

# ASTROLOGY - A RATIONAL CHAO/DYNAMIC APPRAISAL

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"Astrology should not be used at all" - Peter Carroll 'Liber MMM'

"Astrology has become hopelessly vague and imprecise" - Peter Carroll 'Psychonaut'

I open this paper with these quotations lest anyone should be under any illusion about the prevailing orthodox view of Astrology within the corpus of Chaos Magic(k) - In this matter I am an unashamed and unrepentant heretic; the stake, faggots, firebrands and the instruments of the question are, doubtless, even now in preparation.

It is perhaps ironic that the attitude of the Mediaeval Church Fathers appears to have been more hesitant. With reference to Augustine and Thomas Aquinas, Grillot de Givry comments in his book 'Witchcraft, Magic and Alchemy':

"They disapprove without completely rejecting; they do not deny the accuracy of horoscopes, and they do not attribute the creation of this science absolutely to the Devil, as they would have done boldly if any other processes tainted with superstition had been involved."

In my own experience, the attitude of modern Anglican clerics towards Astrology is more clear cut; I recall quite clearly being damned by no less an eminence than the Vicar of St Mark's in Surbiton on having introduced the subject into a conversation: "Heresy, heresy" he exclaimed as he made a sudden withdrawal from the premises.

I feel certain that the Synod of the Anglican Church would be most encouraged in their deliberations to know of this emergence of common ground between their doctrines and the formal position of the Illuminates of Thanateros; perhaps we can look forward to Mr Carroll being honoured with some episcopal commendation for his forthright attitude.

So precisely what is under consideration in this emotive issue? My own definition is as follows:

Astrology is the study of a postulated process by which the movements of the bodies in the solar system with respect to each other and to the more distant bodies in the galaxy exert some influence upon terrestrial events.

The origins of the subject are rooted in antiquity, and widespread throughout global cultural

and religious traditions, but very little evidence has ever been put forward which purports to explain how such a process might operate. Evidence for the validity of astrological processes has usually been confined to statistical evaluation, such as that undertaken by the Gauquelins, or some vague appeal to mystical tradition. In this appraisal I intend to address the subject from a viewpoint which makes no call for any dramatic modification to the Axioms of Mathematics or the existing Laws of Physics, as these are understood in the light of the most recent work deriving from Chaos Theory.

There are four forces known to physics: the strong and weak nuclear binding forces, electromagnetism and gravity. As far as influences being exerted on an inter-planetary scale are concerned, the strong and weak nuclear forces can probably be disregarded since their range is limited to the atomic and molecular scale, although non-local quantum effects cannot be completely ignored. Both electromagnetism and gravity can exert influence over considerable distances, particularly, in the case of electromagnetism where the intervening medium is permeated with a plasma of charged gaseous particles. This is indeed the case throughout the solar system, where more than a million tonnes of plasma is boiled off from the surface of the Sun every second, and propagated outwards across the orbital plane of the planets.

The bodies in the solar system are basically lumps of material with associated gravitational and magnetic fields, moving around in a space permeated with a sparse conductive plasma. All of these bodies all the time are exerting gravitational and electromagnetic effects on each other.

Gravitational effects are the most obvious of these, so it is sensible to treat with these first. Einstein's General Theory of Relativity is the most comprehensive and well established theory of gravity around at present, but, for most practical purposes, it can be approximated by Newton's statement in his 'Principia', in Book III: The System of the World, Proposition 8, Theorem 8, reads as follows in a translation from the Latin:-

In two spheres gravitating each toward the other, if the matter in places on all sides round about and equidistant from the centres is similar, the weight of either sphere towards the other will be inversely as the square of the distance between their centres.

This proposition, first published in 1687 at the insistence of the astronomer Sir Edmund Halley, is commonly referred to as the Inverse Square Law or Newton's Law of Gravity. It is in accordance with this law that the Earth and other planets move round the Sun, and that the Moon(s) move round the planet(s) in orbits which follow the circumference of a section made through a cone; i.e. elliptical or, in exceptional cases, circular for captive bodies.

