JUNG IN THE 21ST CENTURY
(A Study in Two Volumes)

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Volume Two. Synchronicity & Science

JUNG’S CHALLENGE TO SCIENCE

In the first volume of Jung in the 21st Century, we have demonstrated that the theoretical framework of C. G. Jung’s psychology, although formulated nearly a hundred years ago, is well supported by advances the evolutionary sciences have made in the half century since his death. Inherited behavior patterns (archetypes), the “mirror neuron” phenomenon as well as inborn releasing mechanisms by which we recognize archetypal patterns in others or recognize compelling opportunities to enact a specific archetypal behavior ourselves can now be described and tracked physiologically with new instruments of scientific investigation. The limbic action of the complexes and psyche as the holistic process of the human organism (self)—particularly the brain—have become well known by scientists entirely unfamiliar with Jung’s contributions. Furthermore, dreams as transparent messages from unconscious to conscious and dreamscape as a subjectively lived report on brain processes that generally lie outside the purview of ego have also been supported by the chemistry of neuromodulators and images produced by magnetic resonance. Neurobiologists and anthropologists have concluded that dreams
help us to integrate recent waking experience with our phylogenetic heritage (the archetypes).

As long as we confine our attention to neurobiology and ethology, Analytical Psychology fits very comfortably into the world of evolutionary biology. When, however, we pursue Jung’s ideas about the history of consciousness, we find them to be critical of the exclusively empirical and rational perspective of science. Historically, Jung is correct to note that our linear, rational empiricism is a late development in the history of our species. He has no argument with the achievements of science or the empiricism that has made our technical advances possible. What puts him in tension with the scientific establishment and with Western assumptions, generally, is his instance that the “irrational” experiences we typically “resent” are no less important than the rational ones we value.

It is an empirical fact that unitary brain states provide “transcendental” perspectives sometimes characterized by a coincidentia oppositorum that appears to be the very experience many medieval theologians described as “God.” If such experiences are held in contempt today as merely superstitious or frankly pathological, Jung argues that we in the modern West have lost something of value that our ancestors a half millennium ago took for granted. Furthermore, the capacity to cultivate and employ such altered states of consciousness is a universal feature of the human brain and nervous system. The fact that this capacity has not been eliminated by natural selection implies that it must not be a liability, indeed that it has very likely been essential for the survival of our species. We know rituals to generate altered states of consciousness are used by all primate species to build the emotional coherence of their troops, define their social structure and prepare to deal with future threats. Humans have used them to reduce tension between separate groups, solidify cooperation and trading networks, and explore
the greater mythic cosmos that gives transcendent meaning to this one. Altered states have also served as the mental workshop that inspired our species’ first ventures into agriculture, pastoralism, pottery-making and the like. The pursuit of ASCs opened the minds of our ancestors, some forty millennia ago, and set us on the great human adventure that has made modern science possible, and much more besides.

Jung had a compelling interest in altered states of consciousness, beginning in a childhood overshadowed by his mother’s split personality (one side a conventional peasant, the other a daemonic prophetess) and by his pastor father’s struggles with a crisis of faith that was probably responsible for his early death. Young Carl’s spiritual quest began at least with his childhood vision of God defecating on the Basel Cathedral, when he first discovered that God could speak to him personally through the imagery of his own psyche and that organized religion was either ignorant of this possibility or deliberately concealing it. Jung honed such intuitions while writing Symbols of Transformation nearly two decades after the cathedral vision, when he discovered that all of us are living a myth, whether we know it or not. Another dozen years later, he faced a crisis in Taos, New Mexico, when he found the Pueblo Indians living their myth as the proud sons and daughters of the sun. They believed their worship helped the sun to rise every morning for the sake of the whole earth. They knew themselves to be partners of God; and their confident, well-grounded demeanor spoke eloquently of the effects this mythic knowledge had upon their daily lives. There was no wonder they saw white Americans as hollow-eyed, restless searchers.

An echo of the numinous relationship Mountain Lake’s people had with the rising sun occurred for Jung just a year later on Mount Elgon in Kenya—where he, the Elgonyi and a troop of baboons were all caught up simultaneously in a worshipful state of mind at the dawn of every day. The fact that the ancient Egyptians carved lines of worshipping
baboons into the frieze of the Temple of Abu Simbel more than three millennia ago
testifies to the timelessness of our primate religiosity in the face of the rising sun.
Moreover, it emphasizes the nature of the collective unconscious and hints at why we
ignore it to our own peril.

