Belief and Beyond in Vedic Astrology

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Belief systems and both ancient and modern understandings of reality are considered from the point of view of both Physics and Vedic Astrology. It is suggested that many of our sceptical attitudes towards the teachings of the ancient seers may be a product of our own incomplete knowledge of reality.

It has been noted that the ancient authors of the Vedic texts and their students who memorised and expounded the texts possessed a highly expanded and powerful mental capacity based on a calm intuition and a clear insight. Indeed, it is hard for us to comprehend the genius of the rishis. Without computers they made mental calculations which would be quite beyond the modern man. Without telescopes, as far as we know, they accurately computed the positions of the planets and developed an advanced understanding of astronomy and astrology. There is evidence they

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knew the speed of light and much else only recently determined.

Throughout the ancient world, primary science was clearly related to astronomy and astrology, which we will call *Jyotisha* going forward. There was need for a calendar and it has long been observed that there are typically 12 full moons in the course of a Solar round. Thus the year and its months came into human consciousness. It was also observed that the Moon takes over 29 days between Full Moons and just over 27 days to return to its original place. Thus, with respect to the Sun, there were 30 days in the month in the form of *Tithis* and with respect to the Moon, there were 27 Lunar mansions or *Nakshatras.*

The Sun was ascribed a masculine quality and the Moon a feminine one, due to their natural characteristics. As the world comes from the joining of the masculine and the feminine, time and the world had to arise from a union of these two. This meant equating the dominant numbers of 12 and 27 since the Sun had 12 mansions and the Moon 27. The simplest relationship is expressed as 12 x 9 = 27 x 4 =108

From this, the science of *Jyotisha* was born. The number 108 was declared to be *Shree*, the source of all auspiciousness and a complete expression of divinity. Quite naturally, the ancients enumerated the energies of these 108 sectors of the sky assigning them key words. Since the divinity was *Sarvavyapakesha*, for each sector there must be a divine name. Therefore the sets of *Astottarasatanama* were developed. By chanting all 108 names the complete glory of the divinity can be respected.

Vedic Wisdom and Quantum Mechanics

Quantum Mechanics has shown that the universe has five fundamental forces and only five. The theory breaks if there are any other number. Now the number five is a core number in the Vedic science. The key emergence of five in Vedic cosmology is the arising

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of the five *tattvas* or subtle elements. The Vedic cosmology starts with One, the Brahman. Due to being consciousness, the prototype of the knower, known and process of knowing are inherent in it. Before the five arose, the subtle agencies of knowing were there and the various philosophies describe this in various ways. For example, in Sankhya, there are the *Ahamkara*, *Buddhi* and *Manas*. After the appearance of this subtle level, the physical reality begins with the appearance of *Akasha*, then *Vayu*, *Agni*, *Jala* and *Prithvi*. This is described as the *Sristi* or order of creation.

Akasha

Quantum Physics has an identical order with closely similar characteristics. First space-time arises, which is associated with gravity whose particle is the graviton (spin 2). This is the highest spin particle. Identifying *Akasha* with space requires little imagination. The Vedic concept of *Akasha* is that which contains and thus holds everything together. Einstein's incorporation of time as a fourth dimension has philosophical implications that modern Physics and Philosophy has not been able to really fathom and the questions about it are integral to the unification of Gravity and Quantum Mechanics, which has not been accomplished. Perhaps, this is not unrelated to the questions that could arise in considering the relationship of *Kala* and *Akasha*. After all, the Divinity is both omnipresent, containing everything that is, and time itself. One could cite Chapter 11 of the *Bhagavad Gita*, the *Vishvarupa Darsana Yoga*. Einstein showed that space and time were not separate entities but interwoven; a change in space would lead to a different view in time. In the *Vishvarupa Darsana*, Arjuna sees the universe but it is also dynamic in time. He sees the present and the future and could certainly have seen the past.

The Issue of Free-will

The core issue is whether everything is determined. If space-time is a reality, then all of the past and future of every point in the space-time already exists in it and thus would be, in some sense, determined. In fact in mathematics and Quantum Mechanics, if one knows all about any point in continuous space, then one can know all about every other point. It remains an open question if that can be applied to the universe as

we do not know if space-time can be considered continuous. Quantum mechanics introduces its own mysteries. On the Quantum level, time is reversible or processes are reversible in time and every outcome has its own probability, even if microscopic.

'In classical physics, the past is assumed to exist as a definite series of events, but according to quantum physics, the past, like the future, is indefinite and exists only as a spectrum of possibilities. Even the universe as a whole has no single past or history'. (*Hawking & Mlodinow, 'Scientific American', October 2010.*)

Any attempt to measure the system to determine the outcome, acts to cause a particular outcome. It is a little like when you look at someone from behind and they feel it and turn to see who is looking. We have to invoke the Quantum level to explain this and many other remarkable facets of conscious experience. Recent research is starting to confirm that biological material can sense changes in other biological material, even at a significant distance.