An important point is that where two bodies have a gravitational relationship with each other, both are influenced. Although the Sun exerts a force which causes the Earth to orbit round it, the Earth exerts an identical attractive force on the Sun which effectively causes it to make small rotations about some point which represents the centre of gravity of the Earth-Sun system taken as a whole. Because the Sun's mass is much greater than that of the Earth,

this point is within the interior of the Sun, but not at its centre.

Newton's Law can make exact predictions for the motions of a two-body gravitational relationship, but it is often not realised that matters become much more complicated where more than two bodies are involved. Non-linearities become important, and the relationship falls into the domain of Chaos Mathematics. The solar system as a whole consists of the Sun and ten major planets; in addition there are some dozens of moons and thousands of asteroids and comets. What is under consideration is in fact a system of intricate complexity, albeit with the Sun as by far the dominant influence in gravitational terms.

A good overview of the chaotic nature of gravitational patterns in multi-body situations is provided by Carl Murray, Reader in Maths and Astronomy at Queen Mary College, University of London, in his article "Is the Solar System Stable?" published a year ago in *New Scientist*. Murray concludes that the planets are unlikely to crash into each other in the near future, but he points to some fascinating relationships which can develop over time between the various bodies within the system. Firstly it is pointed out that the prevalence of elliptical, rather than circular, orbits is due to the gravitational effects of the various planets upon each other, as is precession of the orbits (albeit that in the case of Mercury relativistic effects are also significant).

A less obvious consequence of the non-linear character of the system is one of those interesting instances of 'order' manifesting out of 'chaos': stable resonant relationships can become established, particularly between planets and their moons, where, either the orbital periods evolve into regular mathematical relationships, or where some transference of energy can take place between the forward motion of a body in its orbit and its own rotational period. The best known example of this is the case of our own Moon, where its orbital period round the Earth is in an exact 1:1 relationship with its axial rotation period; this is the reason why the Moon always has the same side facing towards the Earth. Many such exact resonance ratios exist among the moons of Saturn and Jupiter, and among the planets themselves, Pluto and Neptune are in a 3:2 orbital period resonance, while Saturn and Jupiter have a similar 5:2 relationship. This is one manifestation of Chaos Theory that Pythagoras would definitely have approved of.

What seems to happen is that as the planets move closer to each other and further away, then, as they follow their main orbits, differential gravitational 'drag' can be exerted on massive irregularities on the planets surfaces, tending to increase or reduce the axial rotation speeds. For example, in the case of the Earth, gravitational attraction between, say, Jupiter and the Himalayan massif will tend to slow or speed up the Earth's rotation to a very small degree, and the effects will not always cancel out, because the relative positions of the planets vary day on day from one Earth rotation to the next. This effect is infinitesimally small, of the order of a few milli-seconds per day longer or shorter, but in terms of life on the Earth it has recently been shown to be far from insignificant.

In a recent issue of 'Nature' (8th Nov 1990), in that journal's columns of Scientific Correspondence, is a letter from Messrs Zheng, Song and Luo of the Chinese Academy of

Sciences, Shanghai Observatory, pointing out a close relationship between variations in the Earth's rotational period and the occurrence of 'El Nino' events. Otherwise known as the 'Southern Oscillation', El Nino is basically an ocean current phenomenon in the Pacific Ocean which occurs irregularly at between two and seven year intervals. It has been shown to exert a major influence on the course adopted by the 'jet streams' in the upper atmosphere which in turn determine our planet's major climatic patterns. For example the El Nino of 1982/83 was accompanied by drought in Australia, record summer heat in Western Europe, torrential rains and floods in South America, and climatic anomalies in the USA which damaged corn, soybean and other crops. Anyone considering taking a position in Commodity Futures, may like to know that Zheng, Song and Luo predict an even more extreme El Nino for the latter part of this year stretching forward into 1991.

What appears to happen at the onset of the El Nino is that the Earth's rotation decelerates by a few milliseconds, and the phenomenon subsides as the rotation period accelerates again. The factors affecting the rotational periods are the other planets positions in the solar system relative to the Earth. Specifically, while a planet, particularly a heavy one like Jupiter, is drawing closer to the Earth, the rotational speed will tend to decelerate, and while that planet moves further away the Earth's rotation will tend to accelerate. At the point where there is an astrological conjunction between the planet and the Sun (in the case of Venus or Mercury) or an Earth relative opposition between the planet and the Sun (in the case of one of the outer planets Mars - Pluto), the decelerative effect due to any single planet will be at a maximum. The actual acceleration or deceleration at any point in time is a chaotic function since effects due to all the planets acting simultaneously have to be taken into account.

