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# EdgeScience

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*Moseley and Pythagoras*

*Promise and Peril of  
ETI-TI-IDI Contact*

*Spiritually  
Transformative  
Experience Triggers*

*Psi, Vital Energy,  
and Electromagnetism*



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Philip Brown

# Moseley and Pythagoras

## On Number and Causality

**T**he English physicist Henry (Harry) Gwyn Jeffreys Moseley is renowned for his research on the X-ray emissions of atoms and the organization of the elements of the Periodic Table. He died in action on August 10, 1915, in the First World War, after a sniper's bullet passed through his head.

It is not possible for me here to give a full account of how I became interested in the life and accomplishments of Henry Moseley, but it did have something to do with him having the same birthdate as me (November 23), and a coincidence relating to the number 137, which will be explained below. My academic background is mostly in pure mathematics (complex analysis). In 2016 somebody challenged me to write something interesting about the number  $\pi$ , so I wrote an article about the expression of  $\pi$  in different number bases, which was published in a mathematics education journal (Brown, 2017). This research led to another article about mysticism and numerology connected with the fine structure constant and the number 137 (Brown, 2020).

As I delved deeper into Henry's life, I stumbled across more coincidences relating to dates and numbers, which led me to suspect that there exists a mysterious causality connecting numbers and events in the world. My suspicions were bolstered when I discovered, as will be summarized in this essay,



Portrait of Henry G.J. Moseley (1887–1915), in lab holding a glass globe, from *Nature* magazine

that mystics and philosophers through the ages, beginning with Pythagoras in the West, have expounded on causality and the deeper meaning of number.

On August 10, 2017, the 102nd anniversary of Henry Moseley's death, astronomers at NASA's Chandra X-ray Observatory released an image of the IC 10 starburst galaxy, a small galaxy about 2.2 million light years from Earth that had been discovered by the American astronomer Lewis Swift, in 1887. The image shows about 110 X-ray sources, which includes about ten double star systems, known as "X-ray binaries" (Laycock, 2017). 1887 is also the year that Henry was born. There is something surprising about the number 102 in connection with him that will be explained in the next paragraph.

Henry Moseley was nominated for the Nobel prizes in Physics and Chemistry in 1915 by the Swedish scientist Svante Arrhenius. It has been speculated that he, instead of Charles Barkla, would have been awarded the 1917 Nobel Prize for physics had he not died in the war; or, if he had lived, he may have gone onto other major achievements and a Nobel prize (Trimble & Mainz, 2017). For this reason, there is something whimsical about the fact that 102 is the atomic number of the transuranic element Nobelium, named in honor of Alfred Nobel, who bequeathed his fortune to establish the Nobel prize.

Another coincidence of dates relates to August 29. When the First World War broke out in the summer of 1914, Henry was on his way to Australia to attend a meeting of the British Association for the Advancement of Science. Before the close of the conference in August, 1914, he had decided to offer his





IC 10 starburst galaxy

services as a foot soldier to his government. Thus his scientific career ended when he departed by ship from Australia on August 29, 1914, to return to England and begin his enlistment (Jaffe, 1972, p. 115). Henry's mentor and supervisor at the university of Manchester had been Sir Ernest Rutherford. In a short review of Henry's research on X-ray spectra that was published by Rutherford in *Nature* magazine, on August 29, 1925, he confirmed the discovery of three of the four elements (technetium, hafnium and rhenium) whose existence had been predicted by Henry (Rutherford, 1925).

The physicist Wolfgang Pauli was obsessed with the number 137 because  $1/137$  is the approximate value of the fine structure constant (a fundamental constant in physics). The room number of the hospital in Zürich where he died was 137 (Miller, 2010, p. 269). Pauli had been a patient of the famous psycho-analyst Carl Jung and many of his dreams that Jung analyzed involved numbers, including 137. There is also a connection between 137 and the death of Henry Moseley. In the biography by Bernard Jaffe, his death is announced in the third paragraph on page 137. 'From one of Moseley's fellow officers there came suddenly the dreadful news: "Let it suffice to say," it read in part, "that your son died the death of a hero, sticking to his post to the last. He was shot through the head, and death must have been instantaneous" (Jaffe, 1972).

We turn now to Pythagoras. It is largely due to two of his followers, Philolaus and Archytas of Tarentum, who left written records and communicated with other philosophers, notably Plato, that we know anything about Pythagoras at all. Philosophers and biographers, including

members of the Athenian Academy, from the 5th to 3rd century BC, the Neopythagoreans from the 1st century BC to the 2nd century AD (in Rome and Alexandria) and the Neoplatonists from the 3rd to 5th century AD (in Alexandria and Athens), commented on, embellished, or added to the legend of Pythagoras.

According to the theosophist and Freemason, William Wynn Westcott, the followers of Pythagoras (Pythagoreans) believed that all things, including persons and ideas, are related to numbers in an essential way and are, therefore, subject to the relations governing those numbers (Westcott, 1890, p. 9). An important illustration that number is fundamental to everything is in the correspondence of the basic intervals of music, the octave, fifth and fourth to the numerical ratios 2:1, 3:2 and 4:3, respectively. This is explained by the fact that if a string of length 12 units is stopped at 6, 8 and 9 units, the notes produced by plucking the shortened string produce notes an octave, fifth and fourth above the note of the full string, respectively.

The Canadian mystic, Manley P. Hall, states the following about Pythagorean mathematics:

Concerning the secret significance of numbers there has been much speculation. Though many interesting discoveries have been made, it may safely be said that with the death of Pythagoras the great key to the science was lost. For nearly 2500 years, philosophers of all nations have attempted to unravel the Pythagorean skein, but apparently none has been successful. (Hall, 1973)

Whether or not Pythagoras did indeed introduce a great science of numbers, we may dispute Hall's statement that there has been no successful attempt at discovering the deeper meaning of Pythagorean number theory. For example, we will mention below the spiritual revelations of Emanuel Swedenborg, the Calculus Universalis of Gottfried Leibniz, the numerical cosmology of René A. Schwaller de Lubicz, the universal numbers of John Michell, and Carl Jung's idea of the *Unus Mundus*.

The 18th century Swedish polymath, Emanuel Swedenborg, had a spiritual awakening in his mid-fifties. He was also a mathematician, and he believed that the deeper meaning and symbolism of numbers were the basis of an angelic language that was known to ancient people. With numbers it is possible to communicate complex ideas and concepts that cannot be expressed in words. Every idea has its own number.

It has often been shown me that the spiritual things of heaven, such as those which the angels think and speak, also fall into numbers. When they were

discoursing, their discourse fell into pure numbers, and these were seen upon paper; they afterwards said that it was their discourse which had fallen into numbers, and that those numbers in a series contained everything they uttered. (Swedenborg 1960 p. 429)

This notion of a “cosmic mathematics” is also resonant with Gottfried Leibniz’s dream of developing a “calculus universalis,” which he described in a letter to Nicolas Redmond in 1714 as:

...a kind of general algebra in which all truths of reason would be reduced to a kind of calculus. At the same time, this would be a kind of universal language or writing, though infinitely different from all such languages which have thus far been proposed; for the characters and the words themselves would direct the mind, and the errors—excepting those of fact—would be calculation mistakes. It would be very difficult to form or invent this language of characteristic, but very easy to learn it without any dictionaries. (Loemker, 1969).

A cornerstone of Leibniz’s project was an Arithmetization of Aristotelian logic that he proposed in nine manuscripts in 1679. Mathematician, Klaus Glashoff, explains that in the sophisticated third model that Leibniz proposed the numbers pairs (or *characteristic numbers* denoting *concepts*) that he introduced can be interpreted as rational numbers (i.e., ordinary fractions). In this model the relation of divisibility of numbers mirrors the relation between genus and species; the “higher” concept belongs to the smaller number which divides the larger number corresponding to the “lower” concept (Glashoff, 2002).

In the cosmology of R. A. Schwaller de Lubicz, an Egyptologist of the nineteenth century, numbers have both a qualitative and quantitative function. They are the *ideal* and the *concrete* relationship in the universe. Consequently, they have an immanent abstract life and a manifested life. As the first cause of the creative *idea*, they constitute the principle of life and the vital impulse of the cosmos (Schwaller de Lubicz, 1986, p. 30). The first Unity, or abstract One, can only exist as the perfect stabilization of two essentially contrary natures. The is the reason for the disengagement of multiplicity from Unity.

Schwaller de Lubicz talks about an occult science of numbers, which is the science of the basic laws of the universe. Numbers are the purest expression of the truth because they determine the exact relation between cause and effect. In addition to the physical cause of all things,

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there is an “occult cause” that can only be known by an initiate who has succeeded in merging with *space*. Furthermore, he makes the following enigmatic and profound statement:

By numbers one can specify the dates (duration, in relation to unity: day, year, lunar month, etc.) of cosmic genesis, both macroscopic and microcosmic. Thus, the initiate will know all the essential conditions necessary for the development (birth, life, and death) of all things, not only the stars, minerals, plants, animals, and man, but also their “hierarchy,” that is to say, their evolutionary arrangement into races and sub-races. In this does the marvelous power of numbers consist; this is its “utilitarian” goal. (Schwaller de Lubicz, 1986, p. 35)

The British researcher and author, John F. C. Michell, describes, in several books, an ancient cosmic code of number and geometry, with many names: the perennial philosophy, cosmic canon, divine law, heavenly city, garden of paradise, philosopher’s stone and the holy grail (Michell & Brown, 2009, p. 6). The basis of this universal scheme is a “numerical pantheon” including certain multiples of 72 and powers of 12, in which every deity has its place according to its characteristic number (Michell, 1988, p. 56). In ancient times, temples or architectural sites were constructed to attract the gods or forces to which they were dedicated. The basic principle by which this was achieved was “sympathetic resonance” or “like attracts like,” by orienting a temple to the season or astronomical body associated with the deity and expressing the characteristic numbers of the deity in the dimensions of the structure (Michell & Michell, 1983, p. 124).

The philosopher Carl Jung believed that the connection between events may in certain circumstances be other than directly causal, and therefore required *another* explanation. As a psychoanalyst, he was particularly interested in the *meaningful* coincidence of psychic states (of the observer) and physical (external) events in the world. If the coinciding



event occurred in the observer's field of awareness, he called it synchronous. If the event was separated in space and time, but afterward verifiable, he called it synchronistic. He chose the term *synchronicity* to designate a hypothetical factor equal in rank to causality (in space and time) as a principle of explanation.

Jung believed in the existence of a collective unconscious, or *psychoid realm*, that was made up of archetypes, i.e. latent possibilities or patterns, that crystalized in the conscious mind as images or symbols, under certain conditions. Furthermore, phenomena of simultaneity or synchronicity were bound up with the archetypes. With regards to number, Jung believed that both numbers and archetypes possess numinosity and mystery as their common characteristics. "Hence it is not such an audacious conclusion after all if we define number psychologically as an archetype of order which has become conscious" (Jung & Hull, 1972, p. 40). He referred to the "dwelling place" of the archetypes as the *Unus Mundus* (Unitary World), corresponding to Plato's *Realm of Forms*. The natural numbers as archetypes are its primary constituents.