One is reminded of many Vedic verses including Yoga Sutras 111.16 'knowledge of the past, present and future can be derived through *Samyama* on the three *Parinamas* (changes)'. In the commentary of Vyasa, the three *Parinamas* are given as *Dharma*, *Laksana* and *Avastha*, which can be readily interpreted as the present moment (*Laksana*) as it meets the past (*Dharma*) and future (*Avastha*). This shows the meeting of space and time. References like Rig Veda 10.13.01 '*amrtasya putrah'* point at the Vedic seers vision of the Quantum level, the level where immortality can express itself in phenomena such as superfluidity. It is interesting to note that Einstein describes how he got his ideas as a process of inner cognition, with mathematics coming later. Other great Physicists drew on their inner cognitions.

"I maintain that the cosmic religious feeling is the strongest and noblest motive for scientific research," said Einstein

Vayu

The next step of the Quantum fields view is to the Gravitino. This is a proposed particle of spin 1 1/ 2. It has the remarkable property that when its internal quantum state changes it actually moves in space. In all other particles, an

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internal quantum change has no inherent effect on their position or velocity. The Gravitino also allows for both attractive and repulsive gravitational forces. Scientists have great difficulty explaining Siddhis like levitation. Perhaps, this mysterious force, which is so little understood in Physics, plays some role. Certainly, its power to move by virtue of an inner quantum change brings to mind the power of *Vayu*, which empowers all motion.

Agni, Jala and Prithvi

The spin 1 particle is the photon, which propagates light and heat. No argument is needed to associate this with *Agni*. Spin 1/2 particles include the electron, the proton and the neutron as well as their constituent parts, the quarks. Indeed all the ordinary matter with which we are familiar. These particles are perpetually in motion. Thus it may be reasonable to associate them with *Jala.* The spin 0 particle is the Higgs boson, recently discovered, which provides mass to the other particles. It then corresponds to *Prithvi.* I have presented this comparison to gatherings of scientifically qualified people and they found it most striking. The concept of five elements is very basic to Vedic Science and many modern intellectuals have long dismissed it as superstition. They believe that what they know is different from the understanding of the ancients and that it is inherently more informed. However, that is largely a result of an incomplete knowledge of nature. A more complete understanding of Physics shows us that the five element concept can be said to be fundamental to modern science as well. The universe is made of many particles but it is not a random zoo. They fall in distinct symmetries and their interactions as well as their existence are governed by the five fields just described.

In *Jyotisha,* the *tattvas* are a most fundamental concept. Without a strong understanding of their role, it is hard to understand the teachings of the sages. They appear

again and again in every part of the subject. Below, I will give a specific example.

Force	Mediated by	Spin	Bhuta/Tattva
Gravity	Gravitation	2	Akasha
Gravity	Gravitano	312	Vayu
Light	Photon	1	Agni
Particles	Electrons, etc.	1/2	Jala
Mass	Higgs	0	Prithvi

Table Showing how the Quantum Fields relate to the Tattvas

Bose-Einstein Condensates

The quantum world is truly magical and hard for the regular imagination to fathom but it can offer an explanation for many inexplicable phenomena we observe. Computers work because of the power of the transistor, which depends on quantum mechanical tunnelling. Electrons passing through a 'wall' even though they do not have sufficient energy to jump over it. Recently (Jan. 9, 2014, *Nature Communications*), it has been proposed that subtle macroscopic quantum effects can explain photosynthesis. When chemists tried to explain how plants turn light into energy, the numbers did not add up. Plants were too efficient. Now, we know that large organic molecules can support macroscopic quantum states which mediate the necessary transformations. For non-organic materials, we usually have to cool them to very low temperatures to achieve the level of orderliness needed for the quantum state to appear. Organic systems contain a high level of structure at room temperatures, which is likely responsible for many quantum effects. The molecules (Chromophores) mediating the absorption of light energy exhibit a superimposition of quantum states, a non-classical condition which is what all quantum computers are trying to achieve. While engineers struggle to create such states, every leaf effortlessly utilises them. Using a similar mechanics inside their retinas, birds can literally see Earth's magnetic field.

Humans also use these states. How else can we explain the small instances of telepathy we all experience. Who has not thought of someone just before they phoned? The ancients did not have mobile phones; they developed their brains so they effortlessly knew whatever they needed to know or communicate.

Albert Einstein and Satyendra Nath Bose.

