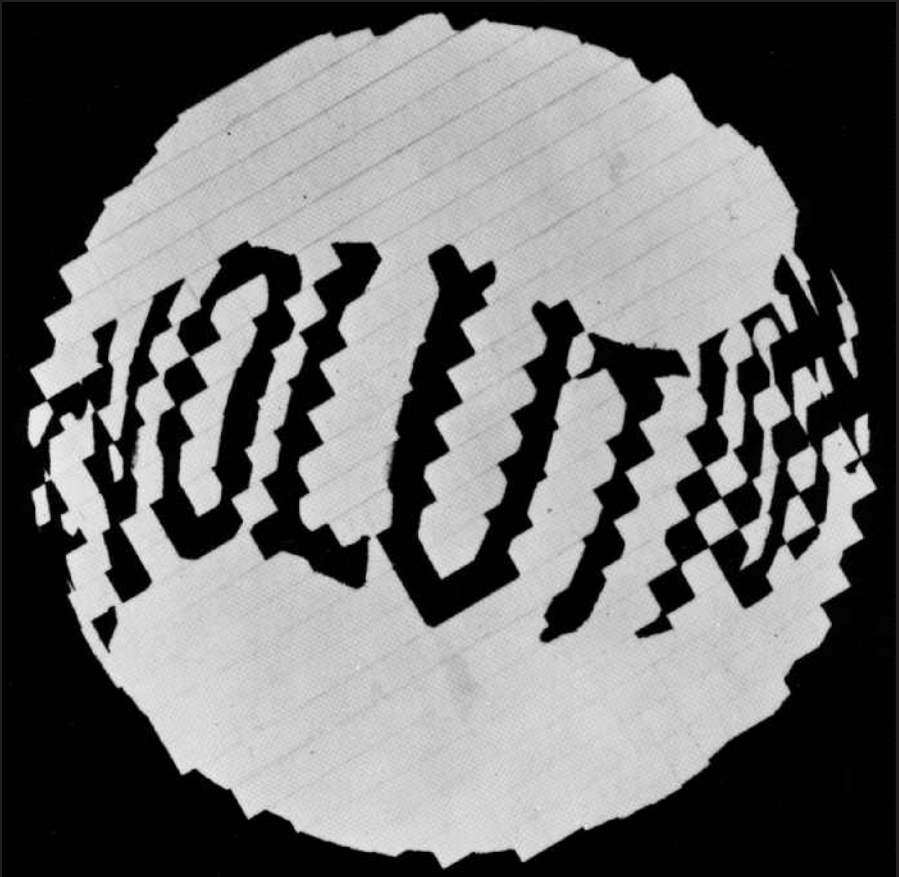


Teilhard and Other Modern Thinkers on Evolution, Mind, and Matter

Peter B. Todd



Teilhard Studies Number 66

Spring 2013

Teilhard Studies Number 66

Spring 2013

Teilhard and Other Modern Thinkers on Evolution, Mind, and Matter

Peter B. Todd

TEILHARD STUDIES is a monograph series concerned with the future of the human in the light of the writings of Teilhard de Chardin. Two issues each year are planned, to be sent to members of the Teilhard Association.

TEILHARD STUDIES

| | | |
|-------------------|---------------------|--------------------|
| Editor | Kathleen Duffy, SSJ | |
| Associate Editors | Brian Brown | Kenneth DuPuy |
| | Arthur Fabel | Donald Gray |
| | John Grim | Donald P. St. John |
| | Mary Evelyn Tucker | |

Peter B. Todd has been a research psychologist at the Neuropsychiatric Institute Sydney, a member of the Biopsychosocial AIDS Project at the University of California, a consultant in the department of immunology at St. Vincent's Hospital, and a research coordinator at the Albion Street AIDS Clinic Sydney. His papers have appeared in the *British Journal of Medical Psychology*, the *Griffith Review*, and the interdisciplinary journal *Mind and Matter*. His most recent book, *The Individuation of God: Integrating Science and Religion*, was published in November 2012 (Wilmette IL: Chiron Publications). He is currently a psychoanalytic psychologist in private practice in Sydney, Australia.

© 2012, American Teilhard Association, <http://www.teilharddechardin.org>

Cover design by John J. Floherty, Jr. Woodcut by Kazumi Amano. Reproduced with permission of the artist and the Gallery of Graphic Arts, Ltd., 1603 York Avenue, New York, NY 10028.

TEILHARD AND OTHER MODERN THINKERS ON EVOLUTION, MIND, AND MATTER

Peter B. Todd

Abstract: In his *The Phenomenon of Man*, Pierre Teilhard de Chardin develops concepts of consciousness, the noosphere, and psychosocial evolution. This paper explores Teilhard's evolutionary concepts as resonant with thinking in psychology and physics. It explores contributions from archetypal depth psychology, quantum physics, and neuroscience to elucidate relationships between mind and matter. Teilhard's work can be seen as advancing this psychological lineage or psychogenesis. That is, the evolutionary emergence of matter in increasing complexity from sub-atomic particles to the human brain and reflective consciousness leads to a noosphere evolving towards an Omega point. Teilhard's central ideas provide intimations of a numinous principle implicit in cosmology and the discovery that in and through humanity evolution becomes not only conscious of itself but also directed and purposive.

Introduction

In his introduction to *The Phenomenon of Man*, evolutionary biologist Sir Julian Huxley provides a synopsis and glowing endorsement of Teilhard's evolutionary ideas published in *The Phenomenon of Man*. Huxley writes,

Teilhard de Chardin was at the same time a Jesuit father and a distinguished palaeontologist. . . . [H]e has effected a threefold synthesis—of the material and the physical world with the world of mind and spirit; of the past with the future; and of variety with unity, the many with the one.¹

As an eminent evolutionary biologist, Huxley (1887-1975) has much more to say in his exegesis, defense, and endorsement of Teilhard's innovative evolutionary thought. With regard to the existence of rudimentary mind-like qualities prior to the emergence of reflective consciousness, Huxley writes the following about Teilhard's contributions.