This is not the sort of Astrology to be found in the 'Stars' columns of popular newspapers, but it quite definitely falls within the overall domain, and I would coin the term Macro-Astrology to cover this class of chaotic/dynamic relationship where the primary mechanism is the force of gravity.

There is a further mechanism by which the general disposition of planets in the solar system can induce effects having a direct bearing on terrestrial events, and which I would also class in the broad domain of Macro-Astrology. These phenomena have been researched and comprehensively written up by Williams in his book 'Financial Astrology'.

In terms of physics and chemistry, activity on the Sun is by no means constant. Aside from occasional short term irregularities and surges in the solar wind, there are longer term cycles which appear to correlate with the number of sunspots which can be observed. Williams produces convincing tabulations which indicate some linkage between these long term cycles and alignment of planets with respect to the Sun. Thus when Jupiter and Saturn, as the heaviest planets, are in alignment, the increased gravitational influence due to those bodies appears to provoke a phase of relatively high solar activity, marked by an increase in the number of sunspots. These activity cycles in turn can be closely tied to the intensity of the solar wind and thence to agricultural and economic cycles which have been observed on Earth. Unlike the El Nino events discussed above, these have a regular periodicity which has long been recognised by economists, such as Robert Beckman who has done detailed

analysis of stock market 'crashes', although such authorities do not generally attribute the events they describe to any sort of celestial influence.

## **ASTROLOGICAL INFLUENCES ON THE INDIVIDUAL**

Various systems of natal, progressive and transitive astrology assume that the positions of the planets and 'lights' (the Sun and Moon), relative to each other and the 'fixed' stars of the zodiac, can exert some influence variously over an individual's personality, and the occurrence and propitiousness of events during life. Persons of a sceptical disposition generally find this extremely difficult to accept, not least because of the apparent lack of any causal or rational process which might be invoked to explain such influences.

As a mathematician with long-standing occult interests, it would be surprising if I had not taken some interest in the concepts of astrology, and indeed I have intermittently cast horoscopes since the tender age of eight. In the thirty-odd years since, I have passed through phases where I felt quite sincerely that here was a system which had at least as much validity, as a tool for human personality or aptitude assessment, as any product of modern psychology. On other occasions I have devised techniques for predicting the outcome of football matches by casting the horoscopes of all the players in both teams, and calculating likely deviation from 'form' of the team by analysing transits against those charts on the day of a match (I was actually sacked from a job once for abuse of computer facilities in pursuit of that venture). More recently I experimented with a technique for correlating aspects made to particular planets with the performance of the appropriate metal on the world's commodity markets.

I can report quite objectively, that, although neither of those exotic schemes ever generated a fortune, they produced results which were better than those which might have been obtained by chance. For all that, the lack of any obvious causal mechanism has always been a problem to me, and certain inconsistencies within conventional western (or Tropical) astrological tradition have long presented a source of great difficulty. Prominent among these is the nonsensical situation occasioned by precession of the equinoxes, whereby the various planets are not actually observed in the zodiac positions where they are listed as being in a standard ephemeris. There is in fact a difference of some 24 degrees; such that when a new-born infant's horoscope, drawn up according to the Tropical system, shows Moon at 10 degrees Aries, if you actually go out and look in the sky you will see the Moon at 16 degrees Pisces. I must say that I have never seen an adequate or convincing explanation to circumvent this inconsistency, which is simply ignored by most books on the subject; a notable exception is the recently published 'Tantrik Astrology' by Michael Magee which explores the Hindu tradition of Siderial (as opposed to Tropical) astrology. For my own part I tend to feel that the 'fixed' stars, or zodiac signs, may as well be ignored, except in as much as they provide a useful convention for referencing the planet's positions relative to each other.