The author Arthur I. Miller, in his discourse on the long relationship of Carl Jung with Wolfgang Pauli, comments as follows on Jung's thoughts on causality:

In the Western World, we usually assume that events develop sequentially, one after the other, by a process of cause and effect. But Jung was convinced that as well as a vertical connection, events also might have a horizontal connection—that all the events occurring all over the world at any one moment were linked in a kind of grand network. (Miller, 2010, p. 188)

The Swedish author, Mats Winther, mentions that Jung was familiar with the works of Emanuel Swedenborg, and argues that Swedenborg should be regarded as Jung's true spiritual father. Furthermore, both Swedenborg and Jung should be viewed in the context of the Neoplatonic tradition of late antiquity, and the philosophy of Proclus, in particular. In Proclus' thinking, numbers are "projections" by the soul of innate intelligible principles, and both the soul and the world are governed by the divine aspects of number (Winther, 2013). Referring to the work of Professor Dominic J. O'Meara (O'meara, 1989, p. 156–206), Winther adds that, to Proclus, number also has a non-mathematical sense:

He denotes their properties as "the paternal" [monad], "the generative" [dyad], "the perfective" [triad], "the protective" [tetrad], etc. Mathematical terms must be understood in a higher sense. Proclus bestows on number qualitative aspects and world creating properties as building stones of both psyche and the world. (Winther, 2013)

Thus, we find in the Pythagorean tradition, through Plato and Neoplatonism, Swedenborg, and modern philosophers represented by Jung, that numbers are not merely quantitative symbols. They are projections from a "higher plane," in which they have a meaning and independent reality. Their existence is immanent in the cosmology recounted by Schwaller de Lubicz. In addition, there is the possibility of "celestial communication" by means of a language of number, as suggested by Leibniz, and purportedly experienced by Swedenborg.

We may ponder whether the "coincidences" mentioned at the beginning have something to do with Jungian



synchronicity. At the very least, they were the inspiration for this essay.

In the year 1911, when Henry Moseley began his short career in experimental physics, physicists in Europe had begun to probe the structure of the atom. The electron was discovered by J. J. Thompson in 1897. Ernest Rutherford announced his discovery of the atomic nucleus in 1911 and proposed the planetary model of the atom of electrons orbiting the nucleus. Consequently, members of Rutherford's research group, and others, had conjectured that there was an ordinal number, called the *atomic number*, that could be associated with an atom of any element that was not just an ordering number of the periodic table, but a number that corresponded to a physical property of the atom (Jaffe, 1972, ch. 7). A hypothesis of this type had been made a century before by the English chemist William Prout, who suggested that every element was a grouping of hydrogen atoms. The American philosopher and chemist, Eric Scerri, describes Prout's motivation as "the seductive lure of the Pythagorean tradition for seeking simple ratios" (Scerri, 2020, p. 39). It was Moseley's novel experiments and diligent work that allowed him to discover a formula, now known as *Moseley's Law*, which determines that the spectral frequencies of X-rays emitted by excited atoms are proportional to the square of an ordinal number. He expressed the importance of his discovery as follows:

We have here the proof that there is in the atom a fundamental quantity, which increases by regular steps as we pass from one element to the next. This quantity can only be the charge of the central positive nucleus, of the existence of which we already have proof. (Moseley, 1913, p. 1031).

Thus, Harry Moseley gave new meaning to the Pythagorean credo "all is number."

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John Hart

# Promise and Peril of ETI-TI-IDI Contact

## —On Earth and in the Heavens—

### We Were Never Alone

Credible news reports describing sightings of Unidentified Aerial Phenomena (UAP) have increased around the world in recent decades. Complementarily, the Hubble, Kepler, and James Webb (NASA), and Gaia (European Space Agency) telescopes have peered deep into space and far back in time and found previously unknown galaxies, stars, and planets, some of which are amenable to biota, possibly even intelligent biota. Consequently, distinguished scientists are changing their speculation about other intelligent lives existing in the universe. There is scientific evidence that establishes, and credible anecdotal narratives that assert, that this life does exist: ETI (Extra-Terrestrial Intelligence) and IDI (Inter-Dimensional Intelligence) have occasionally visited Earth and its environs and been observed by TI (Terrestrial Intelligence). Astronomer J. Allen Hynek developed three “Close Encounters” (CE) categories to describe the proximity of what today are called Unidentified Aerial Phenomena (UAP). All of this provides “food for thought” for readers who know little about or are skeptical regarding the existence of UAP controlled by ETI and IDI.

News stories of flyby visits around Earth by craft controlled by other-than-human intelligent beings, and even of direct Contact with them, have catalyzed ever-increasing speculation about who is visiting Earth and humankind,

and what might be their intent. In the twentieth century and into the twenty-first, several distinguished scientists—including National Medal of Science recipients Harvard University biologist E.O. Wilson and astrophysicist Avi Loeb—as well as geologist-paleontologist Pierre Teilhard de Chardin, SJ, University of Cambridge mathematical cosmologist Stephen Hawking, and astrophysicist and computer scientist Jacques Vallee—have considered seriously the existence of ETI and IDI. “We are not alone” is being gradually rephrased to “We were never alone.”

#### Close Encounter of the First Kind

A brilliant light streaked across the star-studded sky above the Hudson River near Poughkeepsie, New York, in 1963. Startled, I watched it from the riverbank with two friends. It was the brightest, fastest, largest, and lowest meteor I had ever seen. Suddenly, without slowing or banking, it shot upward, perpendicular to its original trajectory. Amazed, I told myself that this was impossible: I had learned in college physics that, according to the laws of physics (as understood by Earth scientists at the time), the sudden drastic change in direction should have caused the object to shatter. I blinked my eyes to do away with the illusion and said nothing to my companions. Then, one of my friends





said that he had seen an object suddenly change direction, shoot upward at a right angle, and quickly disappear into the darkness. “I guess we saw a UFO,” he said, and we laughed. When I reflected on my reaction to the UAP on this occasion years later, I realized that it should be clarified to note that humans’ scientific knowledge is likely far inferior, currently, to that of other-than-human intelligent beings exploring the cosmos.

Humankind has begun to explore in earnest “space, the final frontier” as dramatized in “Star Trek” on television and in movies. In the process, speculation about human Contact with other-than-human intelligent life has become better known in European and Euromerican cultures. Over millennia, meanwhile, Indian (the preferred self-designation of most [American] Indians; see *Native Sun News*, 2015) peoples in North America, and *indias/os* in Latin America, have had such Contact. Their interactions are documented and described in centuries-old oral tradition narratives and twenty-first-century books and articles by Indian scholars such as Montana’s Ardy Sixkiller Clarke.

Anyone who has seen an intelligently controlled UAP cannot forget their experience. In the years that followed my sighting, I thought periodically about the event. At the beginning of the 21st century, when I read that Stephen Hawking had disparaged the possibility of other-than-human intelligent beings coursing the cosmos, I knew that he was wrong. I began to write and publish on the topic. I wanted people to consider a possibility counter to what Hawking asserted unequivocally: that humankind is being and has been visited by other intelligent species for millennia, on some occasions having direct Contact.

### **Cosmos Contact: Close Encounters of the Otherkind**

The product of my ever-developing thinking was the trilogy “Cosmos Contact: Close Encounters of the Otherkind.” In its final volume, *Third Displacement* (Hart, 2020), I have a special focus on astrophysicist Jacques Vallee, whose writings I had come upon while researching for and writing the second volume, *Encountering ETI* (Hart, 2014). His theory of interdimensional travel intrigued me: it made sense to me when I recalled my Hudson River Valley college experience. In that event, the UAP disappeared almost immediately once its horizontal trajectory was altered to a vertical ascent. I emailed Vallee, noting my agreement with him, at least partially. And so began a postal mail and email conversation that has continued to this day.

I am fully cognizant that academic scientists often raise their eyebrows or roll their eyes when the subject of Otherkind Contact comes up. On one occasion, when presenting my research to university faculty, I observed

this directly. After my lecture, a conservative colleague approached me to tell me that his father had seen the UAP over the Hudson River Valley. On another occasion, while lunching with three colleagues, a historian and two distinguished senior scientists, I mentioned that I intended to teach a summer course on the possible existence of other-than-human intelligent life. The scientists poked fun at such an absurd idea. Then, I related to them the event described earlier in this essay. After that, the historian spoke about her aunt, a conservative, Republican Kansas farmer who looked out her kitchen window one day while washing dishes and saw a very large, circular object land in her field.

After a pause, one of the scientists described a time when he was in the US Air Force during the Cold War and patrolled a Maine beach. His assignment was to look over the Atlantic to detect an imminent attack by Soviet airplanes. He saw four exceedingly fast objects approaching in formation in the sky, scanned them with his binoculars, and determined that they were not “ours” or “theirs.” He called his base and was told that nothing was on the radar. He watched them streaking closer, saw them without his binoculars, and called his commanding officer, who told him he must be mistaken. He replied that he had been assigned to see and report approaching aircraft, which he had just done. He was told to await further orders. In a few minutes, his commander called him back and said, “You do not see anything. Repeat: you do not see anything.” He followed orders and never spoke about the incident. His faculty colleague of almost fifty years, seated beside him, was astounded: “you never told me about this before.” He replied that he had always been fearful about possible negative impacts on his scientific reputation and career if he disclosed the event to anyone.

### **Indian Peoples’ Narratives**

In some events recounted by Indians in the Americas, the Visitors drop by for a while, then depart; sometimes they are amiable, sometimes hostile. In some native peoples’ cultures, they are described as *ancestors* whose intercourse with native populations produced descendants who have survived intergenerationally—including among the Lakota in the Midwestern US and the *Uru-ê Wau Wau*, the “people from the stars,” in Brazil. Among the latter, Bernardo Peixoto was an Uru-ê Wau Wau spiritual leader and healer who earned his Ph.D. in anthropology, left Brazil, and taught indigenous languages and cultures at the Smithsonian. He was subsequently interviewed in Boston by Harvard psychiatrist John Mack (Mack, 1999, pp. 158-9). According to Peixoto, these Visitors are called *atojars*, “entities from the stars” or “people with so much knowledge that they cannot be from Earth” (Mack, 1999, p. 158).

In Indian peoples' cultures, occasional Contact with Visitors had been accepted routinely over the centuries. However, today Indian elders (spiritual leaders, often traditional healers, and on occasion human rights activists) state that a different type of Visitor has been coming to Earth in recent decades. Stories about abductions by the latter are new to Indian cultures. They are described in contemporary narratives, such as in stories by Ardy Sixkiller Clarke, Ph.D., a Cherokee/Choctaw Indian and Emeritus Professor, Montana State University.

