

***Cosmic Dynamo***

*Dominic Dibble*

In 1781, William Herschel was in the back garden of his house in Bath. Using a telescope of his own construction, he observed a new object, which at first he took for either a nebulous star, or a comet. Further observations by himself and others, including the German astronomer Johann Bode, who helped confirm its orbit, led to the conclusion that he had discovered a new planet. It took a little while for the name of this new planet to be settled. Herschel wanted to call it *Georgium Sidus* or the Georgian Star, in honour of his patron, King George III. However, this proposal was not popular outside of Britain, and a number of competing proposals emerged, including *Herschel* and *Neptune*. It was only in 1850 that the last holdout, Britain's Nautical Almanac Service, converted to the suggestion made by Bode in 1782, namely, Uranus.

Before the discovery of Uranus, the astrological ruler of Aquarius was given as Saturn. So we may imagine that the introduction of this new and potent energy into the reckoning of astrologers would be something of a revolution. In fact, this is quite appropriate, since the planet itself is associated, among other things, with revolutions. Both the American and the French revolutions occurred around about the time of its discovery. Before delving further into its astrological side, it's worth taking a look at it from the side of astronomy, as it has some truly extraordinary properties.

Uranus is sometimes described by astronomers as an "ice giant", which might give the impression that it is a cold world. And indeed, the temperature in its upper atmosphere is extremely low. However, as with all giant planets, as one descends, the temperature and pressure rapidly increase to levels that would demolish any scientific probes, which means that much about the Uranian interior is uncertain. The "ice" in "ice giant" actually refers to a relatively high concentration of chemicals, such as water, ammonia and methane, that have a melting point above 100 Kelvin – that's minus one hundred and seventy-three degrees centigrade – which probably sounds a rather strange use of ice to the layman's ear; particularly as, given the high temperatures and pressures in the interior of Uranus, these chemicals are usually in the form of an extremely hot, dense fluid! - more on this fluid later on. Another unusual fact: every other planet has an axis of rotation that is more or less vertical, relative to the plane of the solar system, but Uranus is the only one with an axis of rotation that is virtually horizontal. Explaining this is a tough problem for astronomers. What this means is that, over the course of its eighty-four year orbit, the north pole is illuminated continuously for half of the time, and the south pole for the other half, making Uranian seasons peculiar. And from the angle of astrology and cosmic interconnection, we may note that the pole star of Uranus, if one exists, will be found in a quite different region of space than the pole stars of the other major planets; and the familiar constellations of the zodiac will pass overhead at the poles.

Speaking of poles, here on Earth we are used to the idea that the magnetic poles are found very close to the geographic poles. In fact, this is not always the case, as the Earth's magnetic field can reverse polarity, and during these reversals, the magnetic poles could be almost anywhere, at least for a few years. However, Uranus manages to be even stranger. Not only are its magnetic poles 59 degrees away from its geographic poles, but its field also does not originate from the planetary centre! This wasn't known until 1986, and was completely unexpected. Scientists have had to work very hard to figure out possible explanations. While here on Earth, the magnetic field is thought to be generated by molten iron, set in complex motion by the heat of the inner core and the rotation of the planet, on Uranus, the fluid is the previously mentioned mixture of water, ammonia and methane. Some of you may already be familiar with the amazing electrical properties of water – there was a panel discussion at the Arcane School conference two years ago. Ammonia is similar to water in some respects in terms of electrical

activity. The bottom line is that much of the interior of Uranus is probably a water-ammonia ionic ocean. There may be more exotic materials: superionic 'hot ice', kept solid by terrific pressures; and even an ocean of liquid diamond, with diamond icebergs! Whatever the actual composition of the interior, it is clear that there is electrically conducting fluid of some type circulating within Uranus, as science has no other way of explaining the magnetic field. Electricity in motion – this brings us to the point where the outer, scientific understanding and the inner, esoteric aspects of Uranus converge. Here are two passages which reveal this connection: "Akasha, in manifestation, expresses itself as Fohat, or divine Energy, and Fohat on the different planes is known as aether, air, fire, water, electricity, ether, prana and similar terms. It is the sumtotal of that which is active, animated, or vitalized, and of all that concerns itself with the adaptation of the form to the needs of the inner flame of life." (*Cosmic Fire*, pp.43-4)

"Uranus (7th)—The School of Magic of the tenth order. It is sometimes called 'the planet of the violet force,' and its graduates wield the power of cosmic etheric prana." (*Es. Astro.* p.693)

Before we explore the electrifying power of Uranus further, let's pause for a few moments of silence, and then say together the Affirmation of the Disciple.