So what about causal mechanisms? Is there any conceivable process by which a lump of matter millions of miles away can influence the mood, disposition or personality of a human

individual here on the Earth? I can offer no formal proof, but I strongly suspect that there may be. The key factor, in my view, lies in the existence of a magnetic field associated with most (if not all) bodies in the solar system, and the presence of a plasma of charged particles permeating inter-planetary space. To approach some understanding of what may be involved at the human end of the postulated causal process I would like to consider some recent research into 'dowsing', by which I mean those general phenomena of which water-divining is perhaps the best known example.

The first time I ever saw anyone dowsing was in 1965 when I had a school holiday job in Farnham, Surrey, working for a firm contracting for the Gas Board. The gang I was assigned to had the task of providing supplies of gas to new houses, often in streets where there was an existing piped main. As is the way of the world in such circumstances, there were no maps or reliable records indicating exactly where in the streets the various utility mains were located. Our 'ganger', a gentleman named Sunna Prior, had a mysterious way of solving this problem: he would take a couple of pieces of ordinary 'bull-wire' of about an eighth of an inch gauge (such as is used for fencing) about a foot long, and bend these into an 'L' shape. Holding the short legs of the 'L', one in each hand, so that the long legs pointed straight out in front of him, he would walk across the street. At some point the wires would rotate in his hands such that the two long legs of the 'L's were pointing together. Sunna Prior would set us to work digging at that point and, like magic, the gas main would be uncovered and the job carried out. In many weeks I never saw him miss once; no fuss was made about his peculiar talent - it was the accepted procedure. Being an inquisitive lad, I talked to him about his ability and he said that anyone could do it, but that he preferred to take the responsibility. That was when I started dowsing. I have been doing it occasionally ever since using 'L' shaped lengths of bull-wire, 'Y' shaped hazel twigs, pendulums etc. I have frequently 'taught' other people and, like Sunna Prior, I am also quite certain that anyone can dowse.

Science is usually sceptical, because there appears to be no causal explanation of the processes involved, but the matter received some serious examination in *New Scientist* in an article by Tom Williamson, a mineral geologist, entitled "A Sense of Direction for Dowsers?" which was published in March 1987. Williamson acknowledges the conventional scepticism about the subject. He rolls out the celebrated debunking by professional trickster James Randi who makes a living by setting up experiments to reinforce the prejudices of sceptics, and then traps well intentioned and sincere researchers as mugs to participate in them, by offering financial inducements which are about as likely to be awarded as the time-share sales people's give-away cars. (I have a very low opinion of James Randi, and was particularly disgusted by the way in which 'Nature', a normally reputable scientific journal, used him to discredit the French researcher Benveniste who was making interesting progress towards establishing a rational basis for Homeopathy).

Nonetheless, in his investigation of dowsing, Williamson develops an interesting magnetic hypothesis. He points to the magnetic sensing abilities of many species in the animal kingdom; among them are homing-pigeons, bees, mud-dwelling bacteria and, remarkably, whales, which apparently navigate using the magnetic stripes on the sea-floor which

represent a fossil record of reversals in the Earth's magnetic field. Magnetic sensing organs have been discovered in many species; the yellow-fin tuna, for example, has a tiny sensor which contains some 85 million microscopic magnetite crystals organised in chains which, it is calculated, could detect changes in magnetic fields as small as one nanotesla - less than one twenty-five-thousandth of the average surface intensity of the Earth's field.

There is evidence to suggest that humans have similar capabilities, but that the influences act directly on the subconscious mind. Sensitive magnetometers have been used to establish that what dowzers react to is tiny changes in magnetic field, and that subconscious impulses cause the muscles to contract flipping the dowzers rod, jiggling the pendulum, or rotating the 'L' shaped pieces of bull-wire.

With such evidence, the suggestion that minute fluctuations in the Earth's field might be sensed by individual humans do not sound completely improbable. It is also, in my view, a reasonable proposition to suggest that such minute fluctuations might be induced by movements of the fields associated with other bodies in the solar system being transmitted via the plasma which permeates inter-planetary space.

That is the fundamental reasoning to support my rational hypothesis of astrology as it relates to individuals. There are several major gaps which cannot be bridged by direct evidence; firstly there is nothing at present to indicate the extent to which the Earth's field might be distorted by the fields of other planets, although evidence may emerge from signals sent back by the Ulysses space probe which has recently been launched by the Space Shuttle, and which is intended to adopt an orbit around the poles of the Sun outside and at right angles to the plane of the ecliptic. Secondly, there is little confirmed research available on subconscious magnetic sensing abilities of human beings.