. . . evolutionary fact and logic demand that minds should have evolved gradually as well as bodies and that accordingly mind-like . . . properties must be present throughout the universe. Thus, in any case, we must infer the presence of potential mind... by backward extrapolation from the human phase to the biological, and from the biological to the inorganic. . . . The brain alone is not responsible for mind, even though it is a necessary organ for its manifestation.²

Years later philosopher Karl Popper (1902-1994) and neuroscientist John Eccles (1903-1997) devised a similar notion that the three worlds of mind, brain, and culture are indispensably necessary. For Popper and Eccles, mind programs the brain to evolve culture which in turn stimulates mental development in a feedback loop.³ While Huxley agreed with Teilhard's view of humanistic evolution, as a secular biologist he could not agree with supernatural elements in Teilhard's theology. Huxley nevertheless concluded his affirmation of Teilhard's contribution writing that,

With his conception of mankind as at the same time an unfinished product of past evolution and an agency of distinctive evolution to come . . . [Teilhard] wanted to deal with the entire human phenomenon, as a transcendence of biological by psychosocial evolution.⁴

Furthermore, Huxley summarized Teilhard's paradigm shift in evolutionary understanding with the comments,

Through his combination of wide scientific knowledge with deep religious feeling and a rigorous set of values, [Teilhard] has

forced theologians to view their beliefs in the new perspective of evolution, and scientists to see the spiritual implications of their knowledge. . . . In the light of that new comprehension, it is no longer possible to maintain that science and religion must operate in thought-tight compartments. . . . The religiously-minded can no longer turn their backs upon the natural world... nor can the materialistically-minded deny importance to spiritual experience and religious feeling.⁵

Before exploring extensions of Teilhard's thought in such fields as quantum physics, neuroscience, and depth psychology, I review Teilhard's thinking about the universe and the emergence of human consciousness, or noogenesis.

Teilhard's Concepts of Noogenesis and Carl Jung on Individuation

In his magnum opus *The Phenomenon of Man*, Teilhard asks, "How could we imagine a cosmogenesis reaching right up to mind without being confronted with a noogenesis? . . . Man discovers that *he is nothing else than evolution become conscious of itself*, to borrow Julian Huxley's striking expression."⁶ In less technical terms, cosmogenesis denotes the evolution of the cosmos while noogenesis is a more specific term referring to the unfolding of a global membrane of consciousness connecting all human beings. Teilhard posits that because humankind possesses reflective consciousness, we are responsible for the future direction of the evolving culture, science, and religion of an embodied spirituality.

For Teilhard the Omega point is the time-space in which the psycho-spiritual and cultural evolution are consummated. Teilhard's views concerning the ultimate destination of noogenesis regards the reducibility of psyche or mind to purely material processes in the brain and the entropy of a final death and disintegration of the noosphere as potentially fatal to the achievement of the final unity of matter and consciousness that he called the Omega point. For

Teilhard, purpose and direction in evolution are necessary to its consummation in the Omega point. His views are expressed in the following passage:

The radical defect in all forms of belief in progress, as they are expressed in positivist credos, is that they do not definitely eliminate death. What is the use of detecting a focus of any sort in the van of evolution if that focus can and must one day disintegrate? To satisfy the ultimate requirements of our action, Omega must be independent of the collapse of forces with which evolution is woven.⁷

Teilhard expresses the same view in *The Future of Man*. He rejects the Marxist notion of a culmination of anthropogenesis in an eventual state of collective reflection and participation in which the individual becomes one with the whole social system. He wrote, "A world culminating in the Impersonal can bring us neither the warmth of attraction nor the hope of irreversibility (immortality) without which individual egotism will always have the last word."⁸

Rather than being subsumed into it, individual identity is enhanced through active participation in an archetypal cosmic order or evolutionary process. In Teilhard's thought, this is participation in the emergence of the noosphere from cosmogenesis. Teilhard summarizes his reflections in *The Phenomenon of Man* with statements such as, "I adopt the supposition that our noosphere is destined to close in upon itself in isolation, and that it is in a psychical rather than a spatial direction that it will find an outlet, without need to leave or overflow the earth."⁹ His vision of the future of humankind is expressed in a succinct passage:

. . . mankind, *taken as a whole*, will be obliged . . . to reflect upon itself at a single point; that is to say, in this case, to abandon its organo-planetary foothold so as to shift its centre to the transcendent centre of its increasing concentration. . . . The end of the world: the overthrow of equilibrium, detaching the mind,

fulfilled at last, from its material matrix, so that it will henceforward rest with all its weight on God-Omega.¹⁰

These ideas are similar to Carl Jung's notion of a continuing incarnation of God especially in human psychic development through individual and collective human encounters with numinous, unconscious archetypes outlined in his *Collected Works*. Carl Jung (1875-1961), a Swiss psychiatrist who broke from his Austrian teacher, Sigmund Freud, founded the fields of Analytical and Archetypal Psychology. He developed the notion of individuation through encounter with the unconscious and with numinous archetypes of the Self and the God-Image. His notion of the collective unconscious and the archetypes as cosmic ordering and regulating principles reject materialist and collectivist Marxism, and depart from the overly rational position of Freud. Rather, Jung's thought is sympathetic to Teilhard's concepts of noosphere, noogenesis, and Omega. As well, Jung and Teilhard converge on the nature of complementarity between mind and matter. According to Jung, individuation

is the development of the psychological individual as distinct from the general collective psychology. Individuation, therefore, is a process of differentiation, having as its goal the development of the individual personality. Individuation is a natural necessity inasmuch as its prevention by leveling down to collective standards is injurious to the vital activity of the individual.¹¹