Modern archaeology and its new techniques for dating its discoveries have allowed us to
extend Jung’s view of the history of human consciousness many millennia into the past.
What we have found reveals that Jung’s guesses have again been quite accurate. We
have documented the importance of altered states of consciousness for human ritual
behavior and found that shamanism is nearly a “hard wired” capability of the human
nervous system and therefore the “natural religion of the human mind.” The evidence
shows that shamanism flourishes in a maximally polyphasic society, while forces of
greed, conformity and ambition distrust the unpredictability of what a shaman might find.
Consequently, various powerful elites have, over the millennia, gradually chipped away
at the free exploration of altered states of consciousness, to the point that our modern
Western culture has become almost thoroughly monophasic, in that it trusts only left-
brain linear thinking.

We in the West generally believe in a powerful ego capable of virtually any worthwhile
feat, while the reach and attainments of our ever-advancing technology seem to be proof
that we are right. These fundamental assumptions, however, leave no room for
individuation, the natural tension that always exists between the wholeness of a human
organism and the necessarily narrow focus of its conscious attention. The tension exists
whether we know it or not. Furthermore, it generates dreams, flights of ideas and
symptoms whether or not we “believe in” the unconscious. In many cases, ignoring such
disturbing psychological data can lead to breakdowns and misery. We do not merely
resent our irrational feelings and thoughts, we fear them.
Evidence for the inadequacy of our mainstream attitude is not hard to find. Global warming may be the most striking indication that single-minded reliance on exploiting the earth’s resources for technological advancement has become measurably dangerous as the sea warms and rises to flood low-lying islands and coastlines and huge numbers of species go extinct. Meanwhile, dissatisfaction grows among the human populations of the earth. Frightened by the speed of progress, loss of livelihood and changing mores, many find themselves attracted by the illusory comforts of militant fundamentalisms, while other strata of the population explore altered states of consciousness as New Agers or through a variety of possession-trance religions like Umbanda and Santería.

Feeling trapped by the linearity of mainstream thinking and a subjective lack of depth, our restless species is casting about for at least a minimally polyphasic approach to life. But these are minority movements that have failed to find—or perhaps even to look for—commonality, a coherent rationale by which they might discover unity of purpose. It seems they are in need of a perspective like Jung’s that would legitimize their aspirations while critically examining their methods. Here, however, is precisely where Jung’s reputation has suffered the most. Because he urges us to embrace the irrational and discover the multiphasic nature of human consciousness, he opposes a crucial stand that has characterized Western culture for some 500 years. This is why he has been dismissed for being a “mystic,” in the trivial sense of being an irresponsible and muddle-headed thinker. But if a “mystic” may more properly be one who is experienced in and has learned to use altered states of consciousness as essential tools for psychological and spiritual growth, Jung really was a mystic.

*Evolution and Archetype* demonstrates that Jung was anything but an irresponsible and muddle-headed thinker. He was deeply cognizant of scientific issues and chose his concepts with wisdom and perhaps good luck. Now, however, in *Synchronicity and*
Science we take up the other side of Jung, the psychologist who thought that science has been too timid to investigate matters that are unmistakably real, that confront us daily but that have traditionally been treated with embarrassment and largely avoided.

The first of these is the realm of altered states of consciousness and the irrationality we typically resent. In his call for a polyphasic approach to human consciousness, it may seem to some—observers who are more familiar with Jung’s reputation than with any exposure to his writing—that he is asking for us to relinquish everything we have accomplished in the West with our left-brain rationality. If so, there would be reason enough to call him a mystic in the unflattering and trivial sense of the term. But if, on the other hand, altered states of consciousness can be mastered and become tools of psychological investigation analogous to the left-brain empirical and conceptual tools we have spent the last 500 years honing, it will become clear that the accusation of muddle-headedness is unjust and made on the basis of unexamined assumptions.