If, however, such transmission processes and sensing abilities were shown to have some basis in reality, the following scenario might be demonstrated to have some substance.

As the Earth travels on its orbit around the Sun it passes through regions of varying intensity in the plasma which permeates the ecliptic. These in turn induce geometric or topological distortions in the shape of the Earth's magnetospheric envelope, and hence in the relative strengths and direction of the horizontal and vertical components of the terrestrial field here on the surface of the planet. Although variations in field strengths of plus and minus 5 percent can and do occur (see Gribbon; "Magnetic Pointers to Stormy Weather", New Scientist, Dec 1986), the major activity is in the fractal micro-structure of the magnetic field - on the scale of tens and hundreds of nano-teslas, i.e. the levels of field strength variations which are so useful to dowzers and migrating whales. .

The question of magnetic imprinting here needs consideration. When volcanic rocks are extruded from the Earth's sub-surface mantle to the sea floor, the crystals of which they are composed tend to align themselves parallel to the prevailing direction of the planet's magnetic field at the time when they solidified. Over the aeons of geological time there have been frequent occasions on which the Earth's field has reversed completely; a record of these

reversals has been minutely preserved in volcanic rocks of varying ages which have been extruded from fractures which open up along the mid-oceanic ridges in the course of sea-floor spreading. It was this detailed sequence of magnetic polarity reversals which originally provided conclusive evidence for the phenomenon of continental drift - this had previously been regarded as a pie-in-the-sky notion (rather like Lovelock's Gaia Hypothesis) whose only claim to validity was in the co-incidental similarities of shape between sections of coastline and continental shelf on different sides of oceans like the Atlantic. Whales are able to sense the variations in the terrestrial field induced by the relative permittivity of sea-floor basalt. The regions of variant polarity run parallel to the oceanic ridges (North-South in the Atlantic) and the whales seem to have a built in map of these.

I would suggest that it is not impossible for some sort of magnetic imprint to be imposed on cell tissue within living organisms, particularly where that cell tissue is known to develop and establish inter-cellular communication structures in a random or chaotic fashion. Just such a situation exists in the developing matrix of neural interconnections within the brain of a new-born child, or the nervous tissue of a yellow-fin tuna fish. It is therefore not impossible that the patterns of synaptic interconnection between brain cells in an individual's head (which contribute to personality) bear some imprint of the prevailing flux or 'weather' in the planet's magnetosphere at the time of birth, and that this in turn ultimately has some relationship with the disposition of the other planets in the solar system, relative to the Earth, at time of birth.

Moreover, as the individual progresses through life, daily variations occurring in the magnetic field will exert infinitesimal pressures on the cellular matrix of the brain, and so unconsciously affect the person's mood and disposition from day to day. The most clearly identifiable fluctuations would occur at times when the magnetic influences due to other planets are superimposed, or when they are directly opposed to each other.

This effect will be enhanced by the exactitude of the superimposition or opposition - hence the importance of eclipses in my hypothesis. Those events are effectively exact alignments of bodies in the solar system involving the Earth, either at one end of, or in the middle of a line in space connecting the magnetic and gravitational field centres of at least three bodies. It is gratifying to note that traditional astrologers accord particular importance to the occurrence of 'conjunctions' and 'oppositions' in their interpretations of horoscopes, and moreover that the occurrence and timing of those aspects is quite independent of the position of the planets to the fixed stars. Eclipses are nothing more or less than exact conjunctions or oppositions, where both 'longitude' and 'declination' indicate a perfect alignment. They are not restricted to events involving the Sun, Moon and Earth alone; the event which confirmed the predictive power of Newton's model of the solar system was a transit of Venus across the Sun, observed by Cook and the 'Gentlemen of the Royal Society' in Tahiti - that exact alignment would count as an 'eclipse' in the terminology of this hypothesis.