In Jungian depth psychology, symbols represent unconscious archetypes which are timeless, cosmic ordering, and regulating principles. Jung's archetype of the Self or *Imago Dei* (God image) is distinctly numinous in character and associated with religious or mystical feelings. This archetype can be understood as corresponding to Teilhard's God-Omega point in cosmology and evolution. In Jungian archetypal psychology, the unconscious not only transcends space-time,¹² it is also co-extensive with the cosmos itself as was Teilhard's notion of extended mind and reflective consciousness through which the existence of the universe is revealed to

itself. These reflections on the relationships between Teilhard's religious cosmology and Jung's psychology also bring into focus ideas in physics that explore relationships between mind and matter.

The Implicate Order of Bohm, Jung's Collective Unconscious, and Teilhard on Psychic Evolution

David Bohm (1917-1992) was a physicist, student of J. Robert Oppenheimer (1904-1967), and a colleague of Albert Einstein (1879-1955). In his later published work, Bohm evolved a concept of mind co-extensive with the universe that closely resembled formulations by other physicists, psychologists, and such religious thinkers as Teilhard de Chardin. Among Bohm's contributions to the exploration of reality was an understanding of consciousness as a coherent whole. In his book *Wholeness and the Implicate Order* (1980), Bohm writes "The vast unconscious background of explicit consciousness and ultimately, unknowable depths of inwardness are analogous to the sea of energy which fills the sensibly perceived empty space."¹³ In his final work, *The Undivided Universe* (1993), Bohm expressed the insight that "active information served as the bridge between the mental and the physical."¹⁴

Bohm's concept of active information as a bridge between mind and matter is remarkably similar and perhaps synchronous with emerging notions of unconscious archetypes as cosmic ordering and regulating principles. These insights provide the basis of an argument for a complementarity of mind and matter. Bohm clearly adopted a dual-aspect monist notion of the mental and the physical being complementary though irreducible to one another, while rejecting reductionism of either an idealist or materialist nature. Like other scientists of his day, he explored a position different from, but resonant with, panpsychism and panexperientialism as well as Teilhard's concepts of noogenesis and psychogenesis. Bohm's dual aspect concept of extended mind represents a rejection of a purely monist materialist explanation of the nature of reality.

More controversially perhaps, Bohm like Teilhard proposed human participation in “a greater collective Mind in principle capable of going indefinitely beyond even the human species as a whole.”¹⁵ Such collective mind is analogous to Jung’s view of the unconscious psyche and the archetypes.

Bohm summarized his position concerning the role of the observer in this way:

There is no need to regard the observer as basically separate from what he sees nor to reduce him to an epiphenomenon of the objective process. More broadly one could say that, through the human being, the universe has created a mirror to observe itself.¹⁶

Such reflections on mind not only represent a position different from metaphysical materialism; they also refute the argument that God is a delusion. In a perspective illuminated by the insights of Jung and Bohm, Teilhard predicted that humanity not only participates in a numinous dimension but also participates in co-creative divinization by directing the future evolution of the biosphere and the noosphere. Teilhard held that the ultimate nature of evolution is psychic. He refers to the “primordial psychism of the first cells”¹⁷ and to its completion as “a divine focus of mind.”¹⁸ Such an evolution no longer rests on the natural selection of purely random mutations; rather, it has been transformed into a psychosocial or cultural evolution directed by the individual and collective reflective consciousness of humanity. These insights also relate to the work of Wolfgang Pauli on the role of the human observer.

The Personal Equation of the Human Observer in the Work of Wolfgang Pauli

Physicist Wolfgang Pauli (1900-1958) won the Nobel Prize in 1945 for his formulation of the exclusion principle that helped to explain the complex ordering of the elements on the periodic table.

Interestingly, Pauli also collaborated with Carl Jung between 1932 and 1958 in conceptualizing the unconscious as the psychological analogy of the field concept in quantum physics. During this collaboration, Pauli noted that, since the sixteenth century science with its notions of a totally objective detached human observer, strict mechanistic determinism, and absolute causality, had so totally exorcised “spirit” and metaphysics from its investigations into the empirical laws of nature that it had succumbed to a one-sided development. In other words, science had become unbalanced, lacking the wholeness which would be restored if the consciousness or personal equation of the observer were to be integrated into the understanding of nature. The term “personal equation” was coined in the collaboration between Jung and Pauli. According to Pauli and as noted by the late high energy physicist Kalervo Laurikainen

. . . the most important lesson that quantum mechanics has given us is that we must always include the observer in our picture of the world. This was the original spirit in the Copenhagen philosophy and, exactly in this point Pauli represents this philosophy in the most consistent way.¹⁹

The myth of the detached observer is a relic of classical, Newtonian mechanics prior to the quantum revolution. Paradoxically, no science would exist in the absence of the consciousness of the human observer nor would mathematics, which is itself a psychological process “describing relationships organizing matter,” as noted by Karl Pribram!²⁰ Pribram, a neuroscientist best known for his work on the holographic brain, also rejects the notion that consciousness is an epiphenomenal by-product of brain processes remarking that “conscious attention shapes subsequent behavior.”²¹

Classical physics and a Newtonian mechanistic (or “clockwork”) universe had no room for the human observer or for the mind that nevertheless devised experiments and deduced elegant mathematical laws from them in pursuit of scientific understanding of the origins and future destiny of the universe. In fact, neither classical

physics nor Darwin's theory of evolution could explain the anomaly of mind or consciousness with the consequence that mental (psychic) qualities were either squeezed out of existence or marginalized as mere epiphenomenal by-products of brain processes.