We take up this project in Part I of *Synchronicity and Science*, where we will survey a broad array of altered states of consciousness, showing that there are already well-known and even technological professions that use them to very good effect, that all of us are already using them far more than we are aware, and finally that techniques for mastering shamanic states of consciousness have already been documented to some extent. Here is perhaps the best evidence that altered states of consciousness do not represent merely a “going unconscious” or “believing six impossible things before breakfast.” Indeed, it is possible to develop and master altered states and use them to complement the linear thinking with which we are already familiar. This would seem to be the next logical step in the history of consciousness—a future in which we shall deliberately accept and take advantage of the whole array of psychological tools we inherit with our DNA. Meditation practices are another source of non-linear states of
consciousness that have proven to be reliable and transformative but need far more study.

In Part II of this second volume, we take up Jung’s more serious challenge to science—the idea that science has been shirking its responsibility to take seriously the phenomena it treats as inexplicable or non-existent. There are four: life, consciousness, intentionality and parapsychology.

Even before his university years, Jung had familiarized himself with the literature of spiritualism and the table-tipping parlor fad that had taken the West by storm at the turn of the twentieth century. He initiated experiments at his mother’s kitchen table, where his younger cousin Helly showed great promise as a medium for entities believed to be souls of the dead eager to communicate with the living. In his first year at the University of Basel, he urged his fraternity brothers to use their training in science to tackle the phenomena of spiritualism and come up with an explanation for such uncanny occurrences. Throughout his career as a psychiatrist, he kept in touch with the field of parapsychology and observed many telepathic, clairvoyant and psychokinetic events that took place in his consulting room and in the vicinity of his residences. In the final decade of his life he proposed the theory of synchronicity as a way of describing such phenomena.

The idea of synchronicity is widely misunderstood and taken to be an indication of Jung’s superstitious and gullible nature. We will see, however, that it was a serious proposal of a metaphysical nature, and well within the style of thinking that science has historically employed to solve problems like gravity and magnetism that first appeared to be impossible instances of “action-at-a-distance.” In parapsychology, when we know things at a distance telepathically or clairvoyantly, our sensory organs have been
bypassed and no chain of material causes will ever be found to explain how we know what we know. Indeed, parapsychology experiments have repeatedly demonstrated that distance has no effect on the outcome. This is why most scientists are comfortable dismissing such events as impossible or merely coincidental. They seem to be absurd, and not worthy of further consideration.

It is not that science proves them impossible, rather it is merely unable to explain them. Jung identifies our folk metaphysics to be responsible for the confusion. Common Western assumptions about the nature of reality (folk metaphysics) shared by both the uneducated and the scientist declare that only material things are real and that if any one of them changes in shape or position it must have interacted with some other material thing. Following the model of billiard balls or gas molecules colliding with one another, we look for the cause of material change in the vicinity of the object undergoing change. Fundamental to this expectation is the folk metaphysical assumption that every material body, insofar as it is matter, is inert and insensitive. It requires something else to make it change. This makes life itself a mystery, if not an impossibility; for what allows a collection of molecules to spring into life as soon as they are gathered into a biological cell? A tenet of our folk metaphysics not accepted by science attempts to answer this conundrum, too: we say life, consciousness and intentionality are evidence that a separate “spiritual substance” like Descartes’ soul is at work. This creates our mind-body problem: for we have no way of explaining how a spiritual substance can bring about changes in matter—or even what a spiritual substance might be. This is why life, consciousness, intentionality and parapsychology remain inexplicable.

Jung’s proposal of synchronicity as a non-causal principle asks us to stop looking for chains of material causes and not to assume that if two things are meaningfully connected they must be found interacting in the same locality. Just as Faraday
concluded that magnetism and electric current change the properties of space, and
Einstein concluded that gravity is a property of spacetime, so Jung has implicitly proposed that spacetime is characterized by relatedness. He calls this property the "psychoid" nature of reality, meaning that everything in the universe has a psyche-like dimension in that it is not inert, as our folk metaphysics believes, but is always receptive.

The inspiration for this idea comes from quantum mechanics, which Jung came partly to understand through his conversations and exchange of letters with Wolfgang Pauli, one of the founders of quantum mechanics, and from the metaphysics behind the Chinese "Classic of Changes," the I Ching, which claims everything that happens in a particular moment is characterized by the moment in which it occurs. In short, the universe is relational, everything is always in relationship with everything else.

