FROM NOOSPHERE TO THEOSPHERE: CYCLOTRONS, CYBERSPACE, AND TEILHARD'S VISION OF COSMIC LOVE

by Ingrid H. Shafer

Abstract.   Two theme-setting quotations introduce this essay—that of Yeats's falcon, deaf to the falconer's call, adrift in space above the blood-dimmed tide, counterpoised to Pierre Teilhard de Chardin's call to abandon old nationalistic prejudices and build the earth. With primary references to the thought of Teilhard, along with, among others, to Ewert Cousins, Andrew M. Greeley, Karl Jaspers, Marshall McLuhan, Ilya Prigogine, Karl Rahner, Leonard Swidler, David Tracy, and Alfred North Whitehead, I argue that the most crucial intellectual paradigm shift of the twenty-first century will challenge humanity to take the turn from uncritical attachment to rigid absolutism or atomistic fragmentation toward a sense of open-ended, off-centered centeredness and fluid connections—from a static to a dynamic model of reality. Central to my argument is the Teilhardian reinterpretation of the Christian metaphors of creation, fall, incarnation, salvation, and the eschaton in the evolutionary terms of the emergence of cosmic consciousness from the chrysalis of the world of the past—from chaos to order, from biosphere via noosphere to theosphere. Facilitated by the exponential growth of populations, collaborative research, science, technology, and global communication (most dramatically manifested by the Internet), this emergent understanding of what it means to be human can, first, foster the awareness that in humanity evolution has become conscious of itself, and then, gradually, precipitate the formation of "the global village" (the mystical body of Christ), as respectful dialogue replaces diatribe and the dualistic pugilism of Samuel Huntington's "Clash of Civilizations" is gradually transformed into a nonadversarial mentality that values shared humanity and a common purpose. Thus, eons hence, empowered by love-energy, the transmutation of the human into the ultra-human can take the ultimate quantum leap into a yet higher dimension where

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spirit/energy is no longer in need of flesh/mass, and Earth can be safely left behind.

Turning and turning in the widening gyre
The falcon cannot hear the falconer;
Things fall apart; the center cannot hold
Mere anarchy is loosed upon the world,
. . .
Surely the Second Coming is at hand.
. . .
And what rough beast, its hour come round at last,
Slouches toward Bethlehem to be born? (Yeats 1924, 346)

The Age of Nations has passed.
Now, unless we wish to perish
we must shake off our old prejudices
and build the earth. (Teilhard 1969, 37)

ORDER OUT OF CHAOS

During and after the horror of World War I, both William Butler Yeats and Pierre Teilhard de Chardin sensed an impending cosmic birth. Yeats's "Second Coming," written in 1919, reflects despair at the loss of centeredness; he alludes to a nightmare of a rocking cradle and a rough beast slouching toward Bethlehem. Teilhard's vision includes and transcends that of Yeats; it is not mired in naive optimism, as some critics insist, but rather spans vast vistas against the backdrop of eternity. Teilhard may well have become intuitively aware of the essential role critical "points of instability" play in the unfolding of an open, indeterminate future-in-the-making. As Ilya Prigogine's work with nonequilibrium thermodynamics shows, transformation tends to leap forth from a "place" of unstable equilibrium or turbulence with its multiple space and time scales, and what we call coherence arises precisely as entities move further and further away from a state of equilibrium in what appears to be chaos on the macroscopic scale but is in fact a process of self-organization: "In some cases, the analysis leads to the conclusion that a state is 'unstable'—in such a state, certain fluctua-

tions, instead of regressing, may be amplified and invade the entire system, compelling it to evolve toward a new regime that may be qualitatively quite different from the stationary states corresponding to minimum entropy production" (Prigogine 1984, 140). "The discovery is that chaotic conditions in both the world we see (macroscopic) and the world we cannot see (microscopic) have the power to spontaneously organize themselves into patterns of structure and order" (Salmon 1986, 7).

Not only was Teilhard able to hold on to a sense of meaning and to dream of the coming noosphere in the midst of global cataclysm, but it was precisely at the front that Teilhard became aware of himself as "spiritually one with a wider humanity, a collective entity with riches past and future" (Cuénot 1965, 38). Teilhard offers a powerful alternative to Yeats's dark vision. He sensed, to apply the words of the Prigogine title, "Order out of Chaos."

EVOLUTION BECOMES CONSCIOUS OF ITSELF

Today, for the first time in human history, we have the power to destroy ourselves in any number of ways, with nuclear bangs and with ecological whimpers. The welfare of the earth and the survival and success of humans depend on our vision for the future, and that vision will be largely shaped by our faith in a meaningful cosmos. Neither the cynic's derision of the very idea of meaning (or, at best, grudging admission of the necessity for a "noble lie") nor the believer's blind attachment to a petrified tradition (or mourning of the passing of the past) can energize the future. The most crucial intellectual paradigm shift essential for co-creating a flourishing future world will involve taking the turn from atomistic fragmentation or uncritical adherence to rigid absolutism toward a sense of off-centered centeredness and fluid connections without sacrificing the values of diversity and indeterminacy.

The demands of becoming authentic "citizens of the world" will challenge us to push beyond the present tendency toward psychological cynicism, ontological dualism, or yearning for the dead husks of past certainties, and to develop, if not a meta-Hegelian/Einsteinian "unified field theory," at least a sense of the possibility of a dynamic multifocal unity beyond diversity—some sort of Teilhardian ultimate harmonizing 'round a dynamic central axis based on an evolutionary model (cf. Trennert-Helwig 1995, 82), a cosmic hologram that allows for the interplay and mutual support of traditional opposites. During the first half of the twentieth century Teilhard developed precisely such a dynamic, organic, porous, pregnable paradigm of becoming. "From the vantage point of a traveler between different worlds—that of East and West . . . he observed that, in many respects, humanity already possesses a common global culture in a material sense . . . [and] pointed to the urgent need for sharing ideas and spiritual values which . . . can provide people with a coherent view of reality . . .

[and] energize human beings into action to bring about the greater unity of humankind" (U. King 1995, 68).

