author(s).³⁸ But it is mentioned here because of the emblematic role of the phrase – reflecting, in its abridged and complete forms, Models #1 and #2 of astrology, respectively. In remarking this, I acknowledge that it may be more satisfying to those who value signs than those who insist on facts. Perhaps those in the latter camp will prefer the words of a physicist – the following being from a letter written by the physicist Wolfgang Pauli in 1948, and prefiguring many of the themes discussed in this article:

"When the layman says "reality" he usually thinks that he is speaking about something which is a self-evident known; while for me working on the elaboration of a new idea of reality seems to be precisely the most important and extremely difficult task of our time. It is this, too, which is what I mean when I emphasize that science and religion must have something to do with each other. (I do not mean "religion within physics", nor do I mean "physics inside of religion", since either one would certainly be "one-sided", but rather I mean the placing of both of them within a whole.) I would like to make an attempt to give a name to that which the new idea of reality brings to my mind: the idea of the reality of the symbol. On the one hand a symbol is a product of human effort, on the other hand it is a sign for an objective order in the cosmos of which man is only a part. It contains something of the old concept of God as well as something of the old concept of matter... The symbol is like a god, having an influence on men but also asking of them to have an influence back."³⁹

[20] Conclusion

Advances in modern science do not *prove* astrology, any more than they prove the existence of an intelligence and purpose underpinning the universe. What – I have suggested – they can offer is a framework of understanding in which the question of astrology's validity is for the individual to address for him or herself, with the hope of an authoritative answer from an omniscient Science having shattered.

Postscript (January 2007 – not included in *Correlation*)

The comments I received about this article were generally positive, but it might be useful – in view of a couple of recurring themes – to reiterate

³⁸ For instance, Joseph Needham speculates that the *Tablet* may have originated in China: Needham, J. (1980) *Science and Civilisation in China (Volume 5)*, Cambridge, Cambridge University Press, p.370-2

³⁹ Laurikainen (1988) p.20. The translation of the final sentence is opaque in the original text; it has therefore been re-translated from the German here, with thanks to Brigitte Friedrich and Silvia Pannone for their elucidation of the original text.

the following points, which were perhaps left insufficiently clear in the original:

The two 'Models' of astrology are not intended to be exhaustive, definitive, or to pin down exactly how astrologers think and practice. They are extreme stereotypes, brought in for the sake of discussion, and it is understood that there are many positions between them.

I am not arguing that scientific research into astrology is a pointless exercise. I don't think it will ever deliver results on the scale that its most enthusiastic advocates wish for, but I think it has a part to play.

Also, I should have made the point that there is a direct parallel between Vaihinger's philosophy of 'as if' and the pragmatic philosophy of William James. I hope to give some attention to the latter in the thesis I am working on.

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