Pauli regarded this anomaly as troublesome particularly because scientific theories were "products of the psyche" with a great deal of unconscious preparation. Pauli noted in his correspondence that in quantum experiments the consciousness of the observer could no longer be ignored and, probably due to his collaboration with Carl Jung, he concluded that repression of the psyche after the seventeenth century had been one-sided and dangerous, creating "a materialistic culture in which the influence of religion has continuously diminished and of which a very strict separation between science and religion is characteristic."²²

Pauli, together with Jung wanted spirit to be acknowledged as a basic element of the world along with matter so that the universe would be perceived as an organism rather than as a clock, a vision of cosmogenesis similar to that of Teilhard's noogenesis that implies evolving "towards a divine focus of mind."²³ Pauli and Jung were both mystically inclined with a sense of psychic and physical codes implicit in cosmology and evolution. They had concluded that a relationship of complementarity exists between mind and matter that is analogous to the wave particle duality. This was the epistemological model of a dual-aspect monism having metaphysical implications. One observer described the nature of these connotations saying: "Metaphysics taken seriously in the sense of Pauli and Jung refers to a kind of reality more substantial, more material as it were than everything that physics and psychology would characterize as real."²⁴ This form of extra-physical reality was designated by a mode of cognition expressed through abstract symbols. In a letter to physicist Marcus Fierz, Pauli states:

What I have in mind concerning such a new idea of reality is—in provisional terms—the idea of the reality of the symbol. On the one hand a symbol is a product of human effort, on the other

hand it indicates an objective order in the cosmos of which humans are only part.²⁵

Thus, Pauli regarded the Jungian unconscious archetypes as verifiable in the external phenomenal world and in the internal world of the psyche. He represented the unconscious as establishing relationships that were not trivial or superficial. For example, he wrote in a letter:

Regarding the psychological analogy of the physical field concept, it seems to me to lie in the notion of the unconscious. The latter emerged more or less synchronously with the former... For the unconscious also posits a reality like the physical field. This is (in an everyday sense) an invisible reality mediating a connection between spatially (and maybe also temporally) distant visible phenomena. This seems to me to express a deeper similarity rather than only a superficial analogy.²⁶

Furthermore, in a letter to Jung, Pauli wrote, “like all ideas, the unconscious is simultaneously in man and in nature; the ideas have no location, even not in heaven. Consciousness, on the other hand, was supposed to be only a late-born offspring of the unconscious soul.”²⁷ Thus like Pauli’s unconscious, the Jungian unconscious with its numinous archetypes of the Self and God image is not spatiotemporally bound but transcends space-time. As already suggested, these physicists were exploring an epistemologically dual-aspect monism to conceptualize mind in a way which would be analogous to the wave-particle duality in quantum physics.

Pauli had evolved a profound interest in the structure of Jungian theory that he hoped to enrich with insights from quantum physics, especially a concept of the unconscious as co-extensive with the cosmos. For him, psyche and physics like science and religion exist in a relationship of complementarity rather than being irreconcilable opposites or mutually antagonistic.

One archetype that was particularly meaningful to Pauli was the *coniunctio oppositorum*, the union of opposites or wholeness reflected

in non-local effects, interconnectedness, and holism associated with both the quantum situation and the unconscious psyche.²⁸ Pauli's cosmic ordering principles or archetypes were not spatiotemporally bound or confined. They were as universal and timeless or eternal as those which, like the archetypes of God and the Self, belonged to Jung's collective unconscious, particularly when identified with the external universe or the so-called cosmos within.

Such notions seem to be in a direct line of descent from Teilhard's concepts of complexity-consciousness, noosphere, and Omega point as the culmination of humanization and cultural evolution. Teilhard wrote,

In Omega we have in the first place the principle we needed to explain the persistent march of things towards greater consciousness. . . . By its radial nucleus it finds its shape and its natural consistency in gravitating against the tide of improbability towards a divine focus of mind which draws it onward.²⁹

Regarding the birth of thought, Teilhard wrote, "We saw geogenesis promoted to biogenesis which turned out in the end to be nothing else than psychogenesis. . . . Psychogenesis has led to man."³⁰

In addition to his contribution to understanding the psychophysical problem, Pauli was particularly interested in biological evolution while being skeptical that the evolution of life and emergent consciousness could be explained only through the natural selection of random mutations. Pauli wrote the following to Niels Bohr:

In discussions with biologists I met with difficulties when they apply the concept of natural selection in a rather wide field without being able to estimate the probability of the occurrence in an empirically given time, of just those events which have been important for biological evolution. Treating the empirical time scale of the evolution theoretically as infinity, they have an

easy game to avoid the concept of purposiveness while they pretend to stay in this way completely scientific and rational.³¹

Empirical research entails estimating the probability of events within finite and theoretically explicit timeframes to permit the formulation of predictions. In neo-Darwinian theory, an implicitly infinite timeframe facilitates a virtually miraculous function for the chance or random variations that become available for natural selection while avoiding any Lamarckian, adaptive, or purposive mechanisms in the evolution of species.

