THE CO-EMERGENCE OF QUANTUM MECHANICS AND DEPTH PSYCHOLOGY AS THEY CORRELATE TO THE JUPITER-URANUS AND THE URANUS-PLUTO CYCLES

AN ARCHETYPAL FIELD THEORY HYPOTHESIS
OUTLINE

• Explore the Jupiter-Uranus-Pluto founders of Quantum Mechanics and the Synchronic and Diachronic examples in the history of its development
• Highlight some of the key moments in the development of depth psychology
• Look at some of the important milestones in the history of particle accelerators and the discovery of the Higgs Field
• Explore Archetypal Historiography Timelines
• Explore the fundamental insights from Entanglement and Diffraction
• Wolfgang Pauli-C.G. Jung’s dialogue and the Quest for a Neutral Language informing both the Psyche and Physics
• "Since the stars have fallen from heaven and our highest symbols have paled, a secret life holds sway in the unconscious. That is why we have a psychology today, and why we speak of the unconscious. All this would be quite superfluous in an age or culture that possessed symbols."
JUPITER

Is the largest planet in the solar system and magnifies, elevates, and renders more visible any planetary archetype with which it aligns; it corresponds to the principle of growth and expansion and the incorporation of larger wholes with greater breadth of understanding and meaning; it relates to the principles of, advancement, honor, ascendancy, and success. Jupiter also corresponds to birth and to the successful surmounting of thresholds.
The planet Uranus is the first planet discovered through the telescope. The very act of its discovery overthrew an entire cosmology and relates to the principle of change, revolution, and novelty; to energy and electricity, to technological invention, innovation and experiment; to lighting-like flashes of insight and revelation, to speed and acceleration; to instantaneous phenomena; to new beginnings and breakthroughs, to the Promethean fire of creativity and originality, and to genius. It also corresponds to sudden unexpected surprises, to radical disruption, to uncertainty, and to revolutionary challenges to status-quo authoritative structures or world views.
PLUTO

Pluto was discovered in 1930 between WWI and WWII, and just prior to the first artificial nuclear disintegration and corresponds to the principle of primordial power and intensity; to the underlying instinctual forces of nature, to the hidden realities beneath the surface of phenomena, matter or the egoic persona; to transformation both destructive and regenerative. Pluto also relates to the elemental psychosomatic forces within the human psyche and the titanic power within the nucleus of the atom.
JUPITER-URANUS COMBINATION

The JU-UR combination correlates to peak experiences and revolutionary births and rebirths, to magnification and acceleration of experience and phenomena, to sudden unexpected epiphanies, to revolutionary record breaking achievements, and to instantaneous (Uranus) quantum leaps (Jupiter). Their average 14 month alignment periods tend to correspond to rapid advancement of scientific discovery and breakthrough insights that have the capacity to recontextualize the standard assumptions with altogether new understandings of reality.
URANUS-PLUTO COMBINATION

Corresponds to the Uranian liberation of the Plutonic depths of both the psyche and of matter; to the Plutonic intensification of Uranian revolutionary energies for change and novelty. Their average 12-year alignments correlate to sustained periods of emancipatory, revolutionary, and transformational phenomena that tend to accelerate technological innovations, scientific breakthroughs, and psychological transformations with powerful and often radical cultural consequences.
METHODS OF PRACTICE

• Planetary Aspects and Their Archetypal Complexes
• 15–20 degree orbs for world transits
• 10-degree orb for natal alignments
• 5 degree orb for personal transits
• I will not be utilizing the signs, houses, etc.
ISAAC NEWTON

- Born January 4th, 1643
- Jupiter trine Uranus both sextile to the Sun
- Developed Calculus and Newtonian Mechanics and a theory of Gravity only superseded by Einstein’s General Theory of Relativity
JAMES CLERK MAXWELL

- Born June 13th, 1831
- Jupiter-Uranus conjunction trine to the Sun
- Developed the first precise mathematical description of electromagnetism
ALBERT EINSTEIN