Teilhard argues that simple organisms, following their inner nature to fulfill their potential (cf. Aristotle's *entelechy* and the work of such vitalists as embryologist Hans Driesch and philosopher Henri Bergson), become ever more complex until the human level is reached and biological evolution emerges as evolution of consciousness in the form of self-consciousness. "Man discovers," Teilhard writes, deliberately borrowing Julian Huxley's expression, that "he is nothing else than evolution become conscious of itself" (Teilhard 1959, 221). From this critical point forward, evolution enters an entirely new stage—no longer merely as a biological phenomenon but as evolution of mind-spirit-consciousness on its way toward ultimate unity, the Omega Point—after leaving behind the material world, the way moths and cicadas leave behind their discarded pupa shells: "The end of a 'thinking species': not disintegration and death, but a new break-through and a re-birth, this time outside Time and Space, through the very excess of unification and co-reflexion" (Teilhard 1964, 302). The world-cocoon will be "bleached to a uniform whiteness, like a great fossil" with "no more movement on its surface" (Teilhard 1969, 190). We must keep in mind, however, that Teilhard's imagination extends across cosmic vistas and immense time frames. There are eons still to pass before humanity as it is now constituted will cease to exist, and in the meantime, Teilhard's expectations give us hope that the end of the world as we know it will indeed be a new, if radically different, beginning. In the meantime Teilhard's wisdom can be applied to the world of the present.

KARL RAHNER'S EVOLUTIONARY CHRISTOLOGY

In the 1960s Karl Rahner developed a Christology (based in part on the thought of John Scotus—the "subtle doctor" [*doctor subtilis*], Duns Scotus) or theory of incarnation that is fundamentally consistent with evolution. The Scotists had argued that human personality consists in the capacity for independence (or lack of capacity for dependence). This potential is fully realized in the hypostatic union—the Christian dogma of the Incarnation—when Christ's human nature is fully oriented to God. In *Foundations of Christian Faith*, Rahner defines God's interventions in the world as "the becoming historical and becoming concrete of that 'intervention' in which God as the transcendental ground of the world has from the outset embedded himself in this world as its self-communicating ground" (Rahner 1978, 87). In "Christology Within an Evolutionary View" he tells us to

take into consideration the known history of the cosmos as it has been investigated and described by the modern natural sciences: this history is seen more and more as one homogeneous history of matter, life and man. This one history does not exclude differences of nature but on the contrary includes them in its concept,

since history is precisely not the permanence of the same but rather the becoming of something entirely new and not merely of something other." (1966, 166)

For Rahner, the premier sign that spirit and matter are not dualistically opposed is the human being: "the self-transcendence of living matter" and the manifestation of the "yesterday which natural history develops towards man, continues in him as his history, is conserved and surpassed in him and hence reaches its proper goal with and in the history of the human spirit" (1966, 168). He even argues that "the Incarnation appears as the necessary and permanent beginning of the divinization of the world as a whole" (p. 161).

REINTERPRETING ORIGINAL SIN

If Christianity had developed along the lines of Pelagius instead of Augustine, Christians would be less likely to be critical of Teilhard, because we would see the Fall as a *felix culpa* (blessed sin) of becoming self-conscious and fully human, of being painfully expelled from the safe womb of Eden into the cold and perilous world in order to grow and mature into companions for God, whose image we carry within our very genes. We would think of the attribute "human" as a noble calling to responsibility for the earth and respect for others. We would not automatically say "He is only human" when someone commits an inhumane act. We would realize that inhumaneness is a form of inhumanity, a denial of our innermost calling. For Pelagius, human beings are safely cradled in God's grace: our nature is basically good, despite our inherited tendency to sin. God's grace is showered on us in several ways, (1) by the Torah/Law, (2) by the Incarnation—Jesus the Christ, God's Image on earth—and (3) by God's loving forgiveness of the sins we have committed. There is no need, in this paradigm, to posit a war of flesh and spirit. Both can be good. Humanity is in desperate need of such a vision of Meaning and Goodness at the heart of both the cosmos and the average person.

This contrasts sharply with Augustine's position (later adopted/adapted by Calvin) that only those chosen by God are given through grace the ability not to sin, or saved despite their sins. The rest are damned. Pelagius focused on God's love; Augustine focused on human depravity. Eventually, the Augustinian faction won, and Pelagius' ideas were condemned early in the fifth century. The Augustinian emphasis on original sin forged the rigid position of subsequent orthodoxy at the first Council of Trent (which I consider in part as tragically misguided as its sixteenth-century namesake that gave us the "Fortress Church") but was eventually tempered by Thomas Aquinas, who reconciled God and world and argued for the *analogia entis* ("analogy of being"—roughly, that we can know God in and through the world; it is related to the concept of "grace building on nature"), which the early Karl Barth found so blasphemous.

The Augustinian spirit lives on in the more fundamentalist strands of Christianity, Protestant, Catholic, and Orthodox.[1] I cannot even begin to comprehend how anyone can manage to convince him/herself that divine mercy consists of randomly picking out a few individuals to be saved while deliberately damning the vast majority of humanity to eternal torment. This understanding portrays God as an arbitrary, sadistic tyrant. To me it is a monstrous, blasphemous perversion, diametrically opposed to the loving Father Jesus came to reveal. It is irreconcilable with such contemporary theological concepts as humans as co-creators (cf. Hefner 1993) in a living, dynamic, open-ended, pluralistic, organic, expanding, emergent, global Christian community. It stands in glaring contradiction to the Catholic emphasis (espoused especially by Karl Rahner) on the "sacramentality of the world"—the potential of literally any earthly event, action, or condition to serve as carrier of God's grace. It conflicts profoundly with the grand vision of the emergent noosphere of Teilhard.

Augustine drew on a sharply dualistic Neoplatonic-Gnostic-Manichean tradition that split reality into a base material world at war with a noble spiritual realm, the stinking bodily cesspool at war with the fragrant spiritual mountaintop. While the original Gnostics proclaimed a wide spectrum of beliefs, none of them would accept a Messiah as both fully human and fully divine, since having a real body (rather than wearing a disguise) would have meant pollution. (Note that the high Christology of the Johannine community reflects some gnostic influence.)