Aside from the transcendence of biological by psychosocial evolution, the phenomena of mind and emergent consciousness, non-random or directed mutations,³² and the existence of finality (purpose) in evolution would imply the failure of strict neo-Darwinism as an explanatory framework. Such phenomena would be consistent with the existence of an unconscious “God” principle implicit in the evolutionary process, while constituting a challenge to dogmatic neo-Darwinism with its reliance on the natural selection of random variations operating during prodigious time epochs. In the Jung/Pauli collaboration the unconscious psyche or U-field is the psychological analogy of the field concept in physics while not being spatiotemporally bound. Teilhard’s work on the emergence of the noosphere from cosmogenesis, I believe, does represent a challenge to strict neo-Darwinism as Julian Huxley’s exegesis of *The Phenomenon of Man* implies. How an unconscious God principle or archetype becomes conscious through incarnation in humanity is a question addressed in the contributions of Pauli and Bohm as well as Jung’s treatment of religion in his *Collected Works*.³³ Pauli’s archetypes are analogous to Bohm’s active information in providing a bridge between mind and matter that permits a relationship of complementarity between physis and psyche, science and religion.

The Emergence of Numinous Self Relection

Some of the statements of Pauli, Jung, and Bohm suggest a tendency to identify Mind in its unconscious aspects with an archetypal source of numinous experience and with a God immanent in matter itself. Teilhard expresses an analogous idea when he writes,

Psychogenesis has led to man. Now it effaces itself, relieved or absorbed by another and a higher function—the engendering and subsequent development of all the stages of the mind in one word noogenesis . . . outside and above the biosphere is the noosphere. . . . With hominisation, in spite of the insignificance of the anatomical leap. . . . [t]he earth “gets a new skin.” Better still, it finds its soul.³⁴

Jung quite specifically writes of the evolution of God according to the archetype of the *coniunctio oppositorum* or wholeness.³⁵ He seems to be treating God (and Christianity) as a patient in analysis for whom consciousness needs to be brought into His unconscious darkness in a self-transformative process, one of individuating and becoming whole. As noted in the work of Bohm and Pauli, rudimentary mind-like qualities are present even at the quantum level, prior to the emergence of reflective consciousness. Consciousness is the mirror that the universe has evolved to reflect upon itself and in which its very existence is revealed.

However, it is precisely this expanded and higher consciousness which Jung believes God acquires through incarnation in humankind. In this sense too, Jung believes that God needs humankind to become both whole and complete. The implication is that God and humanity are in an entangled state and that the individuation of each is inextricably bound with the other. In other words, the evolution of God and the evolution of humanity cannot be separated. Christ is a symbol of the Self and of the *coniunctio*, since Christ in Jung’s thought reconciles opposites. Jung writes,

One should make it clear to oneself what it means when God becomes man. It means nothing less than a world-shaking transformation of God. It means more or less what creation meant in the beginning, namely an objectivation of God. At the time of creation he revealed himself in nature; now he wants to be more specific and become man.³⁶

Jung refers to the human as well as the divine nature of Christ, alluding to the

. . . despairing cry from the cross, “My God, My God why hast thou forsaken me?” Here, his human nature acquires divinity; at that moment God experiences what it means to be a mortal man and drinks to the dregs what he has made his faithful servant Job suffer. Here is given the answer to Job and clearly this moment is as divine as it is human, as eschatological as it is psychological.³⁷

Such transformations in the God archetype are very close to the noogenesis and Christogenesis of Teilhard de Chardin as seems clear in Jung’s further amplification of the significance of God becoming human as the word made flesh and the Light referred to in the first chapter of St. John’s Gospel. Finally Jung envisions an evolution of the *imago Dei* through historic time:

The future indwelling of the Holy Ghost in man amounts to a continuing incarnation of God. Christ as the begotten son of God and pre-existing mediator is a first born and a divine paradigm which will be followed by further incarnations of the Holy Ghost in the empirical man.³⁸

Through ongoing incarnation in humanity, God becomes conscious and is completed by humankind in directed evolution. It is as an archetypal and cosmic reality rather than a purely theological concept that the idea of an evolving God seems to be most compatible with those notions of rudimentary mind mentioned above in the contributions from quantum physics such as those of

Pauli and Bohm as well as the noogenesis of Teilhard de Chardin culminating in his divine focus of Mind and the God-Omega point.

Concerning a transcendent order in cosmogenesis and the culmination of a continuing process of incarnation Teilhard wrote, “*The mystical Christ has not yet reached the peak of his growth . . . and it is in the continuation of this engendering that there lies the ultimate driving force behind all created activity. . . . Christ is the fulfilment of even the natural evolution of beings.*”³⁹ Teilhard saw the differentiation of his thought from that of such collective human movements as Marxism or secular humanism, stripped of a numinous dimension more succinctly or poetically. God incarnate in the cosmic Christ is the fulfillment of the natural evolution of beings to which Teilhard refers in the passage quoted above. This is similar to Jung’s notion of Christ as embodying the archetypes of the Self and the *coniunctio*.

Conclusions

Eminent physicists and biologists as well as depth psychologists have commented upon the role of reflectively conscious human beings in directing the future of cultural and cosmic evolution. Rather than being mere spectators human beings are actors, participants, and co-creators in the evolutionary process that resulted in the species following a number of pre-hominid ancestors. According to the traditional neo-Darwinian paradigm, the doctrine of natural selection by chance (random) variations still prevails in spite of the incommensurable evidence and anomalies to which I have referred in this article. However with the acknowledgement of such phenomena as global warming with an undeniable anthropogenic contribution as well as the prevalence of pandemics such as HIV/AIDS, malaria, and tuberculosis, humankind may need to embrace Teilhard’s noosphere culminating in God-Omega and to respond collectively as a species to such challenges to survival. Metaphysical materialism and consumerism may represent a menace

to an earth which has lost its soul and its sense of the numinous dimension of evolution.