In *More Encounters with Star People*, Clarke interviews urban Indians. Jimmy, a seventy-three-year-old traditional elder, healer, military veteran, and college graduate who had described past Star People appreciatively, states that today many species are visiting Earth. Some "have no regard for us as a species. They consider us no better than someone might regard a bug" and have abducted humans—sometimes, without returning them. When Clarke asked Jimmy if "Star People are devious and dishonest," he answered, "No, not the Star People. The Star People are those who came before us. They are the ancestors. I am talking about some of the other species that inhabit this great universe. They make their victims believe they are special or chosen... humans accept their lies and say they are peaceful and loving. There is nothing loving about them" (Clarke, 2016, pp. 179–85).

At the beginning of *Space Age Indians*, Clarke states that "I discovered that there were several races of space visitors, some of whom were benevolent while others were malevolent" (Clarke, 2019, x). Clarke's warnings are complemented by those of psychiatrist John E. Mack in *Abduction*, and astrophysicist Jacques Vallee in *Confrontations*. Their realistic and comprehensive assessments of Visitors' practices and procedures revise and supplement the partial and much more idealistic narratives that usually describe them and their Contact with humankind.

## Teilhard de Chardin: Intelligent Species in Space

A few years ago, I made a startling discovery as I searched for scientists who have stated that intelligent, other-than-human species are present in the cosmos. Renowned Jesuit geologist, paleontologist, and mystic Pierre Teilhard de Chardin (1881–1955) pondered that possibility in 1920 and later in 1953, shortly before his death. Earlier in his life, because he had stated that Christianity and evolution were compatible, Teilhard had been exiled by the Vatican from his native France to China. Ironically, while there, he was invited to be the geologist for the expedition that in 1928 discovered *Sinanthropus pekinensis* (Peking Man), the then-oldest human remains ever found.

A collection of Teilhard's essays was published as *Christianity and Evolution* (Teilhard, 1971). In the book, in an unpublished 1920 essay, "Fall, Redemption, and Geocentrism," he wrote: "[I]t is almost impossible to conceive that, among the millions of Milky Ways which whirl in space, there is not one which has known, or is going to know, conscious life" (p. 38). In an unpublished 1953 essay, "A Sequel to the Problem of Human Origins: The Plurality of Inhabited Worlds," he stated that since there are "millions of galaxies in the universe" (p. 230), if technology were available to detect the "specific radiation of the 'noospheres'" [intelligent beings' locales, as indicated by energy emanating from their thinking] scattered throughout space, it would be *practically certain* that what we saw registered... would be a cloud of thinking stars" (p. 231). He went on to say, integrating his understanding of evolution on Earth with his theory about a similar evolution among other species on other worlds, that "considering what we now know about the number of 'worlds' and their internal evolution, the idea of a *single hominized planet* in the universe has already become in fact (without our generally realizing it) almost as *inconceivable* as that of a man who appeared with no genetic relationship to the rest of the earth's animal population" (p. 231).

Teilhard's latter elaboration is a good counterbalance to the more well-known but less accurate 1961 proposal of radio astronomer Frank Drake. The Drake Equation questioned mathematically whether there could be intelligent life in the cosmos. Drake's calculations are under scrutiny today by scientists who consider the cosmic implications of the number of planets discovered to date.

## J. Allen Hynek (1910–86)

Astronomer Allen Hynek, Head of the Astronomy Department, Northwestern University, was the first official US Air Force/US Government scientific investigator of the UFO phenomenon. He held this position for twenty-two years. Initially, he called himself the "official debunker" of UFOs and the existence of other-than-human intelligent



**In Indian peoples' cultures, occasional Contact with Visitors had been accepted routinely over the centuries. However, today Indian elders...state that a different type of Visitor has been coming to Earth...**

species. However, in the course of his work, he gradually realized that he could not scientifically debunk every narrative among the thousands he investigated. He proposed that an independent scientific inquiry be established, one not subservient to the US government. This was not done, and eventually, he resigned his position but continued his work.

While still engaged in his official government capacity, Hynek developed the "Close Encounters" categories that intrigued Steven Spielberg. This inspired Spielberg's *Close Encounters of the Third Kind*. The film is based on stories of people who had had some Contact with other intelligent beings. A CE-I was an object within five hundred feet of the observer; a CE-II was an object that left physical evidence that it had come; a CE-III was an event where direct Contact had occurred (Hynek, 1997, pp. 135–219). Hynek elaborates on these categories in Chapter 7: "UFOs Close Up: Close Encounters of the First Kind"; Chapter 8: "The UFO Leaves Its Mark: Close Encounters of the Second Kind"; and Chapter 9: "Approaching the Edge of Reality: Close Encounters of the Third Kind."

### **John Mack (1929–2004)**

In his writing on Contact, John Mack reluctantly became a controversial figure within the scientific community before his untimely death in 2004. Pulitzer Prize recipient Mack headed the Department of Psychiatry at Harvard Medical School. When engaged in research on ETI abductees (whom he called Experiencers), in hopes of finding a new type of delusion, several of his colleagues complained that his scientific credentials were being diminished thereby and unsuccessfully sought to have him fired.

In *Abduction: Human Encounters with Aliens* (Mack, 1994 p. 13), Mack states that "some encounters are more sinister, traumatizing, and mysterious. Others seem to bear a healing and educational intent.... Even less well-documented than the actual abductions are the consequences of the experience.... Many Brazilian abductees experience [afterward] increased telepathic abilities, clairvoyance, visions, and the receiving of spiritual messages which are often concerned with world ecology, the future of humankind, and social justice."

A scientific assessment complementary to the stories narrated by Mack and Clarke is presented by Reinerio

Hernandez et al. (2018) in the *Journal of Scientific Exploration*: "A Study on Reported Contact with Non-Human Intelligence Associated with Unidentified Aerial Phenomena." The study was under the auspices of the Dr. Edgar Mitchell Foundation for Research into Extraterrestrial and Extraordinary Experiences (FREE). It investigates the stories of more than three thousand people who "reported various forms of contact experience (CE) with a non-human intelligent being (NHI) associated with or without an unidentified aerial phenomenon (UAP)."

### **Edward O. Wilson (1929–2021)**

Harvard Emeritus Evolutionary Biologist, National Medal of Science and Pulitzer Prize recipient, and prolific author E.O. Wilson at first questioned the possibility that there was other-than-human intelligent life in space. After the Hubble and Kepler (NASA), and Gaia (European Space Agency) telescopes discovered thousands of planets, Wilson changed his mind and wrote chapter 10, "A Portrait of E.T." in *The Meaning of Human Existence* (Wilson, 2014, pp. 110–22). In it, he speculated about what that other intelligent life might be like, basing his projections on his vast knowledge of Earth species. He reinforced his statements in a "Big Think" television program, which he opens with "E.T. is out there" (<https://youtu.be/eS875xBs1T4>). More recently, Wilson remarks in *Tales from the Ant World* (2020, Introduction, "Ants Rule," 1) that "...visitors from other star systems, when they come (and mark my word, they will eventually come)...." Indeed, "E.T. is out there."

Disclosure: Wilson and I wrote complimentary blurbs for each other's 2006 book: he for *Sacramental Commons* and I for *The Creation*.

### **Stephen Hawking (1942–2018)**

The late Cambridge University mathematical cosmologist Stephen Hawking served as my intellectual foil in the first two books of the *Cosmos Contact* trilogy. Initially, he had denied that other-than-human intelligent life exists. He declared that humans should abandon Earth (since humanity is destroying its home planet) and establish a base on the moon and a colony on Mars to survive as a species. Then, he acknowledged that intelligent life might exist elsewhere in the cosmos but was dangerous to human existence: humanity should hide from it and not try to communicate with it. Eventually, he allowed for cautious Contact. Finally, he reversed his earlier positions entirely, stating that to his "mathematical mind" it was "perfectly rational" to assert that other intelligent beings exist, given the discovery of vast numbers of planets. Not only was ETI/IDI "out there," but humankind for its part, should strive to protect and not abandon Earth: it is humans' home, and the only planet humans know.



He declared in a front-page essay in the December 1, 2016 edition of *The Guardian* that humans should be concerned about their home planet and seek to conserve it: Earth is the only planet on which humans can live now and into the foreseeable future:

We face awesome environmental challenges: climate change, food production, overpopulation, the decimation of other species, epidemic disease, acidification of the oceans. Together, they are a reminder that we are at the most dangerous moment in the development of humanity. We now have the technology to destroy the planet on which we live, but have not yet developed the ability to escape it. Perhaps in a few hundred years, we will have established human colonies amid the stars, but right now we only have one planet, and we need to work together to protect it. (p.1)

### Jacques F. Vallee

Astrophysicist Jacques Vallee is a mathematician (B.Sc., Sorbonne), astrophysicist (M.Sc., Lille University), and computer scientist specializing in artificial intelligence (Ph.D., Northwestern University). His first position after he received his astrophysics degree was at the prestigious Paris Observatory. There he saw, along with other astrophysicists and astronomers, footage of anomalous objects cruising the cosmos, going at speeds and making maneuvers impossible for human aerial craft. The Director of the Observatory seized and destroyed the films. The incident stimulated further Vallee's longtime interest in the presence of Visitors in Earth's solar system.

In 1980, Vallee climbed with his wife, Janine, and Brazilian homicide detectives, up Morro do Vintem, a hill across the bay from Rio de Janeiro. In 1966, on its top, the bodies of two young men had been found. Locals said the men were expecting to meet Visitors, and that a saucer-like object emitting blue rays hovered above the hill while they were on it. Next to their bodies, which were lying on the ground with peaceful looks on their faces, were homemade lead masks. The cause of their death was not determined, even by 1980. Vallee wondered as he went up the hill:

If such an event could be validated, we might get closer to a proof of the reality of UFOs. At the same time, however, many of our ideas about the phenomenon would have to be drastically revised. Gone would be the gentle visitors, the scientific explorers, the mischievous aliens that fill the pages of UFO books.... A more complex and dangerous picture would emerge. (Vallee, 2008, 3)

Although exposed to the open air, the bodies did not decompose. Vultures or other predators or scavengers did not attack them. At and around the site where they were found, no vegetation grows.

Vallee and Chris Aubeck collaborated on a more than two thousand-year summary history of unusual events and human encounters with strange intelligent beings in *Wonders In The Sky* (Vallee & Aubeck, 2010). In it, the historical stories from biblical lands date back to 1460 BCE in Lebanon (p. 29) and, among biblical narratives, to 850 BCE, the story of the prophet Elias/Elijah (1 Kings 16-2 Kings 2) in which the prophet and his successor prophet, Elisha, with whom he is walking and conversing, are separated by a fiery chariot pulled by fiery horses, and Elias (who does not die in Bible narratives) is taken up to heaven by a whirlwind (pp. 30-32); and to 593 BCE, the story of the prophet Ezekiel (Ez 1-3), who is taken to a mountain top and sees "a whirlwind... a great cloud with raging fire engulfing itself... brightness all around it and radiating out of its midst the colour of amber," and extraordinary "living creatures" emerged from it, each of whom has four faces and four wings, and "wheels within wheels" at their side, on the ground (32-5).