Yet, despite Augustine, there is a persistent strand of nondualism in the Catholic tradition, and it is that strand that I believe we need to strengthen in order to prepare for the third millennium and beyond. In *The Divine Milieu* Teilhard points out that

> the progress of . . . the human universe, does not take place in competition with God, nor does it squander energies that we rightly owe to Him. The greater man becomes, the more humanity becomes united, with consciousness of, and mastery of, its potentialities, the more beautiful creation will be, the more perfect adoration will become, and the more Christ will find, for mystical extension, a body worthy of resurrection. (Teilhard 1960, 137)

This understanding of the God-world relation should have been obvious all along, because it flows from the central Christian doctrine of the Incarnation. Unfortunately, it has been obscured and distorted by dualism since the very beginnings of Christianity.

If we truly expect to become what we are meant to be, we must have faith in our potential for goodness, see ourselves as created in God's image, and reevaluate the traditional Christian doctrine of original sin. In a 1947 essay, Teilhard did precisely that, noting at the outset that he considered the standard interpretation of original sin the chief obstacle to "intensive and extensive progress of Christian thought" (Teilhard 1974, 188). After giving an outline of the traditional teachings, Teilhard uses an illustration

of what he calls a "cosmic cone" of Creation, Incarnation, and Redemption with ascending levels arising from the "Multiple of nonbeing" (the "first Adam") and pointing toward God via the stages of life/suffering, human freedom/sin, and Christ (the "second Adam"):

If we examine the structure and properties of the cosmic cone so defined it is not long before we realize that in this case the primordial multiple is in no way directly sinful; on the other hand, since its gradual unification entails a multitude of tentative probings in the immensities of space-time, it cannot escape (from the moment it ceases to be 'nothing') being permeated by suffering and error. Statistically, in fact, in the case of a system which is in process of organization, it is absolutely inevitable . . . : (1) that local disorders appear during the process . . . , and (2) that, from level to level, collective states of disorder result from these elementary disorders (because of the organically interwoven nature of the cosmic stuff). Above the level of life, this entails suffering, and, starting with man, it becomes sin. . . . The problem . . . of evil disappears. In this picture, physical suffering and moral transgressions are inevitably introduced into the world not because of some deficiency in the creative act but by the very structure of participated being: in other words they are introduced as the statistically inevitable by-products of the unification of the multiple. (Teilhard 1974, 195–96)

Teilhard also considered the world's suffering a source of intense energy, waiting to be harnessed and directed. "The world would leap high towards God," he wrote, "if all the sick together were to turn their pain into a common desire that the kingdom of God should come to rapid fruition through the conquest and organization of earth" (1969, 51).

DARKNESS GIVES BIRTH TO LIGHT

The Holocaust activated the Righteous among Nations, some 6,000 individuals who risked their own lives to save strangers—too few to stop the slaughter but enough to serve as models for humanity. World War II precipitated the April 1945 establishment of the United Nations; the Marshall Plan, envisioned to combat "hunger, poverty, despair, and chaos" that fed the former enemies in Europe; the Nuremberg Trials that established a global standard of justice; and the International Declaration of Human Rights. The threat of atomic warfare along with Soviet totalitarianism and the "Iron Curtain" eventually led to the end of the Cold War, the dismantling of the Berlin Wall, and Mikhail Gorbachev's concept of restructuring or *perestroika* through the openness of *glasnost*.

In the United States, the Cold War era and concern over Russia's successful launch of Sputnik sparked the creation of a new agency within the Department of Defense named the Advanced Research Projects Agency (ARPA). ARPA researchers recognized the potential of computers and argued that "machines needed greater capability to interact with each other to gather relevant information, solve problems, anticipate data requirements, communicate effectively across distances, present information visually, and do all this automatically" (Laurson 1997). In 1957, within the

womb of the Cold War, the Internet was conceived. After some twelve years of gestation, it was born in 1969, and appropriately named the ARPANET.

In one of the ironic twists of history, the ARPANET, an invention conceived in a military atmosphere of fear and suspicion, would evolve into the most powerful agent for peace since people invented mutual oppression and organized warfare by providing the means for a global transformation of consciousness. Computer networks not only represent a master metaphor of radical democracy—some might say anarchy—of all connected computers being completely equal in their ability to transmit and receive information packets, they operate in a dimension liberated from the constraints of space and time and allow human beings to communicate across traditional physical, cultural, and national borders.

THE GLOBAL VILLAGE AS THE MYSTICAL BODY OF CHRIST

In late 1990, while working at the Swiss-based European particle physics laboratory (CERN), Tim Berners-Lee invented the World Wide Web and defined the URL, HTTP, and HTML specifications on which the Web depends and which give nonspecialists a chance to use the Web for human-to-human communication. Berners-Lee elected not to patent or sell his invention but to donate it to humanity. This gift vastly accelerated the transformation of the world into the "global village" Marshall McLuhan had anticipated in the 1960s. In the Introduction to *Understanding Media*, using words reminiscent of Teilhard, he wrote,

Today, after more than a century of electric technology, we have extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned. Rapidly, we approach the final phase of the extensions of man—the technological simulation of consciousness, when the creative process of knowing will be collectively and corporately extended to the whole of human society, much as we have already extended our senses and our nerves by the various media. (McLuhan 1964, 3)

According to Tom Wolfe, there is a solid connection uniting Teilhard and McLuhan, who, according to Wolfe, in his system—which would eventually be known as McLuhanism—synthesized the ideas of the economic historian Harold Innis and the ideas of Teilhard. Unfortunately, Wolfe claims (inaccurately, as I will show) that he has to depend on conjecture because McLuhan gave credit to Innis but never even mentioned Teilhard:

McLuhan's "global village" was nothing other than Teilhard's "noosphere," but the church had declared Teilhard's work heterodox, and McLuhan was not merely a Roman Catholic, he was a convert. . . . Like most converts, he was highly devout. So in his own writings he mentioned neither Teilhard nor the two-step theory of evolution that was the foundation of Teilhard's worldview. Only a single reference, a mere *obiter dictum*, attached any religious significance whatsoever to the global village: "The Christian concept of the mystical body—all men as members of the

body of Christ—this becomes technologically a fact under electronic conditions. (Wolfe 2000, 73)

I find it puzzling that Wolfe insists that McLuhan did not mention Teilhard when, in fact, McLuhan refers to Teilhard (albeit as "de Chardin") three times, citing two lengthy passages from the *Phenomenon of Man* in *The Gutenberg Galaxy* (McLuhan 1962, 174, 179). (He also lists him as "Chardin" in his bibliographic index.)