Furthermore, humankind confronts the transcendence implicit in the cosmic history of the universe and apparently manifest in an eternal Mind as well. And yet, paradoxically, in the experience of an apparently eternal now, the majestic, awesome, and glorious task in which humanity is participating is nothing less than that of completing the incarnation of God in historic time. Teilhard proposes a vision of the future of humanity actively and industriously creating a noosphere or envelope of consciousness and meaning around the closed curvature of Earth. His evolutionary theology brought God down from the figurative heavens and into such close intimacy and identification with spirit/matter and with humanity that God's omnipotent and omniscient qualities and the transcendence of creation depicted in Genesis and enshrined in dogma are called into question.

Teilhard, I suspect, saw with remarkable clarity what the theologians of his time missed, even though it hovered above them in the Sistine Chapel: the mature and empowered stature of the primordial Adam in relation to the generative archetypal father-God. However removed from the traditional, interventionist stance in dogmatic theology, the incarnation of God in cosmic evolution implies that God becomes fully conscious and whole through and is completed by humankind in a *unio mystica* of perhaps unsuspected significance. As Teilhard reiterates at the conclusion of *The Future of Man*, "Erit in omnibus omnia Deus,"⁴⁰ which means that God may become all in and through all. Alternatively, humankind could evolve in such a way as to fulfill the divine potential of completing the incarnation of God. This is nothing less than a holistic vision, itself mystical, of the interconnectedness and sacredness of all beings in an ecosystem that embraces all forms of life.

It is to the achievement of such unanimity and holism that religion, despite the ridicule of skeptics, has so much to offer, these being the fruits of ecumenism in Christianity and interreligious

dialogue, restoring to a secular world, which has placed its faith in materialism, a collective consciousness of the sacredness of all people and of Earth itself.

Bohm's notion of a Mind extending indefinitely beyond humanity as a whole, his implicate order, and the Jungian unconscious with its archetypal symbols imply the existence of dimensions of the mind and of the Self which are not spatiotemporally bound. Pauli defined his U-field as the psychological analogue of the field concept in quantum physics and believed that the reality of archetypal symbols was metaphysical and stood for a reality more substantial than concepts in either physics or psychology. The God archetype (*imago Dei*), for instance, could not be reduced to the status of a mere psychological concept. Pauli and Jung referred to the common ontological foundation from which both mind and matter emerge in a dual-aspect monist concept of reality as the *unus mundus*. This primordial reality of the collective unconscious and the archetypes transcending space and time is analogous to Bohm's implicate order. The supernaturalness of humanity which Jungian analyst Michael Fordham posited⁴¹ lies in the emergent reflective consciousness through which the numinous dimension implicit in Teilhard's evolutionary process is revealed and consummates itself at point Omega. This transformation in consciousness is, I believe, the divinization or re-sacralization of the world of which Jung, Pauli, Bohm, and Teilhard de Chardin were intuitive prophets.⁴²

Notes

¹ Pierre Teilhard de Chardin, *The Phenomenon of Man*, trans. Bernard Wall (New York: Harper & Row, Publishers, 1959), 11.

² *Ibid.*, 16-17.

³ Popper, K. R. and J. Eccles, *The Self and Its Brain: An Argument for Interactionism* (London: Routledge and Kegan Paul, 1983).

⁴ Teilhard de Chardin, *Phenomenon of Man*, 24.

⁵ *Ibid.*, 26.

⁶ *Ibid.*, 221.

⁷ *Ibid.*, 270.

⁸ Pierre Teilhard de Chardin, *The Future of Man* (London: William Collins and

Sons, 1964), 287.

⁹ Teilhard de Chardin, *Phenomenon of Man*, 287.

¹⁰ Ibid., 287-88.

¹¹ C. G. Jung, *Psychological Types*, vol. 6 of *The Collected Works of C. G. Jung* (Princeton: Princeton University Press, 1971), 448.

¹² See for instance C. G. Jung, *Psychology and Religion*, vol. 11 of *The Collected Works of C. G. Jung* (Princeton: Princeton University Press, 1971).

¹³ David Bohm, *Wholeness and the Implicate Order* (London: Routledge, 1980), 267.

¹⁴ David Bohm, *The Undivided Universe* (London: Routledge, 2002), 386.

¹⁵ Ibid.

¹⁶ Ibid., 389.

¹⁷ Teilhard de Chardin, *Phenomenon of Man*, 166.

¹⁸ Ibid., 271.

¹⁹ Kalervo V. Laurikainen, *Beyond the Atom: The Philosophical Thought of Wolfgang Pauli* (Berlin: Springer-Verlag, 1988), 163.

²⁰ Karl R. Pribram, "Consciousness Reassessed," *Mind and Matter* 2, 1 (2004), 14.

²¹ Ibid. 27.

²² Laurikainen, *Beyond the Atom*, xv.

²³ Teilhard de Chardin, *Phenomenon of Man*, 271.

²⁴ H. Atmanspacher, "Editorial," *Mind and Matter* 9, 1 (2011): 4.

²⁵ Quoted in Ibid.

²⁶ Quoted in K. von Meyenn, "Dreams and fantasies of a quantum physicist," *Mind & Matter* 9, 1 (2011): 11.

²⁷ Ibid.

²⁸ Peter B. Todd, *The Individuation of God: Integrating Science and Religion* (Wilmette, IL: Chiron Publications, 2012).

²⁹ Teilhard de Chardin, *Phenomenon of Man*, 271.

³⁰ Ibid., 181.

³¹ Quoted in H. Atmanspacher and H. Primas, "Pauli's Ideas on Mind and Matter in the Context of Contemporary Science," *Journal of Consciousness Studies* 13, 3 (2006): 27-28.

³² Johnjoe McFadden and Jim Al-Khalili, "A Quantum Mechanical Model of Adaptive Mutation," *Biosystems* 50, 3 (1999): 203-211.