I feel that the safest way to approach this notion of field fluctuations affecting individuals is to think of the effect as being similar to that which atmospheric weather can exert on an individual's consciousness. Anyone who works in a shop will have some subjective

awareness about the way in which day to day weather can influence public mood. In that context the links are fairly easy to identify, because a substantial proportion of the public tend to react in unison - for example, if it's tipping with rain first thing on Saturday morning, people are reluctant to go out unless they absolutely have to, and shops trading in goods which are not absolutely essential to life support will tend to have a quiet day.

In the case of astrological effects, I would submit that they are less obvious to spot because different people are affected in different ways owing to the differences in their neural/synaptic connection matrix, which may have been influenced by the micro-magnetic 'weather' at the time of their birth. There are observable patterns however; the incidence of an increase in the suicide rate at Full Moon (an astrological opposition) has been noted, as has the increased level of crazy behaviour in general at these times.

Astrologers claim that other geometrical relationships, or 'aspects', in the arrangement of planets and 'lights' relative to the Earth are also important; for example, Trines, where planets are at 120 degrees (or a third of a circle) relative to each other when viewed from the Earth. Squares (quarter of a circle) and Sextiles (a sixth of a circle) are similarly important. I cannot postulate any obvious process to account for these influences, but it is interesting to note that the angles are exactly those which will be familiar to crystallographers; they represent the major patterns according to which atomic and molecular material arranges itself, when subject to some phase change involving the gradual transition of a substance from a liquid to a solid state - this is occasioned by the geometric arrangement of electron position probabilities relative to a nucleus in the atomic structure of matter.

My own work on lesser aspects, which are generally ignored by astrologers, quintiles ( $1/5$  circle), heptiles ( $1/7$  circle), and noviles ( $1/9$  circle), would seem to indicate that they may have some importance, but that the exactitude of the aspect is crucial - it has to be within one degree, considering both latitude and declination, to be worth bothering about. The 'proof of the pudding' would lie in conducting some long-term systematic work with highly sensitive (and expensive) magnetometers - but it is unlikely that this is the sort of project which would attract research funding from a sceptical scientific establishment. Any serious researcher presenting such a proposal would be putting a professional reputation at serious risk, and, doubtless, if positive results were obtained, 'Nature' would wheel in James Randi (or his ilk) to debunk the phenomenon, by trickery if necessary. This is exactly what happened to Benveniste over his research into a rational basis for Homeopathy, and echoes of the same reluctance to accept evidence at variance with orthodoxy were to be seen in the treatment meted out to Flieschmann and Pons, following their publication of work on 'Cold Fusion'.

I am not convinced that there is any role in the scheme here presented for bodies outside our solar system - i.e. the constellations of the night sky. The relative 'strength' of planets seems far more likely to be associated with their orbital position in terms of distance from the Sun - though this in turn will have some correlation with their placement relative to the 'fixed stars' of the zodiac, when viewed from a terrestrial perspective.

The distribution of planets in astrological 'houses', which is basically a function of their placement relative to the horizon, does, however, fit in reasonably well. The Earth rotates while the overall envelope of the magnetosphere does not, except inasmuch as minor and chaotic field fluctuations may be set up by, for instance, the traversing of magnetic sea-floor stripes through the prevailing structure of the magnetospheric envelope. As the Earth rotates, so influences on any part of the surface will be encountering different regions of magnetospheric micro-structure, and influences on this due to a planet directly overhead (in the Mid-Heaven) will be proportionately greater. When a planet first appears above the horizon (crosses the Ascendant) its influence will increase in importance, and when it sets its influence may fall off quite sharply. Though I feel that divisions into 12 houses having some purported influence over different areas of life experience are quite arbitrary.

To conclude, I would like to say that I feel there is sufficient evidence to assert that a causal explanation for some phenomena within the domain of astrology is definitely established; in particular those areas which I earlier identified as macro-astrology. The issue of strictly personal planetary influence is more tenuous, but I hope I have presented a case to suggest that mechanisms may be available to account for some of what is presented by astrological tradition.

What I would definitely assert is that in terms of both macro and personal astrology, the most important single events are direct alignments of bodies within the solar system. This topic will be explored at greater length in the concluding paper of this series, which ties together a number of issues raised throughout the series and presents a means of applying the conclusions into a comprehensive, but inevitably chaotic, programme of observance and 'quasi-magical' activity.

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