While biological evolution is seen by Teilhard as having come to an end with the emergence of the human being, the process itself continues inexorably toward the final goal. "Life moves towards unification. Our hope can only be realized if it finds its expression in greater cohesion and greater human solidarity" (Teilhard 1964, 72)—the Omega point. Teilhard, the mystic, envisions the evolution of the human animal and of human consciousness as the maturing of the mystical Christ who is waiting to gather to himself "the last folds of the Garment of flesh and love which His disciples are making for him" because he "*has not yet completed his own forming*" and "*attained His full growth. . . .* Christ is the Fulfilment even of the natural evolution of beings" (Teilhard 1964, 305).

When McLuhan created the concept of the global village, the Internet had not yet been established or even conceived. However, more fully than any other medium, the Web represents a concrete manifestation of his vision, and it will become even more so if efforts to make the Web truly accessible to the whole world are successful. In May 2001, Berners-Lee opened the tenth annual International World Wide Web conference in Hong Kong with a keynote speech in which he challenged his colleagues to think about the future of the Web, insisting that the expanding digital divide demands the development of completely new technologies accessible by everyone regardless of income and location. "Was this technology developed by the West, for the West?" he asked. "Making the Web a universal space should be the overall goal."

FROM COCOONS VIA TEXT AND CONTEXT TOWARD THE NOOSPHERE

The Internet's intuitive, interactive approach to discovery—as a journeying across uncharted and still-expanding seas—involves vast assemblies of nets that sweep the groundwaters of the collective unconscious and allow those waters to create new modes of seeing and knowing that can help build the foundation for global understanding. This open-ended mutuality offers Net navigators and cybercitizens the unique opportunity to uncover a new-old language that will grow naturally, the way a child learns to speak out of the experience of encountering the other and a poet or scientist forms original words when existing language does not suffice. This emergent language will facilitate direct confrontation with alternate frames of reference.

I first wrote of this language back in 1986, not in connection with cyberspace but as a possibility for religious-studies professionals (who by nature of their field hover at the margins of several disciplines), and I discovered a similar idea in Leonard Swidler's 1990 book, *After The Absolute*:

In other words, we must try to cast our religious and ideological insights in language "from below," from our humanity, rather than "from above," from the perspective of the transcendent or the divine. . . . This new ideological language might be called a theological-ideological Esperanto, for like Esperanto it is intended as intercultural language that borrows from various living languages. But it is so simplified, so rational, so generally human, that anybody with a knowledge of one's native tongue and a slight smattering of others will easily be able to master it. (Swidler 1990, 56)

Swidler's Esperanto is, I believe, more than a mere construct from below. Modeled after the Incarnation, it represents the kind of immanence that includes or sublates transcendence.

The Internet is perfectly suited to uncover and co-create such a language with the power to help us form a multifocal, pluralistic, yet harmonious global civilization. The Internet challenges the various life worlds, religious communities, ideological citadels, and academic disciplines to break through their shells and allow cross-pollination to occur. This characteristic is bound to precipitate hostility on the part of those who are threatened by this demand to listen to others and at least consider changing their own ways. What has been called the "Web of Hate," the spreading of racist and revisionist propaganda, is the shadow cast by the luminous possibilities for cross-cultural bridge building.

Cybercommunication precipitates resistance also on the part of those who fear the absence of identity and refuse to admit that their uneasiness is grounded in the unexamined assumption that definite boundaries are a good to be sought for their own sake and that ambiguity, the marshy no-man's land of merging margins, is an evil to be overcome. Even those among us who consider ourselves to be relatively open to the ideas of others must watch out for the temptation to enshrine cognitively crystallized moments of open-ended unfolding contexts within permanent reliquaries and to reduce the temporary discomfort of change by building absolutist dikes and dams in order to eliminate the tension between competing foci. As in all human endeavors, but even more consistently so, Web navigators must go about the task of reflecting, refracting, and recording the ever-expanding situation as it hovers between countless possible tomorrows creating ever new yesterdays to be existentially appropriated and/or rationally analyzed in the lived experience of the present.

THE GLOBAL AGORA

Cyberspace is becoming the global agora, the market place or public square, where everyone meets to communicate and exchange information. Those

encounters can, of course, be both peaceable and pugnacious.

Minor and major conflicts result when previously isolated groups come into close contact in the course of migration, population growth, territorial expansion, commercial interaction, the conquests of war, missionary activity, and through the written word, print, and other assorted media. Conflict tends to be especially pronounced when such contact with the other is sudden and massive. Clearly the "cyber-revolution" of the last dozen years has been both. Who could have anticipated the exponential increase in the number of personal computers, high-speed and cable modems, DSL and T-1, wireless connectivity, fax machines, communications satellites, cellular phones, the Internet and World Wide Web, and other emerging tools for practically instant and either free or at least relatively low-cost mass communication?

Almost overnight, humanity is faced with the challenge of the spawning both of literally millions of separate information-and-attitude sharing and disseminating groups that draw their membership from anywhere on earth and, concurrently, the rapid globalization of the human community. Information and misinformation share the same platform. In a way this is terrifying. Ph.D.s in their 60s are no more privileged than 13-year-old hackers. In addition, no longer are images and text traveling by themselves. The meaning of copyright and intellectual property has to be redefined. Computer information arrives along with human commentators who, in all ways except skin-to-skin contact, are as accessible as one's next-door neighbors and may originate in a physical community ten thousand miles and several continents removed. This kind of creative chaos is precisely the appropriate milieu for the emergence of something new.

THE SECOND AXIAL PERIOD: BREAKING THE SHELL

Both giving birth and being born are painful, and the kind of global transformation of consciousness that is currently in process cannot happen without pain. Hence, I tend to see Yeats's dirge as an intuitive acknowledgment of the painful emergence of a new global consciousness from the breaking chrysalis of the past, which was itself the result of an earlier, similar metamorphosis during an era Karl Jaspers calls the Axial Period (Jaspers 1949, 19–43), which includes the centuries bracketing the 6th century B.C.E. During this epoch, ritualistic tribalism transformed itself into self-reflective, analytic, critical, and individualistic consciousness that engendered the major world religions. In *Christ of the 21st Century* (1992) Ewert Cousins argues that the present era represents another such radical quantum leap of consciousness—the Second Axial Period, which will transform individual consciousness into global consciousness, a consciousness envisioned not as a simple, homogenized, or empty uniformity that obliterates individuality but as fruition of the person in and through mutuality.[2] Cousins here echoes Paul Ricoeur's second naiveté[3] but goes beyond it.