- Born March 14\textsuperscript{th}, 1879
- Jupiter-Uranus-Pluto T-square
- Discovered the Photon nature of light
- Developed the Special and General Theories of Relativity which states that time is relative and unified space and time into a single phenomenon, spacetime.
• Born September 22\textsuperscript{nd}, 1791
• Uranus-Pluto-Mercury-Saturn mystic rectangle
• Jupiter at the midpoint of Sun-Mercury
• Discovered electromagnetic induction
James Maxwell is born 2 months prior to Faraday’s discovery of electromagnetic induction (at Faraday’s Uranus opposition) which Maxwell would later formulate into the Maxwell-Faraday equations.
FARADAY’S INDUCTION TRANSITS

- May 27\textsuperscript{th} 1887
- Jupiter-Uranus opposite natal Uranus
- Pluto opposite Jupiter
- Jupiter conjunct Pluto
NIELS BOHR

- Born October 7th, 1885
- Jupiter-Uranus-Mercury-Sun-Moon quintuplet conjunction
- Discovered orbital energy distribution of electrons
- Formulated the principle of complementarity
- First significant challenge to Descartes’ subject-object division
WOLFGANG PAULI

- Born April 25, 1900, 1:43pm
- Jupiter-Uranus conjunction opposite Pluto and T-square the Moon
- Sun trine Saturn
- Mars-Mercury conjunction square Saturn
- Formulated the Pauli Exclusion Principle
- Known for the Pauli Effect
LOUIS DE BROGLIE

• Born August 15th, 1892
• Jupiter opposite Uranus with Jupiter trine to the Sun, Mercury square Pluto and Neptune
• Developed the De Broglie Hypothesis of the wave nature of matter
Erwin Schrödinger

- Born August 12, 1887
- Uranus trine Pluto, Mercury sextile Pluto
- Devised the Schrödinger wave equation for electrons
WERNER HEISENBERG

- Born December 5th, 1901
- Co-Founded quantum mechanics
- Discovered the uncertainty principle
MAX PLANCK

- Born April 23rd, 1858
- Jupiter-Mercury-Uranus triple conjunction, Sun conjunct Pluto
- Founder of quantum mechanics
WILLIAM JAMES

- Born January 11th 1842
- Sun/Moon/Mercury square Pluto
- Sun sextile Uranus
- Jupiter square the Uranus/Pluto Midpoint
• Born October 15th, 1844
• Sun opposite Pluto
• Jupiter-Uranus conjunction opposite Mercury
• Born May 6th, 1856
• Sun conjunct Uranus and Pluto
• Sun = Mercury/Pluto
C.G. JUNG

- Born July 26th, 1875
- Sun conjunct Uranus
- Uranus square Pluto
STANISLAV GROF

- Born July 1st, 1931
- Uranus T-square Pluto/Jupiter and Saturn/Moon
- One of the world's leading LSD researchers, co-founded Transpersonal Psychology
- Recognized the importance of the intrauterine experience and the healing power of non-ordinary states of consciousness
RICHARD TARNAS

- Born February 21st, 1950
- Sun tine Uranus
- Jupiter/Mercury opposite Pluto
- Author of Cosmos and Psyche
- Founder of Archetypal Historiography
Christiaan Huygens’ mathematical wave theory of light  
Newton’s Opticks: Corpuscular or Particle theory of light  
Thomas Young’s conceptualization of the double-split experiment  
Augustine-Jean Fresnel Achieves Diffraction proves light is a wave  
Hans Christian Ørsted Discovers electromagnetism  
André-Marie Ampère’s Discovers Ampère’s Law  
Michael Faraday Discovered the circular nature of electricity  
Michael Faraday’s Proposal of an electromagnetic theory of light  
James Clerk Maxwell Publishes the Maxwell-Faraday Equations  
Michelson-Morley Experiment  
Johann Balmer’s Balmer Formula
Wilhelm Roentgen Takes the first X-ray photograph  *UR-PL co 1895
Henry Becquerel Discovers Radioactivity  UR-PL co 1896
J. J. Thomson Discovers the Electron  *UR op UR, UR-PL co 1897
Walther Ritz Formulates the Rydberg-Ritz combination principle  JU-UR op 1908
Ernest Rutherford Discovers the Nucleus  UR op UR, PT 1911
Robert Millikan Confirms “Theory of Special Relativity”  *JU-UR co 1914
Frank-Hertz experiment confirming the quantum nature of atoms  JU-UR co 1914
Stern-Gerlach experiment discovery of quantized spin  UR-PL tr 1922
Davisson-Germer exp. 1st scattering diffraction of e’s  UR op UR, UR-PL tr 1922
Max Born Statistical analysis of the Schrodinger Wave Equation  *UR op UR PT 1926
Heisenberg’s Uncertainty Principle  *JU-UR co 1927
Large Electron-Positron Collider  JU-UR op 1989
NICOLAUS COPERNICUS