### Avi Loeb

Harvard Astrophysicist Avi Loeb, National Medal of Science recipient, has written numerous technical articles for scientific journals. In 2021, he authored *Extraterrestrial: The First Sign of Intelligent Life Beyond Earth*, a national bestseller, even before it was published. The book focuses on the global news media-reported 2017 exceedingly rapid approach of UAP 'Oumuamua to and into Earth's solar system, partial orbit around the sun, and departure from the solar system. Loeb proposes that this object is a lightsail from an exo-solar system intelligent species. Using a lightsail, a spacecraft can rapidly traverse the cosmos, drawing renewed energy from stars around which it briefly and partially orbits... at 196,000 miles per hour. It functions similarly to how winds propel a sailing ship.

### Puncture Wounds Some Abductees Received from Visitors

Vallee in *Confrontations*, and Mack in *Abduction*, similarly describe wounds received by abductees. According to Mack (1994), the abductees "frequently bear physical and psychological scars of their experience. These range from nightmares and anxiety to chronic nervous agitation, depression, and even psychosis, to actual physical scars—puncture and incision marks, scrapes, burns, and sores" (p. 13); bleeding from the nose, ear, and rectum (p. 30); and persistent gastrointestinal symptoms (p. 31). Vallee (2008) states that Dr. Carvalho in Brazil told him that patients who had been struck by beams of

**Finally, [Stephen Hawking] reversed his earlier positions entirely, stating that to his “mathematical mind” it was “perfectly rational” to assert that other intelligent beings exist, given the discovery of vast numbers of planets.**

light streaming toward them (from UAP) had “Two puncture marks inside the red circles resembling mosquito bites, hard to the touch” (p. 222). Mack (1994) again, in *Abduction*: contactee Peter described very bright “laser beams” projected into the center of his forehead, and afterward found “two small, red lesions like healing pimples behind his ear that were distinct from insect bites in the rapidity with which they healed and the symmetry of their arrangement” (p. 296).

These narratives balance the positive experiences described by Clarke, Mack, and Vallee. The latter are more numerous and well-known; the former are elaborated infrequently because they contradict the dominant, optimistic beliefs expressed by most ufologists.

### **U.S. Government Deception and Misdirection**

The US government has denied for almost eighty years (since Roswell, 1947) that UFOs, UAP, and ExoEarth intelligent beings exist. Recently, it briefly seemed that a breakthrough was in the offing. According to an article by Reis Theibault, “Thanks to Trump-era covid relief bill, a UFO report may soon be public—and it’ll be big, ex-official says” in the March 23, 2021 Washington Post, Senator Marco Rubio (R-Florida) inserted a UAP-related requirement in the \$2.3 billion appropriations bill, which included the Intelligence Authorization Act for Fiscal Year 2021. The “committee comment” part of the Act contained the section “Advanced Aerial Threats.” The latter required a report that, according to the Washington Post, stipulated “that the director of national intelligence work with the secretary of defense on a report detailing everything the government knows about unidentified flying objects, ‘including a ‘detailed analysis of unidentified aerial phenomena data and intelligence’ gathered by the Office of Naval Intelligence, the Unidentified Aerial Phenomena Taskforce, the FBI.” (Thebault, 2021). The promised honest assessment either did not occur or was not released to the public.

In response, the Office of the Director of National Intelligence, on June 25, 2021, issued an “UNCLASSIFIED” *Preliminary Assessment: Unidentified Aerial Phenomena*. In its first paragraph, in the section Scope and Assumptions, the

document states that “This preliminary report is provided by the Office of the Director of National Intelligence (ODNI) in response to the provision in Senate Report 116–233, accompanying the Intelligence Authorization Act (IAA) for Fiscal Year 2021, that the DNI, in consultation with the Secretary of Defense (SECDEF) is to submit an intelligence assessment of the threat posed by unidentified aerial phenomena (UAP) and the progress the Department of Defense Unidentified Aerial Phenomena Task Force (UAPTF) has made in understanding this threat.” As has been customary in government reports and statements about UAP, misleading information is included, and serious questions are deflected in this review of a mere 144 cases of UAP. Other, more provocative, challenging, and evidence-laden cases are omitted. The number of cases cited is a minuscule, selective release of incomplete data from among the thousands that the USAF is known to have received. Also, the report is confined to incidents reported solely in 2004–2021, thereby omitting thousands of in-depth, scientifically analyzed events.

The *Executive Summary* of the supposed “assessment” states inaccurately and dogmatically in its first sentence: “The limited amount of high-quality reporting on unidentified aerial phenomena (UAP) hampers our ability to draw firm conclusions about the nature or intent of UAP” This is stated in the *Preliminary Assessment* (PA, item 3, p. 2. Unfortunately, the PA does not define what it means by “limited amount” or “high-quality reporting,” given that thousands of cases have been reported and scientifically analyzed in past years by Allen Hynek [see above] and Edward J. Ruppelt [see below].

The PA acknowledges that “Most of the UAP reported probably do represent physical objects given that a majority of UAP were registered across multiple sensors, to include radar, infrared, electro-optical, weapon seekers, and visual observation,” and in a few cases, “UAP appeared to exhibit unusual flight characteristics.” However, the PA immediately offsets that observation by asserting that various types of errors might have occurred: “sensor errors, spoofing, or observer misperception” and that the events described need further “rigorous” analysis (PA, p. 3).

### **U.S. Air Force Captain Edward J. Ruppelt**

The government statement is inaccurate, untruthful, and misleading. “High-quality reporting” and “rigorous analysis” were utilized more than fifty years previously in a systematic scientific process devised by US Air Force Captain Edward J. Ruppelt, the first chief of Project Blue Book (which was established to study UFO stories), and Director of the Air Technical Intelligence Center (ATIC) based at Wright-Patterson Air Force Base in Dayton, Ohio. He describes his UAP investigative work in his 1956 book, *The Report on Unidentified Flying Objects* (Ruppelt, 1956).

Ruppelt is one of the most important and exceptional participant witnesses to initial government research about and deliberations on UAP.

Ruppelt's college degree was in aeronautical engineering. He states that by early 1948, when "the Soviets [were] practically eliminated as a UFO source," military speculation about "the idea of interplanetary spaceships was becoming more popular. During 1948, the people in ATIC were openly discussing the possibility of interplanetary visitors...." (p. 30) Ruppelt originated the term 'UFO' to replace "flying saucers."

On the issue of US government secrecy and withholding UAP reports, Ruppelt states that "Some good reports have come in and the Air Force is sitting on them." (p. 240)

At the conclusion of his book, after having done a more thorough analysis of UAP than had been done before (or since), Captain Ruppelt declares:

...every time I begin to get skeptical, I think of the other reports, the many reports made by experienced pilots and radar operators, scientists, and other people who know what they're looking at. These reports were thoroughly investigated, and they are still unknowns. Of these reports, the radar-visual sightings are the most convincing. When a ground radar picks up a UFO target and a ground observer sees a light where the radar target is located, then a jet interceptor is scrambled to intercept the UFO and the pilot also sees the light and gets a radar lock-on only to have the UFO almost impudently outdistance him, there is no simple answer. We have no aircraft on this earth that can at will so handily outdistance our latest jets. (p. 242)

Ruppelt notes that when scientific information is on the "edge" and unaccepted originally, it becomes scientifically mainstream in time. He notes that in France in the nineteenth century, when two scientists in the Academy of Sciences reported that "stones fell from the sky," they were expelled from the Academy. However, although the "stones" stories were initially derided, the "stones" were eventually classified as "meteorites." (p. 242) Ruppelt implies that this will be the case, too, regarding UFOs and their occupants. He concludes his book with the statement, "Maybe the earth is being visited by interplanetary spaceships. Only time will tell." (p. 243)

Ruppelt died suddenly and unexpectedly of a heart attack shortly after his book was published. His expertise, and potential future insights and writing, were preemptively and unfortunately eliminated. No equivalent serious investigation of UAP has been undertaken.

The question, "Are there any UAP that are controlled or piloted by other-than-human intelligent beings?" is readily

answered: "Yes." The question people should ask is "Why are the intelligently controlled UAP and their occupants here, and how should we engage them directly?" This begins to touch on the important issues of intention—to help us or to harm us, or solely to observe us?—and of the way the controllers of UAP might do any of these. Their actions will flow from whether they are benevolent or malevolent or, perhaps, indifferent observers of our self-destruction via our home planet Earth's destruction.

## Affirming Human Intelligence

The number of serious stories about UAP, elaborated by distinguished scientists, should prompt people in the twenty-first century to converse in a language that reflects humanity's current context and considers our potential future place(s) in the cosmos.

In the first paragraph of this essay, I suggested that people who have been unaware of reported Contact events and their potential impacts, or who have been skeptical overall about Contact with other intelligent species, think about how they describe their intellectual position and suggest clarifying questions about Contact issues. A good start would be eliminating the invalid, off-topic question, "Do you *believe* in UAP or that other-than-human intelligent beings exist?" "Belief" usually has to do with metaphysical or metamaterial intellectual speculation, not consideration of physical or material being. The question just asked would be like, "Do you believe that humankind constructed an International Space Station?" Rather, "thought" and "knowledge" are appropriate and relevant exercises of minds reflecting on UAP and other-than-human intelligent species. The questions to be asked then would be: "Do you *think* that UAP or exoEarth intelligent beings exist?" to which a person might reply, "Yes, I do," and provide the reasons why they think this, or "No, I do not" and provide their rationale for this position. If someone has seen a UAP, as I have, another appropriate question would be: "Do you *know* that UAP exist?" to which I would reply, "Yes, I do," and explain how I have such knowledge. The latter two queries would generate at least a pause for thought as the questioner and questioned remain engaged intellectually in a material mode.

After undeniable Contact, overall positive outcomes might result from the different ideas and actions—conflictual or compatible—that originate on Earth and in distinct and distant cosmos places and in the space between them. Humankind should hope and interact in a way that, after Contact, they might coexist congenially with other intelligent species in a relational community of intelligent beings.

(continued on page 22)



Robert Davis

# Spiritually Transformative Experience Triggers

## Introduction

Across cultures and throughout history, humankind has reported spiritual, mystical, and extraordinary experiences of varying kinds. Very little is known, however, about the essence of such experiences that facilitate a perceived sense of union. An indescribable sense of self is a form of awareness in which the person feels that they have found a new way of understanding the world. This Spiritually Transformative Experience (STE) represents an altered state of consciousness consisting of complex perceptual attributes and insights full of significance and importance (Kason, 2019). It is often regarded as one of life's most personally meaningful and lifetime experiences - a profound life-changing ego-transcending incident of reality, wherein the person is significantly changed in terms of personal and philosophical beliefs, behavior, and attitude (Stace, 1960).