The image of the breaking shell applies not only to the individual but to humanity as a whole. Human beings are subject to "limit-experiences," are capable of awe and wonder, and understand themselves as communal beings in relation to something else ("Something Else"), which discloses, as David Tracy might say, a fundamental meaningfulness beyond the everyday (Tracy 1975, 135–36)—a meaningfulness that is always just beyond the horizon, that is always in process, and that utilizes every new means of communication to manifest itself in new and surprising ways.

This ongoing series of paradigm shifts calls into question the very foundations of rationality and takes us back to the beginning of this exploration—Yeats's poignant description of the loss of centeredness and coherence, the attempt to orbit without a stable axis. The falcon cannot hear the falconer because he has passed out of one hermeneutical circle into another circle that follows a different call. The falcon is no longer tuned in to the proper frequency, and yet, without daring to fly beyond the old boundaries, he would never know that his world is one of many—or have the opportunity for participating in its transformation into a different order of holographic coherence. Yeats's falcon can be seen as representing Teilhard's observer who moves from a no-longer-valid hypothesis into one that brings the world into focus and reveals a new stage of the evolving truth (cf. T. King 1995, 109).

Almost three decades after Teilhard's death Prigogine noted that "One of the most interesting aspects of dissipative structures is their coherence. The system behaves as a whole, as if it were the site of long-range forces. . . . [It] is structured as though each molecule were 'informed' about the overall state of the system. . . . We move from Euclidian to Aristotelian space!" (Prigogine 1984, 171) Also, like Teilhard, Prigogine considers communication both in nonliving and living nature a not previously recognized "new coherence" (1984, 13).

Cousins' main source is Teilhard's vision of the convergence of previously diverging cultures precipitated by the spherical shape of the earth combined with the exponential growth of populations and communication. Teilhard believes that global consciousness will precipitate creative unions that in turn intensify and focus individuality and diversity. The metaphors are of sexual love and radioactivity: by uniting in the generative core of their being, creative nuclei release new energy, which engenders greater complexity, which engenders a chain reaction of further creative unions. "The more 'other' they become in conjunction, the more they find themselves as 'self'" (Teilhard 1965, 262). The entire set of metaphors may have originated in the Atomic age but fit the dynamic expansion of the Internet. As early as 1917 Teilhard wrote in a letter to his dear friend and cousin Marguerite Teillard that he saw himself within the "creative milieu of a crucible," pulled by a double force, the force from behind that animates and consecrates and the force from up ahead that loves and attracts (Teilhard 1963, 256).

CYCLOTRONS: CRUCIBLES OF FERTILIZATION, TRANSMUTATION, AND INCARNATION

It is not surprising that some thirty years and another world war later Teilhard was filled with awe, wonder, and joy when he had a chance to visit the cyclotrons of the University of California at Berkeley, "gigantic tools . . . capable of breaking up matter, of transmuting and soon, perhaps, even of creating it" (Teilhard 1970, 349). In a 1953 essay he chronicles a visit to the Berkeley radiation laboratory that led to an instance of "second sight" (1970, 350) in which he sensed "the concentric inflow of another and no less formidable radiation: that of the human, sucked up over me in a whirlwind from the four corners of space . . . a whole spectrum of energies . . . in a state highly charged with passion" (pp. 349–60). He describes how there, on the hills of Berkeley, he felt the boundaries dissolve between the planetary and the local, leading to a vision of the entire earth, sprouting forests of great machines, "electronic microscopes and gigantic telescopes. Rockets with inter-planetary potentialities. Computers" (p. 352).

To Teilhard's inner eye, the "great machines" turned into "nodal points of human activity" that first sucked up and imprisoned their human creators but in the end led to ultra-unification "by the combined influence of his working and his work" (p. 352). In his vision he saw the entire globe "dotted with luminous points, each one of those 'stars' corresponding to some laboratory or some apparatus around which the human, through its charge of energy and its union, was here and now being transformed into some neo-human 'isotope'" until "the hitherto dull face of the planet had begun to sparkle with ultra-humanity" and "this be-starred vault was stirring into motion: not with the monotonous motion of a firmament that revolves on its poles, but with the creative movement of an involutive galaxy" (p. 353).

As I read this passage I was reminded of one of Friedrich Nietzsche's much-cited pessimistic visions of the ultimate futility of human life on earth: "In some remote corner of the universe, poured out and glittering in innumerable solar systems, there once was a star on which clever animals invented knowledge. That was the highest and most mendacious minute of 'world history'—yet only a minute. After nature had drawn a few breaths the star grew cold, and the clever animals had to die" (1968, 42). It suddenly struck me that Teilhard's entire work represents both a powerful response to existential despair and a recasting of Nietzsche's notion of the Overman,[4] a passing through and emerging on the other side of the realization that both for humans as individuals and for humanity as a species death is inevitable. Each one of us, our solar system, and eventually the entire cosmos will presumably come to an end. *But*—and that is Teilhard's passionate belief based on both scientific research and a visionary's mystic knowing—the end will not be final. It will be, after eons and eons of life as

we know it, a quantum leap into another dimension where spirit/energy is no longer in need of flesh/mass. "Before my bewildered eyes," Teilhard continues the description of his vision, "the Berkeley cyclotron had definitely vanished; and in its place my imagination saw the entire noosphere, twisted back upon itself by the wind of research, forming but one single vast cyclotron, whose specific effect was to produce, instead of and in place of nuclear energy, psychic energy in a continually more reflexive state; and that is precisely to say the same as saying to produce the ultra-human" (1970, 356).

We may be puzzled by Teilhard's continuous apotheosis of "research" until we realize that genuine research is vastly more than a routine task. It is even more than concentrated, high-energy individual mental activity. Beyond the door of that innocuous little word there open up vistas pointing to the exponentially expanding potential of human reason, imagination, and collaboration. In both the humanities and the sciences, to do research means to build on the work of countless others, almost all of whom one will never know and most of whom will have died before we "meet" in the process of doing research. Beneath and behind all of our technological "wonders" are countless human minds whose thought made the material manifestations possible.