Faraday, Einstein and Jung have all relinquished folk metaphysics in the same way. In every case, a field theory gives up trying to explain a whole as the sum of its parts and instead describes the whole (a field) as imposing conditions on its parts. Thus gravity, a consequence of spacetime’s tendency to bend in response to the mass of a heavenly body, organizes the heavens into regularly orbiting planets, stars and galaxies. Similarly, a psychoid field imposes cooperation upon the entities that comprise it, making them function holistically. The appropriate analogy would be a biological cell—for cells organize all their component molecules holistically, just as a mammalian body organizes its liver, lungs, heart and so forth, for the good of the whole organism. The universe, therefore, resembles an organism, somewhat as the earth is pictured according to the "Gaia" hypothesis. Matter is not inert, as the West has believed for some 400 years, but psychoid in the minimal sense of being receptive to influence. "Psyche" is simply the name we give holistic process. It is relatively simple in the protozoa and far more complex in primates. In the universe at large, it facilitates synchronicity.
Like most of Jung’s theoretical constructs considered in *Evolution and Archetype*, synchronicity represents an intuitive leap that science appears to be catching up with. Quantum mechanics had not yet revealed the universe to be relational in 1952, when Jung published his article on synchronicity. Perhaps, however, the author of the Pauli Exclusion Principle had some sort of intuition along these lines, for he was very aware, both of the “uncertainty” of the behavior of subatomic particles and yet how “symmetrical” that chaotic quantum sea had proven to be.

Twelve years after the publication of “Synchronicity: An Acausal Connecting Principle,” in 1964 physicist John Stewart Bell argued that the logic of mathematics requires that subatomic particles be governed by a relational principle. He called it “non-locality.” It concerns what are called “entangled pairs” of particles like electrons and photons. “Entanglement” simply means that both members of the pair have been involved in a previous interaction together. Bell’s Non-Locality Theorem predicts that, once entangled, two particles will undergo precisely the same changes simultaneously—even if they are too far apart for a chain of causes to connect them. Alternately expressed, the identical changes occur too quickly to allow any “message” to travel from one partner to the other, even at the speed of light. The principle of non-locality, if applied to parapsychological events, would describe how Emmanuel Swedenborg famously became aware, clairvoyantly, of a devastating fire in Stockholm when he was 300 miles away. His psyche was operating non-locally with a place where he was emotionally “entangled.”

In 1982, more than two decades after Jung’s death, Alain Aspect directed an experiment at the University of Paris-South that proved Bell’s Non-Locality Theorem. Menas Kafatos, physicist at George Mason University in Fairfax, Virginia, who specializes in
astrophysics, general relativity and quantum theory, draws a conclusion about non-locality that seems to back up Jung’s intuition of three decades earlier:

Non-locality is a shocking discovery because it appears to subvert the bias that the world is composed most fundamentally of individual objects and their non-relational properties. . . . It appeared as if these results had provided final confirmation that the classical view of the relations between physical theory and physical reality [our folk metaphysics], which quantum physics had been challenging for some time, was no longer supportable (Kafatos & Nadeau, 1990: 1f).

Kafatos and his co-author, historian of science Robert Nadeau, go on to speculate that if “entanglement” is the heart of the non-locality issue, everything that comprises the universe must be entangled and in relation with every other, because at one point, the moment of the Big Bang, every particle was in the same infinitely small location and participating in the same explosive interaction.

Synchronicity, therefore, appears to challenge the same metaphysical assumptions that quantum mechanics challenges. We relinquish our faulty assumptions reluctantly, even though they blind us to current realities. We must presume, therefore, that physics is slowly moving toward accepting the view that the universe is relational, like a proto-organism. Philosopher and mathematician Alfred North Whitehead made a similar argument in extraordinary detail in 1929, with *Process and Reality: An Essay in Cosmology*. Furthermore, as we shall see in Chapter 11 of this volume, evolutionary biology is also searching for a relational principle to complete Darwin’s account of evolutionary process. Thus it may well be that synchronicity, Jung’s most outrageous proposal, will eventually be supported as well as “archetype” and “complex” are today.