STEs have been of increasing interest within the psychological and medical communities in recent years for their potential to facilitate positive aftereffects on physical and mental health. This may include positive shifts in perception, worldview, well-being, improved self-identity, integrity, and coping skills (Woollacott & Peyton, 2021), which can lead to a decrease in psychopathological tendencies (Ko et al., 2022; McClintock, 2016; Stoliker et al., 2022). However, despite anecdotal and experimental evidence suggesting the benefits of STEs, psychological research on this topic is still in its infancy. Although an STE often results in an initial adverse shock to the individual, an established and effective process by the medical community is required for proper professional management, which is severely lacking. Consequently, this evidence, when combined with the high incidence of an estimated 80 million American adults who claimed to have had an STE (Gallup, 2003), a strong argument can be made for more research across multiple domains on STEs in scientific and medical communities.

## Triggers of a Spiritual Transformative Experience

As with any experience that is filtered through our layers of culture, language, and individuality, STEs also share several similar themes and features. These different transcendent states of reality take on a myriad of forms, from extraordinary experiences to perceptions of non-Earthly environments. These events are believed with a sense of certainty



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typical of any perception or experience during everyday life.

Given the complex dimensions of an STE, it may be practical to categorize the various triggers known to facilitate this complex subjective phenomenon. These include, but are not limited to, the following phenomena:

- Near-death experiences (NDE)—a common pattern of events that many people experience when under an intense threat, are seriously ill, or come close to death.
- Out-of-body experiences (OBE)—a visual and somato-sensory perception that one's mind or soul is acting or perceiving independently of the body.
- Interactions with Unidentified Anomalous Phenomena (UAP)—observations in the sky that cannot be identified as aircraft or other known phenomena.
- Psychoactive drugs—such as psilocybin or N,N-Dimethyltryptamine (DMT)—a principal psychoactive component of ayahuasca.
- Kundalini awakenings (KAs)—traditionally understood as the force that gives rise to the universe and governs our physiological processes and spiritual awareness.
- Others—such as interactions with non-human intelligent beings (NHI), meditation, yoga, traumatic events, prayer, sensory isolation, and non-invasive brain stimulation, among others.

It is hoped this article will help generate hypotheses to test for future research to better understand STEs' impact on

well-being and to develop methodological considerations to study the importance of this poorly recognized intuitive phenomenon.

No matter the specific trigger, however, the overall psychological impact is similar in many ways (Yaden & Newberg, 2017) in those who report an STE. People express the belief of acquiring new knowledge of the self and the world, where life is viewed more positively (Kason, 2019; Wollacott, 2021; Wollacott & Shumway-Cook, in press; Yaden & Griffiths, 2020). In fact, most STEs are described positively using concepts related to their interaction, such as God or a Deity, a force, an energy, a UAP, a spirit, consciousness, or Love (Luke & Yanakieva, 2021; Newberg, 2016). The use of these terms raises interesting questions about an individual's beliefs, cognitive processes, and the complex dimensions of each person's STE and the unique trigger that facilitates it.

Among the core sub-components of an STE, there are themes and features unique to each trigger. This includes the following:

- UAP—physical reactions such as a sense of being immobilized, experiencing sexual encounters, receiving medical experiments, and interactions with hybrid babies, among others, such as burns, headaches, medical healings, altered perceptions, and/or moving through solid objects, and non-physical interactions such as non-verbal or telepathic communication, unexplained events prior to observing NHIs associated with or without a UAP, an OBE and feeling of entering a non-Earthly environment, exchange of information, and/or missing time, among others.
- DMT—encounters with “sentient entities” experienced as “beyond the self” and emerging into other “worlds”
- NDE—reported perceptions of a “tunnel of light,” “life review,” and exchange of communication concerning the decision to re-enter the body
- Kundalini Awakenings—(KAs) sensations of heat or energy rising or “shooting up” in the body, typically in and around the spine; bursts of tingling in the body; and spontaneous involuntary movements, among others (Kason, 2019).
- Ingestion of psychoactive drugs—the sensations of traveling at warp speed through a tunnel of bright lights and shapes, having an OBE, feeling like one has changed into something else and/or visiting other worlds and communicating with alien-like beings.

One consistent conclusion from the few large-scale phenomenological studies of STE-induced triggers is that the majority (approximate range of 60-80%) describe their entity encounter experiences to be markedly similar

(Davis, et al.; 2020, Davis & Scalpone 2018; Greyson, 2014; Griffiths et al.; 2016; Luke et al., 2021). More specifically:

- The encounter was initiated by the entity, with communication being telepathic in nature.
- The primary senses involved were extrasensory and visual in nature, and the general experience was considered more real than normal everyday consciousness.
- The predominant emotions reported by the respondent for both the entity and themselves were positive (i.e., love, kindness, and friendship).
- Most beings encountered were conscious, intelligent, and benevolent in nature.

Beings considered “malicious” or “distrustful” were reported, but less often (~20%) than those positively judged (Davis & Scalpone, 2018; Greyson, 1994). Other similar perceptual features consist of OBEs, “seeing a bright light,” “encountering spirits/people,” and a “feeling of peace” (Greyson, 2004; Martial et al., 2019). One may also sense rising rapidly towards a light, often considered another “plane of consciousness.” In this altered state, one may encounter a Being of Light reported to be either God, another spiritual deity, or an energy form recognized by non-theists.

Relatedly, such shared and distinct features noted among STE triggers may be dramatized by those who report having had a conscious recall of interacting with UAP and/or associated NHIs, often described as the “alien greys,” “human-looking,” and “energy” or “light beings” (Vallee, 2008; Marden, 2021). One large-scale ( $N = 3,256$ ) phenomenological survey study, for example, concluded that the vast majority (~75%) of those who report having had a UAP interaction considered it to be a non-physical” manifestation of some type, with attributes being both psychic and symbolic. More specifically, contact and interaction seem to occur in the form of sensing, visualizing, and/or communicating with NHIs, but only occasionally in connection with a UAP sighting (Davis & Scalpone, 2018; Marden, 2021). These conclusions were based, in part, on the findings that the majority of subjects (60–75%) reported having been contacted in a non-physical way (telepathic communication), sensed being separated from their body (expanded consciousness), and/or to have perceived a “holographic” or “hyperdimensional” reality at the time of their UAP-NHIs interaction (Ring, 1992; Davis et al., 2018; Marden, 2021; Vallee, 2008).

Collectively, similar findings from independent studies (Vallee, 2008; Davis et al., 2018; Marden, 2021) that involve interaction with an NHI, indicated that the majority of subjects did not report events and experiences typically associated with the traditionally held belief (Hopkins, 1993) that the alien-abduction phenomenon is a purely physical

experience. In other words, physical abductions, or the conscious recall of being relocated from one place to another are reported, but much less frequently than previously claimed (Jacobs, 2002; Hopkins, 1993). These preliminary results support the conclusions between professor of psychiatry and DMT researcher Rick Strassman and leading Harvard psychiatrist and UAP abduction researcher John Mack. According to Strassman, when they discussed their comparative research results, they were “blown away by the similarity” of reported experiences and associated transpersonal outcomes in both Mack’s UAP abductee and his DMT research subjects (Strassman, 2001).

### Transpersonal Outcomes

Based on recent large-scale phenomenological studies (Lawrence et al., 2022; Griffith et al., 2019; Kason, 2019), one’s perceptual shift in the personal and philosophical beliefs that accompany ego-dissolution may be the common factor responsible for the psychological benefits resulting from an STE trigger (Stace, 1960; Grof & Grof, 2019). There is now ample evidence, for instance, that psychedelic drugs (e.g., psilocybin and DMT) can have long-lasting beneficial effects on subjective well-being and reduce the severity of certain psychological disorders, such as anxiety, depression, addiction, and PTSD (Ko, 2021; Stoliker, 2022). In fact, a recent systematic review of twelve studies on psychedelic administration to those with psychiatric and/or addictive disorders concluded that the occurrence of mystical-type experiences is predictive of long-term therapeutic benefit (Griffith et al., 2019).

Supporting evidence was found in a study by Woollacott et al., (in press) on the quantitative and qualitative nature of KAs. The attributes of the experience itself, and subsequent transformations in the lives of 53 scientists and academics were evaluated and consistent with prior research results (Kason, 2019). The participants’ beliefs, values, and behavior, for example, were substantially transformed following their STE and included marked increases in their belief in the immortality of the spirit, in their experience of “unity awareness,” their dedication to truth, and desire to serve others. They also substantially reduced their interest in material goals, their fear of death, and any tendencies toward aggression.

Consistent with prior research examining the phenomenology and effects of STEs with an energetic component, or KAs, Woollacott, (2021) evaluated the transformational changes of persons ( $N = 18$ ) who reported a spontaneous STE induced through NDEs, and through spiritual practices. Common descriptions of their perceptual and philosophical outcomes covered a myriad of symptoms, some of which included feelings of “expansion,” very similar to an out-of-body experience. Other symptoms included a sense of being

enveloped in “light” or “Love,” increased “sensory sensitivity,” “creativity,” and “changes in beliefs.” Of 18 descriptors of experiences of energy, the vast majority (85%) reported unusual “flows of energy” through or around the body. Principle triggers for these experiences included concentrating on spiritual matters, the presence of a spiritually developed person, and intense meditation or prayer (Woollacott, 2021). And, consistent with other STE triggers mentioned prior, the poorly understood KA triggers also appear to induce a newly found desire to serve others and an enhanced connectedness with others and belief in life after bodily death.

It is important to note, however, that while many who have an STE report little or no problems adjusting to life, a minority (~10–30%) experience negative and undesirable changes such as the feeling of fear and powerlessness, loss of situational and self-control, and anxiety. They often deal with adverse long-term consequences in relationships, careers, and other important matters in life (Stellar et al., 2018; Grof, 2017; Kason, 2019). Understandably, many suffer in silence, feeling afraid to share their experiences and even fearing for their sanity. Such research findings indicate that mental health practitioners can benefit from the transpersonal outcomes facilitated by an STE, wherein agreed-upon guidelines can be developed to deliver proper diagnosis, treatment, and referrals among medical and psychological professionals. This is especially important since an STE can have adverse psychological consequences and be incorrectly diagnosed as a psychotic disorder in some cases.