³³ K. von Meyenn, "Dreams and fantasies of a quantum physicist," *Mind & Matter* 9, 1 (2011):11.

³⁴ Teilhard de Chardin, *Phenomenon of Man*, 181-83.

³⁵ C. G. Jung, *Memories, Dreams, Reflections* (London: Fontana Books, 1995); C. G. Jung, *Answer to Job*, vol. 11 of *The Collected Works of C. G. Jung* (London: Routledge & Kegan Paul, 1952).

³⁶ Jung, *Answer to Job*, 401.

³⁷ Ibid., 408.

³⁸ Ibid., 432.

³⁹ Teilhard de Chardin, *Future of Man*, 305.

⁴⁰ Ibid., 308.

⁴¹ Michael Fordham, *Explorations into the Self* (London: Karnac Books, 1985), 193.

An Invitation

Membership in The American Teilhard Association is open to all who wish to join in our work of shaping a future worthy of the planet Earth, of ourselves and of our children.

A brochure describing our purpose and programs will be sent in response to requests mailed to John Grim, 29 Spoke Drive, Woodbridge CT 06525. Interested parties can also e-mail tcmk@aya.yale.edu.

Membership

Annual contribution (tax deductible):

| | |
|--|----------|
| Regular | \$35.00 |
| Household | \$40.00 |
| International | \$40.00 |
| Contributing, beginning at | \$100.00 |
| Student, full time, under 30 years | \$10.00 |
| Life membership | \$400.00 |

All members will receive annually two issues of *Teilhard Studies*, the Association's newsletter *Teilhard Perspective*, and notice of the Annual Meeting.

An Invitation to Authors

The editors of the *Teilhard Studies* invite and welcome papers that explore, develop, or put into practice Teilhard's vision. A preferred length is twenty-five double-spaced pages. Please send paper proposals or manuscripts to Kathleen Duffy, SSJ, Ph.D., Department of Physics, Chestnut Hill College, 9601 Germantown Avenue, Philadelphia, PA 19118, or kduffy@chc.edu.

TEILHARD STUDIES

1. Berry, Thomas, *The New Story: Comments on the Origin, Identification and Transmission of Values*. Winter 1978.
2. Gray, Donald, *A New Creation Story: The Creative Spirituality of Teilhard de Chardin*. Spring 1979.
3. Berry, Thomas, *Management: The Managerial Ethos and the Future of Planet Earth*. Spring 1980.
4. Wolsky, Alexander, *Teilhard de Chardin's Biological Ideas*. Spring 1981.
5. Fabel, Arthur, *Cosmic Genesis: Teilhard de Chardin and the Emerging Scientific Paradigm*. Summer 1981.
6. Grim, John, *Reflections on Shamanism: The Tribal Healer and the Technological Trance*. Fall 1981.
7. Berry, Thomas, *Teilhard in the Ecological Age*. Fall 1982.
8. Fabel, Arthur, *The New Book of Nature*. Fall 1982.
9. King, Thomas, S.J., *Teilhard's Unity of Knowledge*. Summer 1983.
10. Swimme, Brian, *The New Natural Selection*. Fall 1983.
11. Grim, John and Mary Evelyn Tucker, *Teilhard de Chardin: A Short Biography*. Spring 1984.
12. Dodson, Edward O., *Teilhard and Mendel: Contrasts and Parallels*. Fall 1984.
13. Tucker, Mary Evelyn, *The Ecological Spirituality of Teilhard*. Spring 1985.
14. Berry, Thomas, *Technology and the Healing of the Earth*. Fall 1985.
15. Stikker, Allerd, *Teilhard, Taoism, and Western Thought*. Spring/Summer 1986.
16. Salmon, James, S.J., *Teilhard and Prigogine*. Fall/Winter 1986.
17. Anderson, Irvine H., *History in a Teilhardian Context: The Thought of Teilhard de Chardin as a Guide to Social Science*. Spring/Summer 1987.
18. Nichols, Marilyn, S.S.J., *The Journey Symbol*. Fall/Winter 1987.
19. Kraft, R. Wayne, *Love as Energy*. Spring/Summer 1988.
20. Baltazar, Eulalio, *Liberation Theology and Teilhard de Chardin*. Fall/Winter 1988.
21. King, Thomas M., S.J., *Teilhard, Evil and Providence*. Spring/Summer 1989.
22. Grau, Joseph A., *The Creative Union of Person and Community: A Geo-Humanist Ethic*. Fall/Winter 1989.
23. Rees, William E., *Sustainable Development and the Biosphere*. Spring/Summer 1990.
24. Mooney, Christopher F., S.J., *Cybernation, Responsibility and Providential Design*. Summer 1991.
25. Marie-Daly, Bernice, *Ecofeminism: Sacred Matter/Sacred Mother*. Autumn 1991.
26. Hofstetter, Adrian M., O.P., *The New Biology: Barbara McClintock and an Emerging Holistic Science*. Spring 1992. 29