- Born February 28th, 1473
- Sun trine Uranus
- Sun square Jupiter
- Sun opposite Pluto
COPERNICUS’ COMMENTARIOLUS

• Circulated to friends prior to 1514, many historians believe it was written between 1512 and 1513
• Jupiter-Uranus conjunction April 1512-February 1514
• Born Feb. 16th 1564, he is one of the father’s of modern science and formulators of the scientific method. Discovered the Moons of Jupiter on January, 7th 1610, during a Jupiter-Uranus conjunction opposite his natal Uranus, which was one of the first empirically verifiable attributes of the Copernican heliocentric theory.
GALILEO’S DISCOVERY OF JUPITER’S MOONS

- January 7th, 1610
- Jupiter-Uranus conjunction opposite natal Uranus square natal Sun
RENE DESCARTES

- Born March 31\textsuperscript{st}, 1596
- Sun-Jupiter-Uranus-Pluto quadruple conjunction
- Considered the Father of Modern Philosophy
- Known for the subject-object division
DESCARTES’ DISCOURSE ON METHOD

- June 8th 1637
- Jupiter-Uranus conjunction, Uranus opposite Uranus
- Cogito ergo sum—“I think, therefore I am”—
- Res extensa/Res cogitans
- Mind/Body dualism
- Subject/Object division
- Leads to the “hard-problem” of consciousness
MAXWELL’S DYNAMICAL THEORY OF THE ELECTROMAGNETIC FIELD

- Jupiter-Uranus opposition on his Sun
- Uranus trine natal Jupiter/Uranus
- Pluto square natal Uranus
- Deduced that light is an electromagnetic wave and has a constant speed limit
HEINRICH HERTZ DISCOVERS PHOTOELECTRIC EFFECT

- Uranus opposite Jupiter
- Experiments took place during Jupiter-Uranus conjunction
- Uranus-Pluto trine his natal Mercury, forming a grand trine
- Saturn return
- Proves “Maxwell’s” electromagnetic waves
ELECTROMAGNETIC SPECTRUM
MAX PLANCK DISCOVERS THE QUANTUM OF ACTION

- During the Jupiter-Uranus conjunction of 1900 Planck discovers the quantum of action
- The Planck constant
- Smallest unit of energy
- Smallest unit of measurement
- Smallest unit of time
QUANTIZED ENERGY
Einstein’s Theory of Special Relativity

- $E=mc^2$
- Relativized our understanding of time.
- Established Light has a constant speed which is considered to be the speed limit of the universe.
- Discovered what is now called the photon, or the particle nature of light.
Albert Hofmann
Natal Chart
Jan 11 1906, Thu
3:00 pm CET -1:00
Baden, Switzerland
47°N 29' 00" E 10°
Geocentric
Tropical
Koch
True Node

ALBERT HOFMANN

• Born January 11th, 1906
• Mercury-Uranus opposite Neptune and Pluto
• Discovered/Invented LSD
**BOHR’S MODEL OF THE ATOM**

- Uranus in an exact trine to natal Uranus and 1° trine to natal Pluto, Jupiter square the Sun
- Recognizes the quantized energy distribution of the atom and correctly predicted the spectral lines of the hydrogen atom
- Hypothesizes the electron must “know” what orbital shell it is quantum leaping to in order to release the correct wavelength of light
Emission Spectra of the Elements
*COMPTON SCATTERING EXPERIMENTS

- Uranus opposite natal Uranus
- Jupiter conjunct Uranus
- Saturn return
- Recognized of specific energy exchange when light contacts matter
**THE PAULI EXCLUSION PRINCIPLE**

- States that no two electrons with the same spin can occupy the same orbital shell.
- Correlates to the stability of matter, i.e. why objects don't merge with each other.
- Transiting Saturn retrogrades back to 7° Scorpio.
*HEISENBERG’S MATRIX MECHANICS*

- Uranus square Uranus
- Pluto opposite Jupiter
- Jupiter return
• The transiting Jupiter square Neptune is square and conjoining his natal Sun