Despite the initial ontological shock of an STE, preliminary phenomenological studies indicate that regardless of the specific trigger, the majority (range of 70–90%) report persisting increases in well-being and life satisfaction in healthy populations (Davis & Scalpone, 2018; Greyson, 1994; Kason, 2019; Lawrence et al., 2022; Woollacott, 2021). However, although a minority (range of 10–30%) of those who report an STE describe a decline in certain aspects of their life, such as relationships, jobs, or a sense of religion and spirituality (Lawrence et al., 2022; Davis & Scalpone, 2018; Greyson, 1994), this minority may represent hundreds of thousands, or many millions of individuals who are having a spiritual emergency—a critical and experientially difficult stage of a profound psychological transformation following an STE. This crisis is compounded by the fact that few psychiatrists and psychologists are adequately trained in understanding what an STE is, nor has the psychological community yet to develop specific clinical criteria to properly diagnose and treat one’s unique psychological reaction to an ineffable life-altering trigger event in a well-balanced individual.

The complex symptoms that tend to emerge from an STE, which include, but are not limited to: voluntary movements and visual disturbances, greater sensitivity to the



thoughts, feelings, and energies of one's self and others, enhanced emotions, and the realization of a greater sense of purpose, among others, can be overwhelming for many who experience them. It can leave one challenged with new insights that contradict many pre-existing beliefs and concepts of life without an appropriate framework and support system to which they can turn (Grof & Grof, 2017). Many turn to spirituality as a buffer against this stress by promoting positivity and resilience (Kason, 2019). And, unfortunately, Western medicine is more likely to diagnose and treat a spiritual emergency as a psychological disorder with suppressive medication. Alternatively, if we view the study of non-ordinary states from other spiritual traditions, an STE should really be treated as a crisis of personal transformation or spiritual opening (Grof & Grof, 2017; Kason, 2019). And, if properly supported rather than misdiagnosed and misunderstood by almost all, an STE may be conducive to improvements across many life domains. Consequently, the STE trigger and associated spiritual emergency (Grof & Grof, 2017) must be considered a distinct non-pathological state. This conclusion is supported by studies that have convincingly shown that those who experience STEs exhibit signs of more adequate adjustment, not less, especially with appropriate support over time (Kason, 2019; Steller et al., 2019).

Moreover, the magnitude and mediation of the ontological shock associated with any awe-inspiring STE trigger varies considerably, given its complex personal and contextual dimensions. This includes attributes such as delusional thinking and absorption, which indicate that subjective traits contribute towards the intensity and quality of the overall experience. This has been evidenced by findings of a strong relationship between fantasy proneness and NDE phenomena reported by individuals in situations where there has been no genuine threat to their life (Michael et al., 2019).

Additional evidence to support the transpersonal nature of an STE was provided in a large-scale survey study ( $N = 3,256$ ) in those who reported having had either a physical (abductee) or non-physical (contactee) UAP-NHI type contact experience, as follows (Davis and Scalpone, 2019):

- A large majority (84% of  $N = 1,919$ ) did not want their contact experience to end.
- Approximately three-quarters ( $N = 455$ ) of those who reported having had conscious recall of being on board a UAP craft claimed that their experience changed their life in a positive way, (~20% reported a negative impact from their contact experience).
- The majority (71% of  $N = 433$ ) of those who reported more frequent contacts (>10 times versus < 3 times) were more likely to have experienced a positive impact on changing their life.

Similarly, transpersonal outcomes of an STE were also dramatized in an independent study of DMT subjects (Griffith et al., 2019). Following ingestion of the drug, for example, the percentage of those identified as being atheist or agnostic decreased significantly (from 55% to 26%), and belief in an “ultimate reality, higher power, or universal divinity” increased significantly (from 36% to 58%). It is also common for an STE to alter one's viewpoint about the nature and ecological status of our planet. A large majority (~70% of  $N = 156$ ) of respondents in one DMT survey-based study (Lawrence et al., 2022) reported that its use had increased their subsequent degree of interaction with and concern for nature. A similar outcome was also found in the majority (~75%) of NDE cases, as well as in those who report a UAP-NHI encounter following their STE (Davis & Scalpone, 2018; Greyson, 2004; Marden, 2021; Ring, 1992).

Regardless of the STE trigger, there appears to be some degree of consistency in the content of messages received in the form of counseling and guidance, as follows:

1. More than two-thirds ( $N = 3,778$ ) of respondents in one qualitative DMT study reported receiving a message, purpose, or insightful information about themselves and the universe (Michael et al., 2019). This finding was similar to themes reported by both NDE and UAP study subjects (Davis & Scalpone, 2018; Greyson, 1993; Ring, 1992).
2. The general content of telepathic messages reported from subjects (60–70% of  $N = 3,256$ ) that were reassuring, spiritual, and/or of “Love” or “Oneness” from an NHI, associated with or without a UAP (Davis & Scalpone, 2018), are consistent with information obtained during an NDE (Ring, 2010) and from psychedelic drugs (Lawrence et al., 2022).

Despite the overlap in many phenomenological features among STEs, the specific interpretations and meanings are unique to the perceived content of each trigger itself and the individual's personal characteristics. Individuals who report an NDE and interaction with a Supreme Being or deceased relative, for example, are more likely to believe in life after death. And, those who encounter a UAP and/or NHI, such as alien greys, are more prone to the notion that extraterrestrials are interacting with humans. In contrast, DMT users more frequently report perceiving “hyperspace beings” of varying kinds. But, perhaps the most significant consideration from such narrative and survey studies mentioned prior is that the majority believe that the often described “hyperspace” environment and NHIs encountered continue to exist after their STE trigger. In one DMT study, for example, a majority of a large subject population (>75% of  $N = >$

2,000) deemed this to be the case following ingestion of the psychoactive substance (Griffith et al., 2019), and after other STE induced triggers (Davis & Scalpone, 2018; Kason, 2019; Greyson, 2014; Griffiths et al., 2016)

Moreover, entity encounters cannot be dismissed as non-sensical hallucinations without meaning nor accepted as true alternate and transcendent realities. In fact, evolutionary psychology and neurophenomenology of entity experiences have led to an interesting theory regarding psychedelics (Winkelman & James, 2018). That is, they may partially liberate innate modules that subserve social inferences, agency attribution, intentions, causality, and animacy detection that facilitate the experience of such encounters. This notion is reflected in the opinion of Roland Griffiths, professor of psychiatry, behavioral sciences, and neuroscience at the Johns Hopkins University School of Medicine, who commented: “We have the capacity and are biologically predisposed for these experiences with psychedelics...” and, are “wired to detect sentient others...a predisposition that would have a significant survival value in hostile environments” (Winkelman & James, 2018, p. 14).

Regardless of who holds the truth in the matter, however, the individual’s convincing realization that reality is far more complex than could ever have been imagined appears sufficient to somehow facilitate the largely positive transpersonal aftereffects reported in a majority of individuals after a period of appropriate integration and support.

### Future Research Directions

The integration of different approaches among the social and physical sciences is required to better understand the phenomenological features associated with each STE trigger. This multidisciplinary approach is required to help determine if the subjective experience and transpersonal outcomes incurred represent either:

1. an actual misrepresentation of the true relationships between one’s consciousness and reality caused by a possible psychoactive drug, sleep disorder, drug interactions, and/or central nervous system disorder, among other pure brain-based explanations; or does,
2. an STE trigger represent actual interactions with other realms and non-humans?

Consequently, research should focus on the effects of intra and inter-individual variables on the thematic and semantic content of each STE trigger. This analysis should also incorporate the physiological and cultural characteristics/environmental contexts in which they take place. Unfortunately, however, one major limitation to this approach is that since STE triggers have, and will likely

continue to be studied by separate disciplines, firm conclusions based on phenomenological comparisons are impeded by the different terminology, conceptual frameworks, and theoretical lenses unique to each area of specialization. These inherent layers of complexity present confounding variables that inhibit our ability to conduct well-controlled studies on the comparative phenomenological themes and features reported by those who have STEs, both within and among each trigger.

More specifically, the theoretical grounds upon which each trigger, an STE, and associated transpersonal outcomes are based suggest the need to address several research objectives, as follows:

1. Development of specific criteria to more accurately define and categorize the perceptual features of each STE trigger
2. Assessment of neurobiological (EEG, fMRI, etc.) and psychological parameters in individuals diagnosed with an STE facilitated by each trigger
3. The effect(s) of psychological and socio-cultural factors on the general meaning and content of the STE on the individual and significant others
4. Assessment of the transformative outcomes and associated integrative process on one’s personal and family life
5. The development of standardized methods for evaluating various STE themes, such as ways of engagement, knowing, affecting, and expressing information for therapeutic purposes
6. Others generated from the above analysis

### Discussion

Spiritual Transformative Experiences, which contradict established scientific principles and seem conceptually implausible, are an unquestionable part of human experience. This ego-transcending incident of reality, which somehow facilitates inexplicable perceptions of other realms and beings, sounds like the stuff of science fiction. The only thing that can be said with certainty is that while it cannot be easily rationalized and scientifically validated, an STE has the potential to be the most meaningful and influential moment in one’s life.

It is evident that we have too long ignored the potential aspects of this complex area of study. Only in more recent years have theoretical models in neuroscience, such as a reduction in default mode network activity and dopamine transporters in the basal ganglia (Dean et al., 2019), attempted to explain what governs and regulates the complex manifestations of an STE. And the rationale for an STE in psychology is often explained in the form of predictive processing in terms

of the deep self-models (Chirico, 2021). Despite these discipline-specific theoretical models, among others, perhaps the answer (if there is one) resides in the profound awe-inspiring nature and associated ego-dissolution facilitated by the trigger itself. That is, ego-dissolution may provide the common foundation in the development of models to explain an STE. Moreover, is the individual's newly found realization, whether illusory in nature or not, that we live in a multidimensional universe populated by other life sufficient to facilitate the ineffable ego-transcending moment and subsequent transformative and integrative processes common to STEs? Regardless of the actual truth, therefore, the feeling of realness of the experience and associated self-reported impacts across multiple life domains are what matters most of all.

Despite studies on the transpersonal aftereffects of STEs, the specific contextual themes and features of each trigger have seldom been explored. Given our limited understanding of the multifaceted nature of STEs, we cannot expect science to explain the many reports by those who fiercely believe in having interacted, in some way, with an alternate reality and/or non-humans. This is the paradox at hand because individuals want to know what happened to them, why it happened, what it all means, and who they can tell, among many other questions for which they seek answers with fierce determination following their STE trigger. Given this lack of scientific justification, an admittedly controversial and critical overarching question must be raised. That is, does an STE actually cause one to see a different world or, instead, to see this world differently?