I live in a big old house with some twelve thousand books and several computers (as well as plants, cats, dogs, a parrot, a fish, and three African Clawed Frogs in their own tank). The books link me to an invisible network of their authors and the works studied by those authors. Research as collaboration is, of course, propelled to an entirely new level of productivity and efficiency by the Internet. As I am writing this essay I am in constant dialogue with an entire universe of information ready to leap onto the computer screen in another window as soon as I activate a search engine. The Nietzsche citation I just used, for example, was at my fingertips almost as soon as I managed to type the words "clever animals" and "Nietzsche." Then, all I had to do was find my copy of the Portable Nietzsche—a far more frustrating task than the few mouse clicks it took to locate the material on the Web.

Teilhard concludes his reflections by noting that "the more closely I looked at this research, the more I saw that it was forced, by an inner compulsion, ultimately to concentrate its efforts and its hopes in the direction of some divine center" (1970, 357).

In the 1950s, Teilhard was definitely not alone in using birth imagery in connection with atomic energy and atomic fission. When uranium 238 absorbs a neutron it turns into a fissionable metal that was baptized plutonium, at least in part for the Lord of the Underworld whose "rape of Persephone" resulted in her Earth Mother's periodic barrenness while the annual summertime release of his spouse allowed renewed fertility.

Teilhard's thought was entirely in keeping with a long tradition of symbolizing matter and nature as female; the term itself derives from the same proto-indoeuropean root that engendered the Latin *mater* or German *Mutter*. The language that emerged to refer to nuclear power tended to be blatantly sexual and religious. Writers referred to fission as a marriage that produced neutron-children, and neutrons were said to reproduce into successive generations (Weart 1988, 87). Spencer Weart notes, "The press and public were fascinated by the shiny metal towers, massive and phallic, shooting forth powerful rays in what Kaempffert called 'violent assaults' on the nucleus," which the same writer also called the "holy-of-holies" and "secret shrine" that would allow the one who penetrated it access to the secrets of creation (1988, 58–59).

The technical process involved a form of ritual intercourse: sinking a cadmium rod as neutron sponge into the pile and withdrawing it to increase the number of active neutrons. The process mirrors the priest's plunging the Easter candle into the font to bless the waters of baptism, since ancient times part of the Easter Vigil blessing of fire and water. In the liturgy, the celebrant asks the Holy Spirit to fertilize the baptismal water of grace: *Descendant in hanc plenitudinem fontis, virtus Spiritus Sancti*—"May the Holy Spirit's power descend into the fullness of this fountain," thus invoking not only the Spirit but the Trinity: the Paternal Voice calls forth the Incarnate Word, while the Holy Spirit–Energy (the transmission of *ruah*-love-fire) links vocal articulation with the spoken Word-Act. In the Pentecost event the spiritual fire appeared as tongues of fire—hence the liturgical color red. After the Spirit has been invoked, the priest continues: *Totamque huius aquae substantiam regenerandi fecundet effectu*—"and make the water's entire substance fruitful for new birth."

The key term is *fecundet*—fructify, impregnate, fertilize. It seems far more than coincidence that the day the first atomic bomb was exploded will always be known as the "Day of the Trinity." Twentieth-century physics added a new layer of meaning to the ancient ritual: the first atomic explosion would in due time lead to the hydrogen bomb—the technological union of water and fire.

According to Weart, an odd assortment of "victims and visionaries" hoped for transmutation, looked for wholeness, fruitfulness, and a community of universal love to replace sterility and loneliness (1988, 62). In a homeopathic approach to curing a spiritual malaise, atomic technology was seen as the savior of humans reduced to social atoms. Nuclear energy promised mastery of the secrets of life and death. "It was not entirely coincidence when new facts resembled old symbols. People had long been searching for mighty, life-transforming rays; now at last they had found something resembling what they sought. . . . The connection between transmutation symbols and radioactivity was not only a matter of ancient traditions revived in modern laboratories; it also came through the deliberate use of

imagery" (1988, 73). It also parallels the Catholic fascination with transubstantiation, the most sacred of moments in the Catholic and Orthodox Eucharistic celebration when bread and wine become the body and blood of Christ, and the Incarnation is reenacted.

A New-Old Ethic for a Brave New World

An ethical system of a particular religious or cultural group delineates the values by which the members of that community are expected to live, especially as they relate to one another. The term *ethic* has also been applied to the standards that govern our attitudes and actions toward nonhuman life and the natural world (especially among Jains, Hindus, and Buddhists, and to a lesser extent in some of the Levitic codes of Jewish scripture). Even when ethical systems are not fixed in written form, they tend to be deeply ingrained in a given cultural unit and passed down from each generation to the next in whatever ways that group has developed to preserve its most central, foundational values—those ways of thinking, being, and acting that have developed over time through interaction with surrounding conditions (human as well as natural) and make a community uniquely itself in their interplay. A group's ethical system is inextricably braided into the self-understanding and sense of belonging of the members of that community and reflects the deepest, most stable structures that hold the community together, much like the hub of a wheel allows the spokes to revolve in unison and keeps the wheel from flying apart.

   Hence, ethical systems tend to be very resistant to change, and conflict results when previously isolated groups come into close contact as a result of migration, population growth, territorial expansion, commercial interaction, the conquests of war, missionary activity, and through the written word, print, and other assorted media. Conflict tends to be especially pronounced when such contact with the other is sudden and large-scale. Until the 1980s, the rate of this culture-mingling process, while clearly accelerating, was nevertheless fairly predictable. In the middle 1980s, however, something occurred that may well be called the twentieth-century "cyber-revolution" by future historians.

