

RELATIVITY DAWNS ON EINSTEIN

By Nick Kollerstrom

'The year 1905 was the *annus mirabilis* both for Einstein and for physics. It was in that year that Einstein, at the age of twenty-six, published three papers, each epoch-making in its own way' (1).

When asked in later years what was special about his mode of approaching physical problems, Einstein would stress his ability to indulge in nonverbal thinking. As a youth he used to dream about travelling on a beam of light and wondered how the world would appear from that vantage-point. One physicist said that, 'In a kind of miraculous way, in general relativity, the curvature tensor in Riemannian geometry and the energy momentum tensor in physics joined.' We don't here need to follow the maths! What matters, is that all the evidence needed to frame the new theory had been around for at least fifteen years – but, it could not be envisaged until two outer spheres came into their opposition.

The twentieth century was ushered in by a slow, long-lasting opposition between the two outermost known spheres, Uranus and Neptune, lasting from 1905 to 1910. This gave birth to what soon came to be called the Theory of Relativity - together with cubism in art, a-tonal music and free-association in literature. But, few could understand the new theory, and the new art-forms were quite a strain. Now that these two spheres have met together in 1993, it is of interest to look back at the previous opposition.

In that year 1905, Albert Einstein was taking a walk in the Swiss Alps, near Berne. He had paid a somewhat unexpected visit to his friend Besso. They had a productive discussion, and many years later Einstein recalled how:



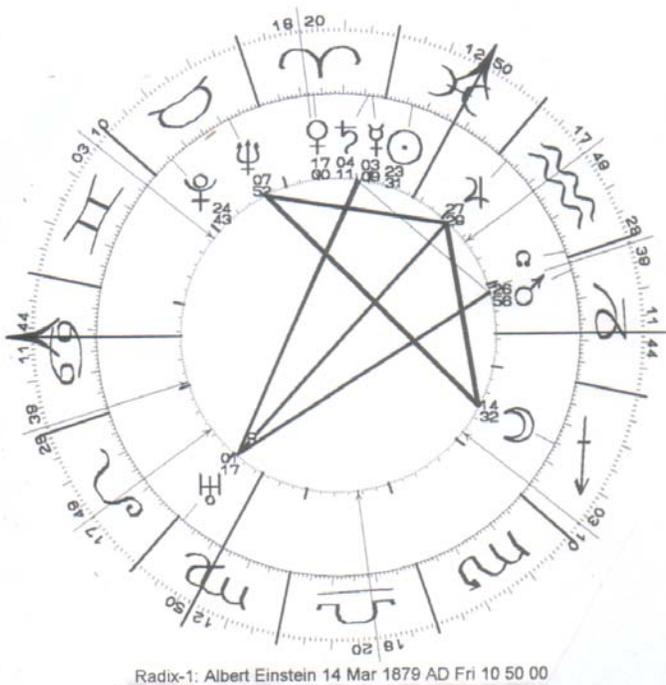
'I could suddenly comprehend the matter. Next day I visited him again and said to him without greeting, "Thank you, I've completely solved the problem." My solution was really for the very concept of Time... With this conception, the foregoing extraordinary difficulty could be thoroughly solved. Five weeks after my recognition of this, the present theory of special relativity was completed.' (2)

If that laconic remark was all Besso was told, it is hard to blame him for not recording the epochal date in his diary. Somewhere around May 20th, 1905, Time and Space were fundamentally altered, indeed were never the same again. Einstein's

completed paper on what later came to be called the Special Theory of Relativity was received on June 30th. Assuming that he posted off the paper upon completing it, then going back six weeks gives us the weekend of 20th-21st May, it seems a reasonable candidate for his eureka insight. (3)

Uranus was pulling in opposition to Neptune. For a theory which dissolved the intelligibility of the universe, Neptune-Uranus has to be the appropriate combination. Before the strange birth at this opposition, Matter was Matter, Space was Space and Time was Time, but after it they had all somehow changed. Potent new equations, incomprehensible to all but a select priesthood of the new arcana, warped the fabric of the old Newtonian universe. By the completion of the theory on June 30th, that opposition had moved (temporarily) out of aspect, ie beyond a 5° orb, as the birth-process was completed. This was the first such opposition since the discovery of Neptune the previous century.