Perhaps the answer can be best obtained once the concept of consciousness, or the subjective dimensions of life, are uniformly defined and integrated within traditional principles into an overarching science in the establishment of true reality within the principles and practices of humanity's next scientific paradigm shift (Davis, 2019). This is an important notion, especially since it is based, in part, on the prior evidence which suggests that information exchange may extend in time and space in ways that seemingly transcend current scientific principles, such as extrasensory perception and telekinesis (Mossbridge & Radin, 2018; Kauffman & Radin, 2021). This evidence, combined with several meta-analyses amassed over hundreds of studies on anomalous cognition that demonstrate significant effect size estimates, supports the validity of extrasensory perception or non-local communication (Mossbridge & Radin, 2018). To stimulate needed research progress in this area, however, a willingness on the part of scientists with an objective perspective on STEs and anomalous cognition is required to help determine whether it can be substantiated by science or remain just a fascinating conjecture that captures our speculation, but nothing more.

The similarities of thematic and semantic content among studies (Griffiths, 2019; Luke, 2012; Luke, & Yanakieva, 2021). of subjective accounts of STE-induced DMT and NDE triggers raise a critical issue. Since new receptors in the human brain for DMT have been identified as endogenous regulators (Deane et al., 2019) and are also released from the pineal gland (Barker, 2018), DMT may play a role in NDEs and other triggers. If valid, a pure brain-based explanation would likely account for many STE trigger-based symptoms, such as the subjective feeling of transcending one's body, entering an alternative realm, perceiving NHI, and themes related to death and dying believed as "more real than real," among others.

Another more recent theory is that the brain features a "God spot," or one distinct region responsible for many aspects of spiritual experiences. The deep subjective essence of intense oneness and enhanced self-transcendence associated with an STE, for instance, has been reported to occur when the activity of the ipsilateral parietal lobe is reduced from a space-occupying tumor (Newberg, 2018). According to several neuroscientists (Newberg, 2018; Persinger, 2001), this perceptual distortion occurs when one is no longer able to differentiate between their inner self and external reality, and the sense of self-transcendence. Interestingly, only patients who had their tumors removed showed a greater tendency towards religious and spiritual beliefs and experiences (Newberg, 2017). Several other brain regions (e.g., medial frontal cortex, orbitofrontal cortex, precuneus, posterior cingulate cortex, default mode network, and caudate) have also been potentially associated with spiritual development and behavior, which may also mediate an STE (Rim et al., 2019). If the brain is indeed hardwired for, at least, some STE symptoms, the next question is whether an STE is a normal part of the physical evolutionary experience, or an innate physiological coping mechanism to manage times of crisis to help maintain the survival of humanity.

Regardless of the cause, however, the results from independent studies (Davis & Scalpone, 2018; Marden, 2021; Ring, 2010; Greyson, 1994; Kason, 2019; Griffith et al., 2019; Wollacott, 2021) have shown similar comprehensive, detailed, and convincing analysis of anecdotal accounts of personal messages received from one's STE. While this evidence may lack uniform scientific merit, especially given its qualitative nature, one undeniable fact raises a fundamental question about the concept of truth within different contextual beliefs and discipline-specific practices. The scientific and medical communities, for instance, want to know if an STE is brain-based in certain circumstances, whereas a philosopher, religious scholar, or practitioner of Eastern Medicine will likely hold an alternative explanation. The dichotomy of viewpoint and need for the study of the triggers and an STE are palpable. However, although my curiosity is high for many



reasons, the transpersonal outcome in the form of a fiercely determined belief that humanity must change their beliefs and viewpoints towards our planet, each other, and ourselves is the main issue. The point is that no one, at this moment in our evolutionary stage of development, understands the potential meaning and implications of each trigger and the STE that gives rise to dramatic changes in one's philosophical and personal viewpoints.

In summary, these fleeting notions, combined with the collective evidence addressed previously, raise the primary issue at hand. That is, whether or not each trigger and an STE are part of a normal evolution of human potential associated with the integration of poorly understood neurobiological and/or psycho-cultural processes or, are instead, a reflection of a realistic experience occurring within an altered realm of existence.

Given this foundation, my objective to elevate the level of awareness of an STE is pronounced to the point whereby I am now co-producing a documentary entitled *The Consciousness Connection* (consciousnessfilm.info) with many committed leading participants in the medical and scientific communities and those who have reported an STE. Pending funding, it is hoped this film will help promote the significance of what we can learn about ontology, consciousness, and our self-identity as potential catalysts for personal transformation and healing. We need to take up the challenge to further the knowledge of our own potential and the further development and understanding of what we prize as our most unique human characteristic, the untapped possibilities of the mind. Perhaps the largely positive personal outcomes facilitated by an STE hold potential for all of us, especially since it represents a movement away from destructive behavioral characteristics and the attainment of values that appear to promote individual and collective survival.

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## Promise and Peril of ETI-TI-IDI Contact

(continued from page 14)

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# Psi, Vital Energy, and Electromagnetism



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Despite decades of parapsychological research, psi phenomena have not yet been convincingly explained in terms of modern physics. In the past, psi was once speculated to be electromagnetic (EM) in nature, its transmission occurring through EM waves. However, the EM theory of psi has long been abandoned as no such waves have been found to conclusively and exclusively mediate psi phenomena.

Nevertheless, reviewing academic and non-academic resources, one may find evidence suggesting the EM nature of psi, in particular in mind-matter experiments. Some particularly experienced martial artists can voluntarily produce effects manifested as EM fields with extraordinary characteristics. These include extra-high voltage ( $10^4$ – $10^5$  V) at field amplitudes high enough to cause sparks ( $>30$  kV/cm) (Fazio, 2022; Senteris, n.d.), a wide range of frequencies covering at least the near-infrared and the entire radio wave spectrum (i.e., VLF–VHF:  $10^0$ – $10^{13}$  Hz) (Chen, 2004; Seto et al., 1992; Yao & Shen, 1997; Ohnishi & Ohnishi, 2009; Fazio, 2022; Senteris, n.d.), and power densities that can melt some polymers and ignite some flammable substances (Feng, 2020; Fazio, 2022; GMW Mystic, n.d.; Grandmaster Wolf, 2022).

The derivative EM fields manifested by these adepts can also carry information. Some practitioners can unconsciously emulate the complex frequency encoding of various remote-control signals (thus, they turn appliances on and off at a distance) (Fazio, 2022; Senteris, n.d.).

## Scientific Research for the Documentation and Understanding of “Vital Energy”

The so-called “vital energy” is considered fundamental to many millennia-old spiritual practices, notably in Chinese

*qigong* and Hindu *yoga*. The word “qigong” is composed of “qi” (or “chi”), meaning “energy” (approximate Sanskrit equivalent “prana”), and “gong” (or “kung”), meaning “hard work” or “cultivation”—which reveals the primary purpose of these practices, namely, to cultivate vital energy. Over the centuries, qigong and yogic practices have mutually influenced each other, and today they have much in common. Both seek to boost vital energy circulation within the body through appropriate exercise and meditation as a means towards the attainment of perfect health, longevity, and enlightenment. Psi abilities (special powers or *siddhis*) are also enhanced as a result, although this is usually not considered a goal *per se*.

The so-called external qi is of particular interest here, which is used by qigong practitioners primarily for healing and self-defense but is sometimes also applied in demonstrations of *telekinesis* (TK), also called *psychokinesis* (PK), and *mind-over-matter*. Such manifestations of qi are often far from subtle.

There is a considerable body of work, scholarly and non-scholarly, investigating the nature of this energy and its propagation. An informative review on external qi was published by Chen (2004), a researcher from the University of Medicine and Dentistry of New Jersey. Over two decades, Chen analyzed a tremendous amount of research on external qi, primarily performed in China, gathering about 100 relatively high-quality references. He showed that qi was associated with a change of readings of a variety of detectors, chemical, physical, and biological (including humans).

Physical detection is the most interesting for the present discussion. In the case of healers, for example, “healing energy” is thought to be subjectively “sent out”—which should be measurable if it is energetically radiative in nature. Indeed, Chen listed many striking results from laboratory tests with qigong healers. For example, one could emit infrared radiation (5–15  $\mu$ m wavelength, i.e., 20–60 THz frequency), modifying its average amplitude, while another was able to alter its frequency.

Microwaves of about 10 mm wavelength (30 GHz) and pressure fluctuations using a germanium micro detector were detected. Enhanced magnetic fields (up to 100 nT, 0.1–0.5 Hz) and infrasound ( $\sim 10$  dB enhancement) were identified at some of the qigong healers’ acupuncture points. Chen also noted that the practice of external qi seems to give rise to many secondary or derivative phenomena, which might be what is detected instead of qi itself.



Outside the scope of Chen's review, Green et al. (1991) from the Menninger Clinic of Houston detected multiple electrostatic potential surges of more than four volts (with respect to ground) on the skin of six practitioners of non-contact therapeutic touch during meditation. The surge duration was between 0.5 and 12.5 s, and the maximum surge amplitude measured was 221 V.

Researchers at Showa University in Tokyo (Seto et al., 1992) found strong bio-magnetic fields during external qi practice. In one experiment, three out of 37 volunteers who thought they could emit qi successfully—a Buddhist and healer, a qigong practitioner, and someone with no qigong or yoga experience—produced a magnetic field oscillating at 4–10 Hz and having an amplitude of 2–4 mG, or 1000 times the norm.

In 1997, Shanghai University researchers (Yao & Shen, 1997) asked 14 qigong masters to direct their external qi towards the antenna of a microwave radiometer operating in the X-band (8–12 GHz), and 11 produced a distinct signal. In 1999, researchers from the New York State and John Kennedy universities (Syldona & Rein, 1999) performed DC electrodermal voltage measurements on three qigong healers. A significant correlation was found between skin potentials (mostly 100–200 mV) and the healers' felt sense of energy flow. Tsuyoshi and Tomoko Ohnishi (2009), researchers at the University of Pennsylvania, showed external qi practice was associated with the standing receiver pushed backward from at least 100 meters away (they did not try further), was apparently reflected by mirrors, and should contain near-infrared radiation (estimated to peak at 1000 nm, i.e., 300 THz).

The work performed by Thelma Moss at UCLA (1979) should also be mentioned here. Extending previous research on high-voltage electrophotography ("Kirlian photography") developed in the USSR, Moss and her colleagues (Moss & Hubacher, 1983) found many correlations between the characteristics of high-frequency (typically in the kilohertz range) corona discharge from people's fingers and their emotional state, sexual excitation, and psychic abilities. Moss's subjects were mainly ordinary people, but she occasionally put energy healers and TK practitioners to the test, including Uri Geller. Moss noticed that the correlations occurred at specific frequencies but not others, inferring the possibility of a dominant frequency within the individual's "vital energy spectrum."

### Practitioners and the Electrical Nature of Qi

Despite the reluctance of most researchers to speculate, let alone draw conclusions on the nature of qi, many qigong masters and TK adepts *do* believe that it manifests primarily in the form of electricity. Jwing-Ming Yang (1997), for example, a qigong master and author of several books on

qigong, provides an extensive discussion of qi in terms of possibly being EM energy.