   This development was unprecedented and could not be anticipated until we were in its midst, being swept up by the current. And yet, in retrospect, as early as 1949 Teilhard had not only linked terms such as "ultra-hominisation" (Teilhard 1966, 109) with the natural sciences but also anticipated an essential role for "those astonishing electronic machines (the starting point and hope of the young science of cybernetics) by which our mental capacity to calculate and combine is reinforced and multiplied . . . [leading to] an auto-cerebralisation becoming the most highly concentrated expression of the reflective rebound of evolution" (Teilhard 1966, 111). In an interview with *Educom Review*, John Perry Barlow, cofounder of the

Electronic Frontier Foundation and an expert in the social and legal conditions arising in the global network of connected digital devices, credits Teilhard "probably more than any other single writer" with setting him on his "current course by talking about the evolutionary struggle to create unitary consciousness in humanity. . . . I think what the Internet is about is wiring together precisely what Teilhard was talking about, the collective organization of mind" (Educom Review Staff 1997).

Tom Wolfe, in a long article, is bitingly critical of what he dismisses as the "magical thinking" and "digibabble" of many of the proponents of the "'Web-mind fallacy,' the purely magical assumption that as the Web, the Internet, spreads over the globe, the human mind expands with it." Wolfe calls magical beliefs "leaps of logic based on proximity or resemblance" (Wolfe 2000, 75–76). On the other hand, clearly intrigued by both McLuhan and Teilhard, he writes:

One can think whatever one wants about Teilhard's theology, but no one can deny his stunning prescience. When he died in 1955, television was in its infancy and there was no such thing as a computer you could buy ready-made. Computers were huge, hellishly expensive, made-to-order machines as big as a suburban living room and bristling with vacuum tubes that gave off an unbearable heat. Since the microchip and the microprocessor had not yet been invented, no one was even speculating about a personal computer in every home, much less about combining the personal computer with the telephone to create an entirely new medium of communication. Half a century ago, only Teilhard foresaw what is now known as the Internet. (Wolfe 2000, 69)

STATE AND PROCESS: AN EPISTEMOLOGICAL DOUBLE HELIX

This contact and mingling of often widely diverse worldviews presents humanity with an unprecedented challenge: both as opportunity for increased inter-human understanding and as risk of heightened xenophobia and withdrawal into private ideological fortresses. We can choose to permit this challenge to help us grow by focusing on our common humanity coupled with respect for individuality, or we can allow it to shatter us into antagonistic shards by emphasizing differences, viewing variegation as an evil to be eliminated, and remaining blind to commonalities.

Both modes of knowing-relating-being have a long history, though in practice they are usually mixed, generating a plethora of gradations along a sliding scale between extremes. Nevertheless, most people, whether lay or academic, tend to follow one approach more than the other. These modes/models are as ancient as Parmenides, Heraclitus, Confucius, and Lao Tzu—a static, one-dimensional, absolutist, closed either-or (yang) model of *being* that values perfection/completion/permanence/convention/unity, and a dynamic, nonabsolutist, multidimensional, open both-and process (yin) model of *becoming* that values growth/evolution/change/novelty/diversity.

The static *being* model operates primarily through vertical top-down monologue and criticism, the dynamic *becoming* model primarily through

horizontal dialogue and empathy. The static model insists on sharp boundaries and by definition excludes the other by any name. The dynamic model has permeable boundaries and can include the static. The static model tends to view human beings as social creatures, while the dynamic model focuses on the private world of the individual.

The static way and the dynamic way are complementary opposites and designed to engage in dialogue with one another, the way the yin and the yang in union generate the Chinese *t'ai-chi t'u* (diagram of the Supreme Ultimate—a circle divided by an *S*-curve into light and dark complementary halves). Long before the schools of Confucianism and Taoism developed, Chinese thinkers had already formulated a cosmic theory of a cyclic pattern of waxing and waning, of expansion and contraction. They symbolized this dynamic interplay of forces in the t'ai-chi t'u. As one focuses one's gaze on the diagram it becomes a vortex of rapid circular motion, of the constant interpenetration of the archetypal poles of nature, the yin and the yang. Applied separately, exclusively, and to the extreme, the static mode leads to petrification and the dynamic mode leads to disintegration. However, while the dynamic model can fully integrate the static model, the process is not reversible, and any attempt to reduce becoming to being results in the cessation of becoming.

The method we choose, and how we apply it, will affect the fate of humanity and possibly the entire planet. If we permit ourselves to learn from the patterns of biology, we can clearly see that the path of evolutionary success is the meandering country road that is both stable and marked by permeable boundaries, tentative endings, experimentation, multiple winding paths, and flexibility; we can also see that the path of extinction, if followed to the extreme, is the toll road of closed boundaries, fixed endings, absolute certainty, a single straight and narrow path, and rigidity.

AN ALTERNATIVE TO HUNTINGTON'S "CLASH OF CIVILIZATIONS"

Ours is an age of rapidly increasing population density and shifts in global distribution of the population. In 1900 the world population was just under 2 billion. In the forty years between 1960 and 2000, it doubled from about 3 billion to 6 billion, and while the rate of growth is declining, UN experts expect world population to stabilize at around 11 to 12 billion people by the end of this century. Developing countries will account for more than 90 percent of that growth. An Internet search for global "hot spots" results almost instantaneously in a world map on my computer's monitor screen with bright red exploding stars as graphic representation of regions of potential conflict. At the Web site of the Federation of American Scientists Military Analysis Network (*http://www.fas.org/man/dod-101/ops/war/*) one finds a listing of some thirty-four current major conflicts across the world and more than one hundred fifty concluded wars since the 1940s.

On the surface, these facts appear to support Samuel Huntington's prediction in an article on his Web site of a global future inevitably doomed to a "clash of civilizations." However, I believe that while Huntington may speak accurately for the near future or in isolated cases, his hypothesis will eventually prove too pessimistic, because his predictions assume that human beings are irrevocably trapped in their relatively unchanging cultural matrices and that millennia-old habits of hostile responses to encountering a different other will continue to determine intergroup relations.

Huntington defines civilization in his article as "the highest cultural grouping of people and the broadest level of cultural identity people have short of that which distinguishes humans from other species. It is defined both by common objective elements, such as language, history, religion, customs, institutions, and by the subjective self-identification of people. . . . The civilization to which [one] belongs is the broadest level of identification with which [one] intensely identifies." He also assumes that "The people of different civilizations have different views on the relations between God and man, the individual and the group, the citizen and the state, parents and children, husband and wife, as well as differing views of the relative importance of rights and responsibilities, liberty and authority, equality and hierarchy." And finally, Huntington argues that "These differences are the product of centuries. They will not soon disappear," concluding that in the past, "differences among civilizations have generated the most prolonged and the most violent conflicts."