• Transiting Uranus opp. Natal Mercury

• Uranus square natal Pluto/Neptune
*SCHRODINGER WAVE-EQUATION*

- Jupiter-Neptune opposition on his natal Sun
- Uranus beginning to oppose Uranus
- Probabilistic interpretation of QM
- Predicts the Probability density for finding the electron
Plank's constant
"smallest" boundary containment in quantum scope

Saturn
boundary, limit, contraction, restriction

Wave function
probability amplitude, behaves like waves

Neptune
formless, intangible, invisible, diffuse, undifferentiated, water and waves
NIELS BOHR’S PRINCIPLE OF COMPLEMENTARITY

- Jupiter-Uranus conjunction opposite natal Jupiter-Uranus
- As we saw with Galileo and Descartes
PRINCIPLE OF COMPLEMENTARITY

- States that the wave-particle duality is a complementary description of a single reality.
- Because we cannot fully know both wave and particle at the same time, thus there will always be an indeterminate dimension to reality.
- States that we cannot separate the measuring apparatus from the referent of observation. The instrument of observation must be considered as a part of the phenomenon.
Complementarity is helpful in explaining the fundamental intrinsic paradoxes in life: why light and matter are composed of particles and waves, the inability to know position and momentum simultaneously, the inseparability of time and energy or time and matter, electricity and magnetism, as well as the complementary nature of consciousness and what is unconscious, light and dark, good and evil, ecstasy and grief, the eternal and the temporal, the immanent and transcendent, subject and object, psyche and matter or psyche and cosmos. The principle of complementarity effectively describes the intrinsic intra-dependence between these phenomenological complementary descriptions for what are ultimately an inseparable or singular phenomena.
Some physicists hope for the possibility of a return to the classical idea of the “detached observer”, whose effect on the observed system could always be eliminated by theoretically determinable corrections. Others, with whom I belong myself, have, on the contrary, hopes just in the opposite direction. What has impressed me most in the development which in 1927 eventually led to the establishment of present wave mechanics is the fact that real pairs of opposites, like particle versus wave, or position versus momentum, or energy versus time, exists in physics, the contrast of which can only be overcome in a symmetrical way. This means that one member of the pair is never eliminated in favor of the other, but both are taken over into a new kind of physical law which expresses properly the complementary character of the contrast.
WAVE-PARTICLE DUALITY OF LIGHT

• Without the wave nature of light we would not be able to make, microscopes, interferometers, infrared night-vision goggles, cameras or telescopes. (or radios or microwave ovens)

• Without the particle nature of light we would not have radiation therapy, x-ray, MRI, electron microscope or ultra-sound technology.
DIFFRACTION AND THE DOUBLE-SLIT EXPERIMENT

- [https://youtu.be/FllrgE5T_g0?t=21m49s](https://youtu.be/FllrgE5T_g0?t=21m49s)
- 21:49---23:15 minute mark of the above clip
DOUBLE-SLIT W/OUT DETECTION
STANISLAV GROF ON THE COMPLEMENTARY NATURE OF WHO WE ARE

• https://youtu.be/dswm2eCb-WE?t=56m27s

• 56:27---58:24 minute mark of the above clip

I recommend watching the entire video afterward.
ALBERT HOFMANN SYNTHESIZES LSD

- November 16th, 1938
- Jupiter-Uranus square on the sky
- Jupiter square natal Jupiter, Jupiter conjoining the Mc
- Uranus had moved to within 9 degrees of natal Jupiter in August
OTTO HAHN 1ST NUCLEAR FISSION

- December 18th, 1938
- Jupiter conjunct Jupiter opposite Uranus and square to Pluto
- Uranus had moved to within a 7° conjunction of Pluto and is also sextiling the Sun
- 2nd Saturn Return
PETER HIGGS PROPOSES HIGGS FIELD

- Uranus exactly square Sun
- Pluto 5° square to the Sun
- Jupiter return
BELL’S NONLOCALITY THEOREM

- Refutes Einstein’s EPR paper chastising QM for its “Spooky action at a distance” entangled nature
- Bell’s Theorem mathematically proves nonlocality or entanglement as a necessary feature of quantum mechanics.
1st Internet Transmission

- Jupiter-Uranus-Pluto triple conjunction
- Mercury-Jupiter conjunction
ALAIN ASPECT’S PHD PROPOSAL