'...in his student days Einstein had been a lazy dog. He never bothered about mathematics at all,' recalled Minowsky, one of Einstein's teachers at the Zurich Technical Hochschule (4). Unless we take into account the profound alignment of Einstein's chart to the grand opposition taking place in the sky, we'll never see why he in particular created the new synthesis. Ever since 1887, when experiments by Michaelson and Morley failed to find any 'ether-drift' (ie, they found no difference in the speed of light in different directions in relation to the Earth's movement through space), all the necessary ingredients for the new synthesis had been available.



The orientation of Albert Einstein was to the outermost spheres, beyond the merely personal. Asked to compose an autobiographical statement, he wrote: 'Even when I was a fairly precocious young man, the nothingness of the hopes and strivings which chase most men restlessly through life came to my consciousness with considerable vitality,' (5) and described his endeavour to free himself from the 'merely personal', by contemplation of a non-human external world. Half of this autobiography is devoted to equations!

Figure 1: Natal Chart of Albert Einstein, showing quintiles plus opposition aspects

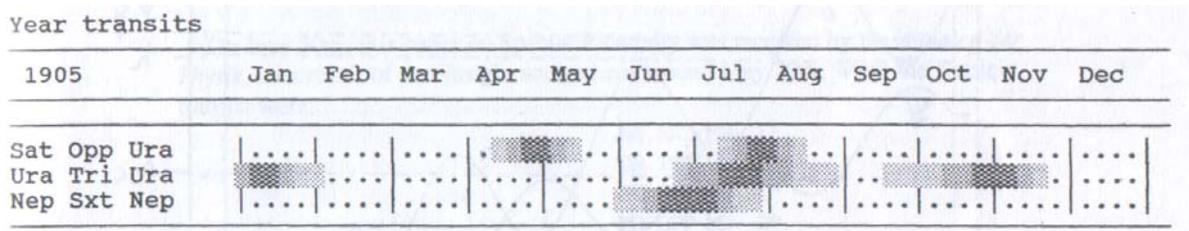
The chart of Albert Einstein (Fig 1) shows what we may call the 'quintiles of creativity' as symmetric about a Jupiter-Uranus axis. The chart depicts only quintiles and biquintiles aspects, with orbs set rather wide to show this symmetry, plus one opposition. Does the exquisite symmetry of this chart indicate to us something of Einstein's view of the world?

'To know that what is impenetrable to us really exists, manifesting itself as the highest wisdom and the most radiant beauty, which all our dull faculties can comprehend only in their most primitive form, - this knowledge, this feeling, is at the centre of true religiousness.'

Einstein, 'The World as I see It'.

The lunar nodes crossed over the Jupiter-Uranus 'axis' of Einstein's chart during the 1905 period of inspiration, as too did Saturn. Uranus and Neptune form a trine roughly symmetric about the ascendent. The theory dawned upon him in 1905 as Neptune had moved round a sextile to meet his ascendent, while Uranus had moved round a trine to meet his descendent (one moves at twice the speed of the other).