The key to all this is the Bose-Einstein Condensate. We all know about the great Albert Einstein but Satyendra Nath Bose, an Indian physicist who was largely self-taught, was the first to develop the theory that explains all these phenomenon. His paper was rejected in the UK but Einstein thought it was brilliant, translated it into German and had it published by a leading German journal. After that, Bose was invited to conduct research at Cambridge University.

In nature there are two kinds of particles, fermions that maintain difference and bosons (named after Bose) that are the epitome of harmony. If fermions, like electrons, pair up (become entangled) then they can act as bosons. A gas of bosons that enters its ground state, the lowest energy state, forms a Bose-Einstein Condensate (BEC). Amazingly, in a BEC the atoms or particles stop acting as individuals, in fact they cease to be distinguishable individuals in every respect and become like a single atom 01. particle. Normally the lowest energy state is only attainable at very low temperatures but it is increasingly believed that a BR: can form at normal

temperatures when the right structure exists. For example, in a very thin layer of material or in the presence of large organic molecules like DNA. It is likely that we will soon start to realise that numerous aspects of life depend on this 'shift to infinity' within organic systems. Photosynthesis and bird navigation have been mentioned. It has also been shown that extremely minute changes in gravity and other fields can be detected, not explicable by ordinary Physics or Chemistry.

The Rationale of the Vimshottari dasha

For a long time, *Jyotishis* have wondered about how the sages derived the *Vimshottari dasha*. It works like magic in human life but why and how were the key numbers derived?

Two core concepts in *Jyotisha* are the *tattvas* and directional strength, *Dig Bala. Dig Bala* is, in fact, based on the tattvas but it makes the five *tattvas* relate to the four angles. There are five *tattvas,* which can be connected to the various *grahas*. Then there are four *kendras* or angles. Planets become powerful when they are in the *kendra* of their own *tattva.* There are nine planets or *Nava Graha* and they are assigned to the five *tattvas* as follows: *Brihaspati* (Jupiter) is given *Akasha; Shani* (Saturn) and *Rahu* are Vayu; Surya (the Sun), *Mangala* (Mars) and *Ketu* are *Agni graha; Chandra* (the Moon) and Shukra (Venus) are *Jala,* and *Budha* (Mercury) rules *Prithvi.* These are then assigned to the four *kendras* such that there are two or more *grahas* in each *kendra*. *Jala* is in the fourth house, Vayu in the seventh, *Agni* in the tenth and the other two *tattvas* gain strength in the *Lagna*. *Brihaspati* rules the first *tattva* and *Budha* the last so their meeting in the *Lagna* is deeply rational. The derivation of the sequence of the *Vimshottari dasha* is based primarily on the speed order of the grahas and is detailed in the book Yoga of the Planets. The placement of *Mangala* in the centre is hinted at in many places in the Vedic Shastra and appears naturally. This can also be derived from its central position in the *Sristi* order of creation as shown above. The other key factor is that the *tattvas* of the *grahas* in the sequence oscillate between opposite *kendras.* In fact, this sequence can be derived from the astronomical (speed) order of the planets and the *Sristi* order as long as the *tattvas* of the planets is

known and these can be assigned to the planets quite naturally based on their appearance. For example, Mars is red like *Agni.*

Beliefs

People have many reasons for believing in something. If a respected elder or a Shastra says something then one may believe it. Faith also grows with experience. When we do something or follow some advice and get results, we start to believe in it.

Once one has seen that all the viewpoints are entirely natural and inherent in the nature of things with one or other predominating at the particular moment of birth, one becomes ready to accept, or at least tolerate, all of them. This is how the Sanatana Dharma became the most tolerant of all ways of life and thinking. The wise leaders of the society could not reject anything that they could see was a natural projection. It had to be given its place as long as it did not disturb the peace of others.

It is generally considered that the *grahas* do not dictate our beliefs, rather, as these are seen at the moment of birth, the tendencies they represent must stem from before birth. In this view, one incarnates at a time which is suited to the destined mentality. As the life proceeds, various factors can herald changes of view or show an unflinching position. The *dashas* and transits can promote one tendency over another.

As a scientist, I find it astonishing that the map of the sky is capable of showing us so much but I recall the words of a great Physicist who remarked on the incomprehensibility of the human mind understanding the vast universe. The mind formulated the axioms of mathematics and with that we have gained a remarkable level of understanding of physical reality.

'The miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is a wonderful gift which we neither understand nor deserve.' *Eugene Wigner (1959)*

How is it possible? If we can understand the Cosmos to such an extent, even at this moment in history, then surely the ancients could have been able to read the clues nature gives to understand it and our lives. If we calmly assess the rational nature of their teachings, we can have an open mind to accepting them. ●