- October 15th, 1976
- Jupiter opposite Uranus
- Jupiter opposite natal Jupiter
- Uranus square Saturn/Pluto
- Saturn return
ASPECT PUBLISHES RESULTS

• 1st experimental verification of entanglement
STANISLAV GROF’S DISCOVERY OF TRANSIT ASTROLOGY

- Jupiter exactly conjunct natal Uranus, square to natal Pluto and Saturn
- Uranus in a 1° trine to natal Sun and 4° to Mercury
- Pluto exactly square natal Mercury and 3° to the Sun
RICHARD TARNAS’ DISCOVERY OF TRANSIT ASTROLOGY

- Uranus trine natal Sun and natal Uranus at 5° and 6° respectively
- Uranus in a 1° square to natal Mercury
- Jupiter trine Pluto and sextiles natal Jupiter
- Does systematic study of historical correlations develops archetypal historiography
The Livingston Graph plots the increase in particle accelerator energy since 1930. The graph demonstrates that the machines achieve an increase in energy by a factor of 10 every 6 to 7 years. The Jupiter-Uranus axial alignments are every 7 years.
• Opened November 21st, 1967
• Highest Energy Particle Collision Mid-May, 1976 Jupiter-Uranus Opposition
• 500 GeV
• Discovered Top Quark 1995
SUPER PROTON SYNCHROTRON

- Jupiter opposite Uranus
• Jupiter conjunct Uranus
DISCOVERY OF THE Z BOSON

- Jupiter conjunct Uranus
TIM BERNERS-LEE INVENTS THE WORLD WIDE WEB

Uranus-Jupiter opposition on natal Mercury
Natal Jupiter-Uranus conjunction
• September 10th, 2008
• Uranus square Pluto in wide T-square with Saturn
• Began operations and failed two weeks later
• Lehman Brothers collapse September 15th, 2008
HIGHEST ENERGY PARTICLE COLLISION

- 7 TeV
- March 30th, 2010
- Jupiter/Uranus-Saturn-Pluto T-square
DISCOVERY OF THE HIGGS FIELD

- July 4th, 2012
- Exact Uranus square Pluto
- Wide Uranus-Pluto-Sun-Mars/Saturn T-square
*PETER HIGGS’ TRANSITS*

- Uranus return
- Jupiter conjunct Sun
- Pluto square natal Uranus
- Sun conjunct Pluto
HIGHEST ENERGY PARTICLE COLLISION

- 13 TeV
- Jupiter trine Uranus
- Uranus square Pluto
- Formulation of John Bell’s Nonlocality Theorem
- Groth’s Formulation of the Perinatal Matrices
- Formulation of the Standard Model of Particle Physics
- Discovery of Quarks
- Uranus Conjunct Pluto
- 1st Internet Transmission
- Discovery of the Top Quark
- Founding of the PCC Program
- Re-introducing Astrology into Higher Education since the 18th Century
- Uranus Sextile Pluto
- Founding of the Large Hadron Collider
- Highest Speed Particle Collisions
- Discovery of the Higgs Field
- Beginning of Quantum Computing
- Uranus Square Pluto
- Founding of Archetypal Astrology w/the Publication of Cosmos and Psyche
“Indeed, recent studies of diffraction (interference) phenomena have provided insights about the nature of the entanglement of quantum states, and have enabled physicists to test metaphysical ideas in the lab. So while it is true that diffraction apparatuses measure the effects of difference, even more profoundly they highlight, exhibit, and make evident the entangled structure of the changing and contingent ontology of the world, including the ontology of knowing. In fact, diffraction not only brings the reality of entanglements to light, it is itself and entangled phenomenon.”

Karen Barad, Meeting the Universe Halfway, pg. 73
“ENTANGLEMENT IS NECESSARY FOR EMERGENT CLASSICALITY IN ALL PHYSICAL THEORIES”

• One important feature of quantum theory is that it has a classical limit, recovering classical theory through the process of decoherence. We show that any theory with a classical limit must contain entangled states, thus establishing entanglement as an inevitable feature of any theory superseding classical theory.

• It therefore seems that entanglement, rather than being a surprising feature of nature, is an entirely inevitable feature of any postclassical theory.
NIETZSCHE

“Direct self observation is not nearly sufficient for us to know ourselves: we need history, for the past flows on within us in a hundred waves.”