27. Grim, John, *Apocalyptic Spirituality in the Old and New Worlds: The Revisioning of History and Matter*. Autumn 1992.
28. Tucker, Mary Evelyn, *Education and Ecology*. Spring 1993.
29. Dodson, Edward O., *The Teilhardian Synthesis, Lamarckism, and Orthogenesis*. Summer 1993.
30. Haught, John F., *Chaos, Complexity, and Theology*. Summer 1994.
31. Norris, Russel B., Jr., *Creation, Cosmology, and the Cosmic Christ*. Spring 1995.
32. King, Ursula, *The Letters of Teilhard de Chardin and Lucile Swan*. Fall 1995.
33. McCulloch, Winifred, *Teilhard de Chardin and the Piltdown Hoax*. Spring 1996.
34. Ryan, John, *Psychotherapy, Religion and the Teilhardian Vision*. Winter 1997.
35. Falla, William, *Synthesis in Science and Religion: A Comparison*. Summer 1997.
36. Arthur Fabel, *Teilhard 2000: The Vision of a Cosmic Genesis at the Millennium*. Spring 1998.
37. O'Hare, Dennis and Donald P. St. John, *Merton and Ecology: A Double Issue*. Spring 1999.
38. Maalouf, Jean, *The Divine Milieu: A Spiritual Classic for Today and Tomorrow*. Autumn 1999.
39. Dupuy, Kenneth E., *The Once and Future Earth*. Spring 2000.
40. Rae, Eleanor, *Divine Wisdom: Her Significance for Today*. Summer 2000.
41. Greene, Herman F., *Understanding Thomas Berry's Great Work*. Autumn 2000.
42. McMenamin, Mark, A.S., *Evolution of the Noösphere*. Spring 2001.
43. Duffy, Kathleen, SSJ, *The Texture of the Evolutionary Cosmos: Matter and Spirit in Teilhard de Chardin*. Fall 2001.
44. King, Ursula, *Mysticism, and Contemporary Society*. Spring 2002.
45. Haught, John F., *In Search of a God for Evolution: Paul Tillich and Pierre Teilhard de Chardin*. Fall 2002.
46. Salmon, James F., S.J., and Nicole Schmitz-Moormann, *Evolution as Revelation of a Triune God*. Spring 2003.
47. Maalouf, Jean, *Teilhard and the Feminine*. Fall 2003.
48. Berry, Thomas, *Alienation in a Universe of Presence*. Spring 2004.
49. Cousins, Ewert H., *Teilhard's Concept of Religion and the Religious Phenomenon of Our Time*. Fall 2004.
50. Grim, John A. and Mary Evelyn Tucker, *Teilhard's Vision of Evolution*. Spring 2005.
51. Tucker, Mary Evelyn, *The Ecological Spirituality of Teilhard*. Fall 2005.
52. Rockefeller, Steven C., *Teilhard's Vision and the Earth Charter*. Spring 2006.
53. Skehan, James W., S. J., *Geology and Grace: Teilhard's Life and Achievements*. Fall 2006.

54. Rees, William E., *Sustainable Development and the Ecosphere Concepts and Principles*. Spring 2007.
55. Schaab, Gloria L., SSJ, *The Divine Welling Up and Showing Through: Teilhard's Evolutionary Theology in a Trinitarian Panentheistic-Procreative Paradigm*. Fall 2007.
56. Vilas, Rev. Franklin, E., *Teilhard and Jung: A Cosmic and Psychic Convergence*. Spring 2008.
57. King, Thomas M., S.J., *Believers and Their Disbelief: St. Thérèse of Lisieux, Mother Teresa, and Teilhard*. Fall 2008.
58. Heller, Michael *Teilhard's Vision of the World and Modern Cosmology*. Spring 2009.
59. Udias, Agustin, S.J., *Christogenesis: The Development of Teilhard's Cosmic Christology*. Fall 2009.
60. Delio, Ilia, O.S.F., *Is "the World" a Problem? A Teilhardian Response*. Spring, 2010.
61. Grim, John and Mary Evelyn Tucker, *Thomas Berry: Reflections on His Life and Thought*. Fall 2010.
62. St. John, Donald P., *Contemplation and Cosmos: Merton on Maximus and Teilhard*. Spring 2011.
63. Haught, John F., *Darwin, Teilhard, and the Drama of Life*. Fall 2011.
64. Page, Benjamin B., *Schweitzer, Teilhard and the Human Future*. Spring 2012.
65. Bown, Peter G., *Ethics for Economics in the Anthropocene*. Fall 2012.
66. Todd, Peter, *Teilhard and Other Modern Thinkers on Evolution, Mind, and Matter*. Spring 2013.

* * *

McCulloch, Winifred, *A Short History of the American Teilhard Association*. 1979.

These publications may be ordered from the American Teilhard Association, c/o John Grim, 29 Spoke Drive, Woodbridge, CT 06525.

American Teilhard Association

THE AMERICAN TEILHARD ASSOCIATION is dedicated to these objectives:

1. A future worthy of the planet Earth in the full splendor of its evolutionary emergence.
2. A future worthy of the human community as a high expression and a mode of fulfillment of the earth's evolutionary process.
3. A future worthy of the generations that will succeed us.

Guided by the writings of Pierre Teilhard de Chardin, the Association seeks to bring an encompassing perspective to this great task of shaping the well-being of the Earth community at a time when so many disintegrating forces are at work. Teilhard's vision of the sequential evolution of the universe provides a firm and inspiring basis upon which to envision a sustainable future. This vision flows through his unified narrative of the evolutionary sequence of the emerging universe—the galaxies, the solar system, the Earth with its living forms, human history, and humanity's place in the evolving cosmos. This narrative from its origin to the human phenomenon can provide a firm and inspiring basis upon which to proceed. Now, for the first time, humanity is converging towards a new unity in diversity in shaping a multiform planetary civilization. To assist in this work, the Association, since its foundation in 1967, has sponsored annual conferences, lecture series, and a variety of publications.

* * *

Consciousness is the mirror that the universe has evolved to reflect upon itself and in which its very existence is revealed.

—Peter Todd

The mystical Christ has not yet reached the peak of his growth and it is in the continuation of this engendering that there lies the ultimate driving force behind all created activity. Christ is the fulfilment *of even the natural* evolution of beings.

—Pierre Teilhard de Chardin