Figure 2: EINSTEIN'S URANUS-TRINE RETURN

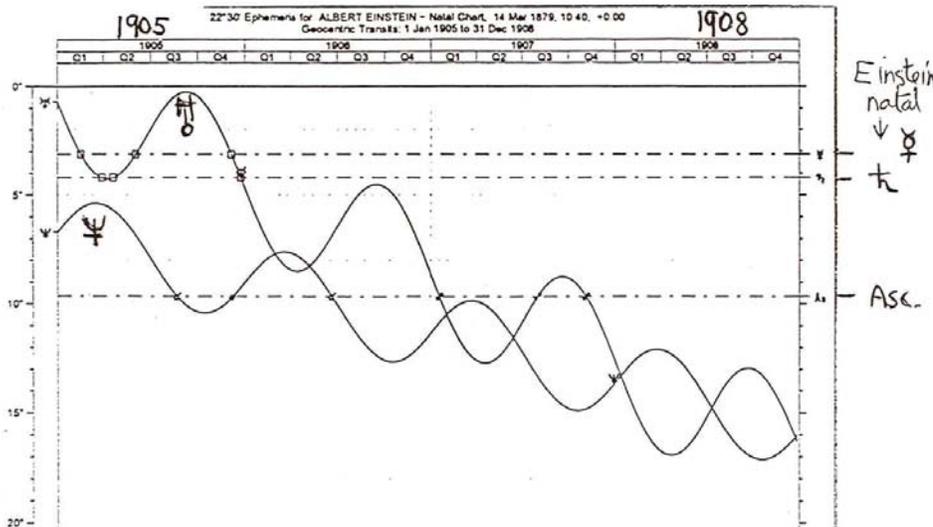


A diagram of the Einstein transits through the formative year 1905 here shows his triple Uranus-trine return (a triple 'return' is normal for outer planets), closely shadowed by the Neptune-sextile return. (The figure shows these transits to one degree of orb, whereas a somewhat wider scope of around three degrees, is more usual for transits) This shows us how the Uranus-Neptune opposition then occurring was linked to his own chart. Saturn crossing over his Uranus-Jupiter axis is also shown.

The slow-moving opposition of Uranus and Neptune chimed almost a dozen times over the next five years. On their first encounter around March 17th 1905 they approached within a degree of each other. This was the date on which Einstein completed his paper concerning the 'photon' as he called it, which was the quantum of light, and for which he was later awarded the Nobel Prize. The great opposition in the heavens was in square to Einstein's Saturn and Mercury positions, closely conjunct in his chart. Over the next year or two, 1906-7, the opposition was criss-crossing the Einstein Ascendent.

In April of that year he finished his PhD and submitted it, and sent off his paper introducing the 'photon' of light. Then some weeks later his relativity paper was finished at the second of the Uranus-trine returns. The third Uranus-trine return chimed as he was formulating that most famous of equations, $E=mc^2$ (6). The paper containing it was received by the *Annalen der Physik* on the 27th of September, 1905. It is believed to have been composed a month or so prior to that date. Saturn first met his Jupiter in March, then moving retrograde again met it in September, presumably as the historic equation was being composed.

Figure 3: the Neptune-Uranus Opposition of 1905
shown in '4th Harmonic' mode



The slow meeting of the two outer spheres is here shown. Horizontal lines show certain features of the Einstein chart: his Ascendant, plus his Saturn-conjunct-Mercury at right angles to it. (In this 'fourth-harmonic' diagram, oppositions and squares appear as conjunctions. In the spring of 1905, as the opposition came within

a degree of exactitude, being then in square to his Saturn and Mercury, Neptune was spot-on Einstein's natal Uranus-Neptune midpoint, at four and a half degrees of Cancer, then later in the year it started crossing over his Ascendant.

The Saturn-conjunct-Mercury in his chart points to his slow but thorough mental activity, plus 'a propensity to solitary habits' (7):

'When I asked myself, he confided to a friend, 'how it happened that I in particular discovered the Relativity Theory, it seemed to lie in the following circumstance. The normal adult never bothers his head about space-time problems. Everything there is to be thought about, in his opinion, has already been done in early childhood. I, on the contrary, developed so slowly that I only began to wonder about space and time when I was already grown up. In consequence I probed deeper into the problem than an ordinary child would have done. (8)'

Historians have not had a lot more than this to go on, as regards the springs of Einstein's creative power - and that isn't much! Earlier, he had been 'a backward child, a slow developer, a drop-out from school' (9).

Saturn was crossing his chart's major axis, having just formed an opposition to his natal Uranus. That Saturn was in trine and sextile to the ongoing Uranus-Neptune opposition, and conjunct the lunar-node axis, as both were passing over his chart's Uranus. The paper he produced contained no references nor did it acknowledge anyone, except his friend Besso, also working in the Patent Office. It was a supreme example of Pure Thought.

On June 30th, this paper on Special Relativity was received by the *Annalen der Physik*, as a result of that insight somewhere around May 20th, when the Einstein transits were:

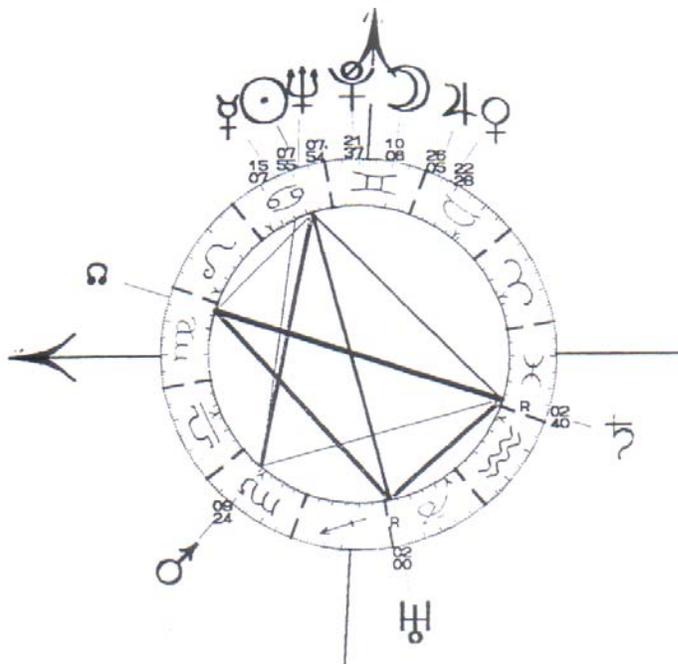
NE SXT NE 1°
 UR TRI UR 1°
 JU SQU JU 1°
 MO OPP MO 2°

In addition, he had the North Node conjuncting his Uranus to half a degree, Saturn (conjunct the South node) opposing that Uranus within 1°, and Uranus squaring his natal Saturn to 2°. He was then 26 years old, when Neptune had gone round almost one-sixth of its huge orbit (its sextile return), and Uranus one-third of its 84-year cycle (its trine return). These transits are impressive, and appropriate for the event.

The lunar nodes are linked to the notion of fate and destiny. They are the points on the zodiac where eclipses happen. To have the nodes exactly aligned with such a potent axis of symmetry in one's chart, on the day one's theory is completed, is destiny in no uncertain terms. Six weeks earlier at his E-moment it was getting close, being four degrees away.

Fig 4: Relativity Theory received (30 June 1905)

The chart of June 30th (Fig 4) shows a 'mystic rectangle,' as could symbolise the four



dimensions of space-time in the new theory, aligned both to Einstein's ascendent and to the 'main axis' Jupiter-Uranus of his chart. With rather wide orbs, it also shows a grand trine aligned to his chart. Einstein had Pluto square to his Jupiter, and on June 30th Jupiter and Venus were (within 4°) conjunct over that Pluto. Also, the Sun (and Mercury) were chiming in conjunction with Neptune, and together they transited the Einstein ascendent (3°). In other words, they were together occupying the same part of the zodiac, as had been rising when Einstein had been born. To have the Sun and Neptune jointly cross one's ascendent is an

illuminating and somewhat transcendental experience.

Those are some of the more remarkable points in a compelling alignment between a natal chart and a gestation-process for a theory. It may here not matter that we lack the exact day for the realisation, as the planets that really matter here are the outer slow-moving ones. The transits are more exact and notable at the time when the theory was presented to the world, than at the more subtle and private moment of realisation.

At the mysterious heart of the scientific creative process are the prime-number aspects five and seven, the quintiles and septiles, clashing with the traditional symmetries of the zodiac, its twelvefold structure. Uranus and Neptune have quintile and septile aspects in Einstein's chart: Neptune with two quintiles as mentioned, and Uranus a quintile and a septile. The eureka-date of May 20th (or thereabouts) was strong in both of these aspects.

In 1907 Einstein 'made the first important strides towards the general theory of relativity' (10), that linked gravity to his speed-of-light equations. This year was at the centre of the great opposition, while it was criss-crossing his own ascendent. Synchronously, the modern art movement of Cubism began in this year, though apparently not consciously influenced by the new abstractionism in space and time that physicists were coming up with (11).

Fame at his Uranus-Opposition

A test of the Theory of Relativity was made, at a solar eclipse in May 1919. This revealed that light bent slightly as it went past the Sun. This conclusion was announced at a joint Royal Society-Royal Astronomical society meeting on November 6th, 'the day on which Einstein was canonised' (12) in the words of his biographer. Uranus became stationary on that very day! Not only that, but Einstein's natal Jupiter was at 27°29' Aquarius, while Uranus stationed at 27°46' Aquarius: a conjunction of *scientific* precision. The nodes at 25° Scorpio were then conjunct Einstein's Pluto, in square to his Jupiter. A square pattern built up in the heavens in relation to the natal chart, on the day when Einstein's theory became firmly established.