_Human, All Too Human_
PAULI TO JUNG -- ON SYNCHRONICITY

The type of statistical law that thus comes into being (one that is not reproducible by individual cases), which acts as a mediator between the discontinuum of individual cases and the continuum that can only be realized (approximately) in a large-scale statistical framework, may be described as a “statistical correspondence.”

Wolfgang Pauli, in a letter to Jung dated November 24, 1950
Atom and Archetype, pg. 55
THE JUNG-PAULI DIALOGUE

• Pauli and Jung carried on a 25-year in-depth correspondence in letters and in person. They collaborated on Jung's concept of synchronicity and were highly concerned and discussed at length the psycho-physical or the mind-matter problem. Pauli's own words from 1952: “More and more I see the key to the whole spiritual situation of our time in the psycho-physical problem.”

• Another important point of focus was the Coniunctio they believed could take place between humanity and an “archetypal background” or “transcendent source” of meaning. They often described this process in alchemical terms as moving from the three to the four or the trinity to the quaternity.

• Jung in a 1953 letter to Pauli: Oddly enough, the problem is still the 2000-year old one: How does one get from Three to Four?”
PAULI TO VON FRANZ ANSWERING JUNG’S QUESTION

“The 2,000-year old question: How does one succeed from three to four? One can in no-way succeed from three to four. But I daresay one can arrive at three and four in various ways. My way is over 2 X 6 to the zodiac, since what is older is always new.”

W. Pauli to M. L. von Franz, October 24th, 1953

Pauli and Jung: The Meeting of Two Great Minds, David Lindorff, pg. 182
What in Descartes is spilt into extension and thinking is in More’s dream the split of 12 into 2 x 6. This split makes the quaternity impossible. The natural division of 12 would have been 3 x 4, this also corresponding to the old division of the zodiac.

W.Pauli to M. Fierz, Beyond the Atom, pg. 122 (circa, 1954)
ATMANSPACHER’S PAULI-JUNG CONJECTURE

A more comprehensive typology of mind-matter correlations following from Pauli's and Jung's dual-aspect monism was proposed by Atmanspacher and Fach (2013). They found that a large body of empirical material concerning so-called “exceptional experiences” can be classified according to their deviation from the conventional reality model of a subject and from the conventional relations between its components. Synchronicities in the sense of Pauli and Jung appear as a special case of such relational deviations.

Stanford Encyclopedia of Philosophy, 2015
If we take Pauli’s views seriously, we have to re-evaluate fundamental questions in natural science and ponder about the repressed concepts and ideas in Western culture. Such a re-evaluation involves cases like the psychological and physical aspects of space and time, the old question of whether the \textit{psychic state of the observer can be correlated with the external material course of nature}, the problem of finality and its relation to chance, the role of meaning in the exact sciences, and the relations between “inside” and “outside”.

\textit{The Hidden Side of Wolfgang Pauli}

\textit{The Journal of Consciousness Studies, 1996, pg. 124}
HARALD ATMANSCHAPER

The Pauli-Jung dialogue does not solve any of the (psycho-physical) issues indicated. But it helps to recognize a number of problems more clearly. In this sense it might serve as a starting point to define a reasonable research programme.

The Hidden Side of Wolfgang Pauli
The Journal of Consciousness Studies, 1996, pg. 124
“A complete quaternarian world view would not show up within physics alone, but it could well be related to the wholeness of physics and psychology . . . It would be conceivable, and it even seems plausible to me, that there might be phenomena for which the full quaternity plays an essential role.”
"This problem (the question of the picture of God) is very closely related to the other problem of the idea of reality. When he speaks of reality, the layman usually means something obvious and well-known, whereas I think that the important -- an extremely difficult task of our time -- is to try and build up a fresh idea of reality. This is also what I mean when I continuously stress that science and religion must be connected in some way.... I could call what I feel by the new idea of reality, by way of trial, the idea of the reality of symbol."

W. Pauli - Aug. 12, 1948 to M. Fierz pg. 165 "Beyond the Atom: The Philosophical Thought of Wolfgang Pauli"
ARCHETYPAL VIEW

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Chinese scientists using an experimental satellite have tested quantum entanglement over unprecedented distances, beaming entangled pairs of photons to three ground stations across China—each separated by more than 1,200 kilometers. (2017-07-15)