Public manifestations of vital energy were traditionally considered discreditable and even harmful by both qigong and yoga practitioners. Qigong practitioners were also secretive about their techniques because they used qi for self-defense. This has changed (somewhat) now, and demonstrations of "electrokinetic" skills are easily accessible in the form of recordings uploaded onto social media platforms—primarily by qigong and TK adepts.

Eisenberg (1985) reported repeatedly witnessing a qigong master lighting fluorescent lamps. Purportedly one of the most powerful qigong masters was the late John Chang, from the Mo Pai qigong lineage. In 1988, the brothers Lorne and Lawrence Blair released a documentary (1988) displaying his electrokinetic skills, such as "zapping" people such that they would feel shocked. That brought him immediate fame, which he apparently disliked so much that he promptly disappeared to the Island of Java. He was found by Danaos (2000) and McMillan (2011) (independently), who convinced him to train them and later published their incredible experiences.

The famous TK veteran Trebor Seven (Allen, 2022) has been somewhat discreet about his techniques until recently when he revealed that his training also involved qigong practice (Allen, 2022). His skills include lighting up light bulbs and interfering with lights from a distance, which Chris Fazio has similarly mastered. Chris developed his own method of electrokinesis based on a synthesis of his personal research and the Tien Shan qigong system, which had been brought to America by Bruce Lee's uncle, Master Fook Yueng (Gray, 2019; Freeman, 2021). Like John Chang, Chris can jolt people with his qi and has been very discreet about his progress during nine years of training, but he has lately decided to share some of his knowledge. He can now be seen in several video documents, including an episode of "The Proof is Out There" on the History Channel (Harris, 2022), lighting up fluorescent lamps, producing sparks, remotely interfering with streetlights and Bluetooth devices, switching on



and off TV sets, and many other impressive demonstrations. Sparks are especially interesting, as they provide information about the electric field. The electric field necessary to produce sparks in the air (so-called breakdown voltage) is about 30 kV/cm, so that the actual field strength can be expected to be higher. Considering the length of the sparks produced by Chris, the voltage could likely be of the order of tens of kilovolts. Moreover, the crackling noise produced by the sparks is an indication of a low-frequency (in the Hertz range) oscillation.

Greek martial artist Panagiotis Senteris established a school teaching TK to hundreds of people using his method, which resembles qigong. Videos on his Facebook page, from 2012 until presently (Senteris, n.d.), show him lighting up luminescent lamps with his hands, producing electrical sparks a couple of centimeters long (requiring over 60 kV) and affecting EM-field meters (typically broad range with an upper detection limit of 2.5 GHz). Senteris' students can also be seen driving RC (remote control) cars without using their RC controls. Recently, researchers from LAPDC (Dullin & Varvoglis, 2022) submitted Senteris and his students to close scrutiny for three days and recorded some of these phenomena, not detecting any suspicious behavior or hidden devices.

### Other performances

Another ability is “sticking” paper and cardboard objects to a wall, which may be explained by static electricity. Senteris and his students do this, as does Grandmaster Wolf, who received qigong training in Tibet and China. Wolf's extraordinary demonstrations include temperature and pressure phenomena that can most conveniently be accounted for as electrical—such as increasing the temperature of digital and liquid thermometers (such that the liquid thermometer explodes due to overheating); bursting a balloon inflated inside another inflated inside yet another; visibly compressing plastic bottles and rubber membranes; melting plastic foil placed on his hand and lighting up matches.

Zhou Ting Jue, a well-known Chinese master, and an expert in several martial arts (kungfu, qigong, neigong, etc.), has established a school in Los Angeles, been given the Key to the City of Los Angeles, and is recognized by the California Secretary of State for Outstanding Service to Humanity (Handinthebox, 2010; Shalin Lomita, n.d.). He could remotely heat wet cloth and push heavy objects, among other extraordinary demonstrations.

Jiang Feng, the late master of Shao Lin Kungfu, has also left multiple spectacular video documents demonstrating impressive TK skills, such as breaking glass cups, again easily conceived as an EM effect (through a thermal expansion effect and/or a resonant frequency). In one video, he

**Over two decades, Chen analyzed a tremendous amount of research on external qi, primarily performed in China, gathering about 100 relatively high-quality references.**

demonstrates the directionality of qi, burning a small hole in a sheet of paper by emitting qi with his hand from a couple of meters distance (Feng, 2020).

Electric fields may also account for kinesis variations working with the natural elements fire (*pyrokinesis*), water (*hydrokinesis*), and air (*aerokinesis*), which many people are developing informally through intuitive techniques that include concentration and breathwork. Fire phenomena include setting paper alight (Blair & Blair, 1988; Fazio, 2022; Feng, 2020) and bending and putting out flames (Senteris, n.d.). Water phenomena include producing small-scale waves in water in indoor conditions (Grandmaster Wolf, 2019a), but also outdoors at a larger scale. The phenomenon might be related to aerokinesis, consisting of summoning winds and even changing skies.

### Explaining Qi Revisited

There is an abundant record suggesting the existence of vital energy and that anyone may be able to learn to manipulate it and manifest it with enough effort and practice. Moreover, most of that record suggests that this energy is associated with electromagnetic phenomena, although researchers have not yet found a reasonable explanation of all psi phenomena in terms of electromagnetism only (Radin, 2006; Harvey & Watt, 2007). The information reviewed here shows that trained qigong practitioners can generate a wide range of electric field oscillations: Super low and low frequency (VLF, LF,  $\sim 10$ - $10^2$  Hz, as in works cited by Chen, Seto's experiments, and sparks produced by Fazio (2022) and Senteris (n.d.); High frequency ( $10^3$ , kilohertz, as in Kirlian photography and Moss' (1979) experiments).

Very high frequency (VHF, megahertz  $10^6$ - $10^7$  Hz, as in emulation of toy-car remote controls by Fazio, Senteris, and his students); Ultrahigh frequency (UHF, gigahertz,  $10^9$ Hz), as in works cited by Chen, Yao and Shen, and Bluetooth devices emulated by Fazio; Near-infrared frequency (NIR, terahertz,  $10^{12}$ - $10^{13}$  Hz), as in works cited by Chen, and Ohnishi and Ohnishi's experiments, and TV- remote control signals emulated by Fazio.

Moreover, the fact that practitioners such as Fazio, Senteris and his students can emulate encoded remote control

signals suggests that they can tune the frequency subconsciously depending on the desired outcome. It is important to highlight that one cannot simply switch on/off a device such as a TV set or an RC car by emitting a broadband signal, but a specific pulse sequence has to be sent to the device.

EM radiation results from oscillating electrical charges, and living organisms may not function without such oscillations. In particular, signaling within the nervous systems of all animals occurs through electrical pulses of some tens of millivolts generated by enzyme-mediated sodium and potassium ion exchange through neuron and muscle cell membranes. To understand the generation of high voltage by humans, it could be helpful to establish parallels with electric fish, which have been extensively studied since the early days of electrical batteries and generators.

Several taxonomic groups of fish are capable of generating and detecting electric fields. Depending on the species, the electrical pulses last for between 100 microseconds to tens of milliseconds. They have a frequency of 2 to 1800 Hz, an amplitude of 0.1 to 800 V, a current of up to 20 A, and a pulse power of up to 1 kW in the case of electric ray fish (Kawasaki, 2011). Some fish have evolved to generate low-power pulses for communication or electrolocation. In contrast, others generate higher-power pulses and use them for self-defense or stunning their prey. The mechanism of generating electrical pulses by such fish is similar to that of the neurons of ordinary animals and humans. However, what differentiates electric fish from most other organisms is their ability to simultaneously activate multiple specialized cells called electrocytes (a kind of degenerated muscle cells) connected either in series (in the species generating high voltage) or in parallel (in those generating high current).

Therefore, we, as intelligent species, may be able to activate similar mechanisms, consciously or subconsciously. To emulate remote-control-signal sequences, for example, tuning to a particular frequency might be an essentially subconscious process. Many qigong and yoga masters report that after years of meditation, they gain information from an external boundless source called “Tao” and “Brahman” in the Chinese and Hindu-Buddhist traditions. Other psi phenomena, such as clairvoyance, and pre- and retrocognition, may rely on one’s access to that same source.

Then, how is electricity responsible for the wide variety of external qi effects? We certainly know that it has a vast range of effects in association with the (rapid) change of electrical field. For example, magnetism is intrinsically related to electric currents. Heat is generated due to the absorption of EM waves by matter. If the power density is raised enough, e.g., by focusing, melting or ignition and combustion can occur. Consciously shaping and directing the field is seen as a feature of many TK adepts’

demonstrations, and some qigong masters like Wolf and Jiang Feng have demonstrated their ability to focus it on tiny spots, producing considerable heat, in line with the laser analogy proposed by S. Tsuyoshi Ohnishi, & Tomoko Ohnishi (2009) at Pennsylvania University.

The heat waves generated in a material, as well as some other interactions, can produce mechanical deformations. For example, it is known that visible and IR lasers can be used to induce a response in piezo and MEMS microphones similar to that produced by pressure or sound waves. That is why it is unsurprising that some researchers have obtained a response to qi by using pressure and infrasound micro detectors.

Other TK demonstrations like spinning psi wheels, pushing, pulling, and sticking objects (sometimes rather heavy ones), and compressing relatively elastic materials and objects can most conveniently be explained by electrostatic interactions, especially when the practitioner is close to the object. Qigong practitioners often use the phenomenological concept of *qi pressure* similar to how physicists use *electrostatic pressure*.

However, simple explanations based on electromagnetism, or specifically electrostatics, do not hold for actions exerted on objects several meters away and sometimes even kilometers away, as there is no measurable field in the intermediate space. The human-generated field, if that is associated with qi, seems to be somehow transferred directly to the object, which suggests some sort of *field teleportation* as a possible explanation of qi propagation.

Such an idea may have sounded absurd some decades ago. However, today we admit phenomena previously considered impossible, such as the instantaneous effect of measuring a particle on another placed arbitrarily far away. This effect was called quantum entanglement, as it was initially hypothesized (Einstein et al., 1935) to occur between quantum entities (“particles”), such as electrons and photons. The phenomenon was soon proven, and then it was discovered that it could occur not only across space but also across time (Megidish et al., 2013) and not only at the quantum but also on much larger scales, the current record involving the entanglement of macroscopic objects of some tens of microns (Kotler, 2021).

There is a *quantum teleportation* method based on entanglement—Zeilinger was recently awarded the Nobel Prize in Physics (The Nobel Prize, n.d.) for its development, but it requires a conventional *information-transmission channel*. Proving that both information and fields could be teleported without using such a channel would be a revolutionary achievement.

Then, the phenomena discussed here as expressions of qi may be considered expressions of the *teleportation of*



electric fields, which may, in turn, be a subset of mental information transfer. Further research on mind-matter experiments has the potential to produce some groundbreaking discoveries relevant to virtually all fields of science, and to remove forever the tag “para” from these clearly “normal” phenomena experienced and developed by thousands of people around the globe.

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