'REVOLUTION IN SCIENCE
NEW THEORY OF THE UNIVERSE
NEWTONIAN IDEAS OVERTHROWN'

trumpeted *The Times* of November 7th, 1919. 'Space "warped"', noted a laconic subheading. There was a lunar eclipse that day. Newspapers had to grapple with the fourth dimension, as Uranus reached the axis of Einstein's chart, opposite its natal position. Jupiter is here appropriate in terms of fame and recognition arriving.

'Press announcements such as these mark the beginning of the perception by the general public of Einstein as a world figure' to quote Einstein's biographer. For 'the suddenly famous Mr Einstein', his Uranus-opposition marked his emergence into the glare of publicity, the zenith of his career - a powerful vindication of the Tarnas thesis (13). His confidence is well shown by an anecdote from this period: asked what would happen should the experiment fail to confirm his theory, Einstein replied: 'Then I should feel sorry for the dear Lord. The theory is correct.' A mass meeting was arranged against general relativity theory in Berlin in August 1921, which Einstein attended (Uranus opposite his natal Uranus to 2½°). He sat in a box and is said to have enjoyed the occasion. At the beginning of this we described inspiration dawning upon Einstein at his trine position, and that reached fulfilment at the opposition: a 60° angle between them. Thereafter, despite every encouragement, Einstein accomplished little by way of scientific work.

Einstein wrote a letter to President Roosevelt, urging that the atom bomb be constructed. This letter was delivered to Roosevelt on 11 September 1939, and its effect was decisive (14) - to Einstein's undying regret in later years. Mars was then at 26°14' of Capricorn, within arcminutes of his natal Mars.

The above was given as a talk to the Astrological lodge in London in 2007.

Postscript on quantum theory

Professor Richard Tarnas has commented on Einstein's refusal to accept quantum theory in 1927 ('God does not play dice with the universe'). While not directly relevant, a quote from Tarnas' classic opus may be not without interest:

'The inner contradiction between Einstein's revolutionary impulse and his intellectual conservatism has striking astrological correspondences. For while the expansively inventive, sovereignly revolutionary elements of his mind suggest a correspondence to his natal Jupiter-Uranus opposition (which at the times of each of his major theoretical breakthroughs was being transited by either Uranus or Pluto), his long-sustained final conservatism vis-à-vis quantum theory appears to be a reflection of his natal Mercury-Saturn conjunction, exact to 1°. Saturn's effect on the Mercury principle of intellect is suggested not only in Einstein's unwillingness to accept the radical theoretical uncertainty and metaphysical freedom implied by the Bohr-Heisenberg paradigm but also in his dogged and unsuccessful effort over the last several decades of his life to forge a unified field theory. (15)

References

- 1) S. Chandrasekhar, *Truth and Beauty, Aesthetics and Motivations in Science* 1987, p.60.
- 2) A.Pais, *Subtle is the Lord', the science and life of Albert Einstein*, Oxford 1982, p.139. Of this day Einstein later recalled :'That was a very beautiful day when I visited him (Besso)...' Pais remarked that Einstein's total concentration on relativity followed immediately upon his completing several other projects, the last of them on May 10th.
- 3) In 1922 Einstein gave a lecture in Japan, when he *first* related the above incident.
- 4) Quoted in Arthur Koestler, *The Act of Creation*, 1964, p.175.
- 5) Albert Einstein, *Autobiographical Notes, A Centennial Edition*, 1979 Trans. & Edited by P.A.Schilpp.
- 6) One expert, H.J.Haubold, advised the writer that the idea of $E=mc^2$ was formulated 'somewhere in between' the 30 June paper and its presentation in the 27 September paper, of 1905. There is no more definite information available.
- 7) Charles Carter, *The Astrological Aspects*, 1930 p.105.
- 8) Koestler (4), p.175.
- 9) Brian Inglis, *The Unknown Guest, The Mystery of Intuition*, 1987 p.88.
- 10) Pais (2), p.48.
- 11) Leonard Shlain, *Art and Physics, Parallel Visions in Space, Time and Light*, US 1991, p.203; also Arthur Miller, *Insights of Genius, Imagery and Creativity in Science & Art*, 1996.
- 12) Pais (2), p.395.
- 13) R.Tarnas, 'Uranus and Prometheus' June 1990, *The Astrological Journal* p.150.(reprinted in his *Prometheus, the Awakener*, 1995, p.99.
- 14) Richard Rhodes, *The Making of the Atomic Bomb*, 1986, p.313.
- 15) Tarnas (13), p.104.