I am a point of light within a greater Light.  
I am a strand of loving energy within the stream of Love divine.  
I am a point of sacrificial Fire, focussed within the fiery Will of God.

And thus I stand

I am a way by which men may achieve.  
I am a source of strength, enabling them to stand.  
I am a beam of light, shining upon their way.

And thus I stand.

And standing thus, revolve  
And tread this way the ways of men,  
And know the ways of God.

And thus I stand.

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As the Tibetan notes, Uranus is particularly associated with the energy of prana, which is the dynamic aspect of the ether, the ether in motion. And astrology also links Uranus with electricity. Indeed, we might particularly associate it with electricity in motion. In 1800, just 19 years after Uranus entered human consciousness, Alessandro Volta invented the first device to produce a large electric current. What was this revolutionary device? Why, the humble battery. In so doing, he initiated the era of electrodynamics. Before that time, scientists had been aware of electrical effects, and had produced devices which could store charge. But Volta was the first to make something which could reliably and continuously move charge from one point to another, and in so doing, to perform work – lighting a bulb, producing heat etc.. The 19th century was the century of many other great electrical scientists - Faraday, Davy, Ampere, Oersted, Gauss, Ohm, Maxwell and Tesla, to name only the more famous. By the end of that century, electric light was available in many public buildings – indeed, we are within ten minutes walk of the first public building in the world to be fully lit by electricity, the Savoy Theatre. The twentieth century saw this revolution spread to the home, and now in the twenty-first century, the whole fabric of our modern civilisation is unthinkable without the energy that electricity provides at the flick of a switch.

In a certain sense, we have reached a point where we have come full circle, and the battery is again centre stage, from the smallest to the largest scale. At the level of the individual, all our mobile devices are powered by rechargeable batteries; and at the macro level, the whole question of reliable *storage* of electricity is becoming increasingly important, particularly in the field of electricity generated by renewable resources such as wind, sun and tide. Incorporating this power into the grid is complicated by the potentially large variability in output that these sources produce. So it becomes important to find ways to store this energy and release it in predictable amounts when it is needed. Another dimension is home generation and storage of electricity. The business magnate, engineer and inventor Elon Musk is spending five billion dollars to build a vast factory for rechargeable batteries in Nevada. These batteries will be used both for home storage, and also in the electric cars manufactured by one of his companies, Tesla. The global thirst for electrical power is set to grow, as more and more of the developing world seeks to move into a future of increasingly available energy.

Into this dynamic and rapidly evolving picture a small company in Ireland steps with a potentially revolutionary claim – electrical power that is essentially free. In other words, they claim to have discovered a way of generating electricity that requires no external power source. Some of you may have heard before of Steorn, an engineering company. Their initial claims of free energy centred on a magnetic effect which they discovered by accident, and they have now produced a charger and a phone that both use an electret, which contains a ‘frozen’ electric field. Since these devices are now available for purchase, it should not be long before the truth of their claims can be judged. If true, the social and economic effects would be revolutionary.

We have talked in broad terms about the effects of electricity on society. But what exactly IS electricity, this mysterious power that is somehow governed by Uranus – at least, what is our current understanding of electricity on the physical plane? Well, even the least scientific among us has almost certainly heard of the electron, the tiny little particle which is responsible for the electric currents in wires. From the standpoint of esotericism, we might say that the electron is one of the lowliest of the elementals – small, light, ubiquitous. Yet just as in the case of water, a chemical that is so widespread as to seem at first glance unremarkable, the electron is astonishingly important to the workings of the cosmos. When electrons gather together and start working collectively, they are responsible for virtually every single physical phenomenon you can think of. The scientific theory which describes their behaviour is known as Quantum Electrodynamics, and as you might expect, once the word “quantum” appears, things start to get weird. Indeed, one of the fathers of the theory, Professor Richard Feynmann, described it as “The Strange Theory of Light and Matter”, in his book of the same name.

Now it won’t have escaped your notice that Feynmann doesn’t say anything about electrons in his book title, except indirectly, for they are part of the matter side. What the title hints at, and the book explains, is that the way in which electrically charged particles such as electrons interact with one another is purely and simply through particles of light – to give them their fancy scientific name, photons. To say it in even fancier terms, photons are the force carriers of the electromagnetic field – in other words, *whenever* electrically charged particles are attracted to each other, or repelled from each other, what they are actually doing is exchanging photons.

Now that might sound counter-intuitive. Even those who know little of physics may know that photons are meant to be massless. How can exchanging particles with no weight change the behaviour of particles which DO have weight (albeit very small)? Well, at this point a physicist would probably throw up her hands and say, well actually, your notions of what ‘weight’ means in this context are simply wrong, and here’s why – pulling from her pocket a whiteboard marker, and scribbling something unintelligible on the nearest available whiteboard. But an esotericist, who understands that life and consciousness pervade the universe, would instead be inclined to see the photons as signals, as communication among the tiny lives on how they ought to behave, and wouldn’t feel obliged to scribble

anything. Which is not to say that the mathematical scribbles are unimportant – they help *predict* the observed behaviour. But whether they actually reveal the meaning and purpose of the behaviour is another matter. The physicist can write down with exquisite accuracy the actual moves of the dance – but she is not privy to the reasons why the dancers chose this particular dance.

In fact, there is another way of visualising the interaction between electrons and photons that may make more sense both to the physicist and to the esotericist. This occurs when we shift from talking about electrons and photons as *particles* to describing them as stable ripples in underlying *fields*. For the electrons, this is the electron field; for the photons, this is the electromagnetic field. Both of these fields pervade all space and time and are in ceaseless interaction. And when we consider that electrons and photons are almost always acting collectively, in electric currents and beams of light, then a picture emerges of interacting patterns, like two correlated shimmering mandalas. And electric currents and beams of light are two of the *simpler* behaviours of electrons and photons. We have not talked about superconductivity, where electrons act in pairs, or the many different ways in which electrons act in chemical bonds, or the cascading amplification in a laser beam, or etc., etc., etc.. Indeed, all of the discoveries regarding electricity, magnetism and light over the last two centuries could be seen as simply uncovering more and more detail in these dynamic universal patterns. Is it possible that Steorn have uncovered yet one more detail, one with the potential to revolutionise our approach to energy? Only time will tell.

As we noted earlier, we can speak of Uranus as the Orchestrator of these shimmering mandalas. This is true because of its connection with cosmic prana, and also because of its association with the Seventh Ray, which is the ray of rhythmic ritualistic motion. We have been looking at this motion through the lens of science, which is appropriate because Aquarius is one of the three constellations which admits the Fifth Ray of concrete science into the solar system. Yet the Seventh Ray also expresses the dynamic activities of the other rays, as they emerge on the physical plane. As the Tibetan puts it, "When the light of the seven Rays is blended with that of the seventh Ray, then light supernal can be known." He explains this further in the following passage, where the importance of the Seventh Ray in the Aquarian Age is detailed:

"The *Procedure* required for the manifestation of 'light supernal' takes place when a transitory point of synthesis is reached and the seven energies are blended into one great energetic Light. These seven energies have ever, unitedly, created the 'light supernal' upon the highest levels of divine expression, but that revealing light only finds *Location* when the seventh Ray of Ceremonial Order is active and in process of manifestation in the three worlds, and necessarily, therefore, upon the seventh plane, the physical plane. Such a manifestation inevitably takes place in moments of planetary crisis, when the seventh ray is active and when the Sun is in Aquarius. Such a combination of relationships is being established now, for the seventh ray is rapidly coming into manifestation and the Sun *is* in Aquarius, for the Aquarian Age is just beginning. The *Objective* of this combination... is to bring about illumination and the establishment of order upon the Earth."

(*DINA* Vol.II, pp.425-6)

So let us now work in meditation, bearing in mind this future of physical and spiritual illumination, under the aegis of Aquarius, with Uranus as the dynamic coordinator of the electrical elementals. Our seed thought is, "Water of life am I, poured forth for thirsty men."