However, even Huntington admits that "People can and do redefine their identities and, as a result, the composition and boundaries of civilizations change." This, I believe, is a crucial point, an internal inconsistency, that undermines Huntington's entire argument. The present is radically different from any preceding age, and that difference calls into question projections based on the patterns of the past. If the boundaries of civilizations are open to any change, there is no reason why, under favorable conditions, those boundaries cannot be expanded to include potentially all of humanity in a way that preserves healthy diversity while encouraging a sense of universal human kinship.

HOMO COMMUNICATOR

When we use terms such as "paleolithic era" or "iron age," we look at humanity from the nineteenth-century industrialist's point of view, and in that perspective we categorize the eras of the past in terms of tools, such as stone or metal. We look at the human being more as *Homo faber* (the toolmaking, working animal) than the traditional *Homo sapiens* (the wise or thinking one), and the tools are generally understood not in terms of intangible technologies, such as spoken language, but as physical objects, such as writing-engraved-on-a-stele. Even our categories "literate" versus

"nonliterate" distinguish between people who pass on knowledge by pro-
ducing physical artifacts—clay tablets, scrolls, or codices—and people who
pass on knowledge orally, sometimes by a living chain of professional
rememberers.

The present age, often called the information age, challenges us to con-
sider a modified model of what it means to be human, a model that in-
volves the *sapiens* as well as the *faber*: the model of the human being as
communicator, as a life form specifically designed to allow information
exchange to become incarnated in a rational, self-conscious person who
exists not in isolation but in constant dialogue with other persons, an indi-
vidual node in the vast web of the exchange, merging, and emergence of
ideas, past, present, and future. The medieval insistence that the *trivium*,
the foundation of all further learning, consists of the study of grammar,
rhetoric, and logic is entirely consistent with this paradigm. For people of
faith, this information exchange proceeds not only along the axis of hu-
manity, present, past, and definitely transient, but also involves the dimen-
sion (generally symbolized as vertical) that links humans and the
Transcendent beyond the spatiotemporal bubble, by any name or none,
personal or impersonal. *Homo sapiens/faber* turns into *Homo religiosus*!
And Incarnation is truly the uttering of God's Word, the eternal *Logos*.

In fact, it is quite possible to view information exchange as fundamental
to the roots of humanity, both biologically and culturally. Fertilization is a
process of exchanging, decoding, and applying information, and the four
nucleotides arranged like letters along the DNA "backbone" in the cell
nucleus provide the program that will convert chemicals into living cells—
generally proteins—and control the functions of these cells. I am not a
microbiologist, and the technical details boggle my mind, but even as a lay
person I can understand such terms as "genetic alphabet" and "messenger
ribonucleic acid (mRNA)." Scientists have known for almost a century
that genetic material (a) has a stable structure, (b) can serve as model for
self-replication, (c) contains an information code that can be expressed,
and (d) is capable of change and variation (Potter 1988, 21). This means
that we have known for at least a century that our biological foundation is
as information-based as our cultural projection.

In order to persist through time and have a sense of identity, a commu-
nity must be constituted of individuals who are engaged in information
exchange and are capable of passing on the essential elements of what makes
their community this-and-no-other community to the next generation.
Recently these remembered images and cultural building blocks, these bits
of information, generally encoded in documents and texts, have been called
the "memes" to complement the "genes." In fact, the link of human na-
ture and speech/information exchange is quite ancient. Mythically, in the
Judeo-Christian tradition, this idea is expressed in such images or stories as
God revealed/concealed as the four letters of the Tetragrammaton, as Adam

"naming" the inhabitants of Eden, as the importance of the Holy Scrolls in Judaism, as the kabbalistic speculations concerning the symbolism of letters and numbers, and in the definition of Christ as the divine Logos, the "Word" of God. Language, story, and metaphor are essential to our sense of self.

The World Wide Web does not limit information exchange to the use of written words. Spoken language, music, and an assortment of sounds, graphs, images, video, and multimedia presentations can all be shared electronically. This means that unfamiliarity with another's language will not necessarily block meaningful communication. In addition, sites such as the Alta Vista Babel Fish service are producing fairly useful automatic translations involving Chinese, English, French, German, Italian, Japanese, Korean, Portuguese, Russian, and Spanish. In the future, these programs will undoubtedly become increasingly sophisticated.

Throughout the world, disproportionately large numbers of teenagers and young adults flock to the Web, often at Internet cafes where they can "chat" with people anywhere on the globe. Not only is there a tremendous potential for building people-to-people bridges using the Web, this potential will continue to grow at a geometric rate, and these contacts will have their greatest impact on the next generation. We also need to keep in mind that individuals who are affected by relationships formed on the Web by necessity spend most of their lives with family and friends. Their on-line experiences can affect people who may not personally have access to the Internet.

It is in this spirit that priest-scholar-novelist Andrew Greeley writes in the introduction to his *The Myths of Religions*: "The key tool in this work is the notion of 'myth.' I mean by it not fairy tale or legend, not make belief or fiction, but rather a story that points beyond itself and gives meaning, purpose, and direction to life." He adds that myth is valuable *precisely because* in addition to mere historical truth it carries "a deeper and broader meaning, an explanation of what human life means and how one ought to live that life" (Greeley 1989, 1–2). Greeley uses the term *myth* much as Swidler does the term *religion*, which he defines as "explanation of the ultimate meaning of life, and how to live accordingly" (Swidler 1990, 19).

And so this takes us to myth weaving and story telling—activities suited perfectly for the Web. I am convinced that ideals of human equality, kindness toward fellow humans and the earth, and global harmony can be best communicated not by the equivalent of stone tablets engraved with rules, but by songs, images, poems, and stories woven on the loom of the Web as we invent *midrashim* on the meaning of the tablets and haltingly enter each other's worlds, and both change and are changed in the transforming process of dialogue. Greeley speaks of the "infrastructure of . . . religious sensibility" that supports the "superstructure of the religious enterprise" (1995a, 438)—and it is precisely that infrastructure that the Web can help us create.

Greeley calls theology an "epiphenomenon," albeit a necessary epiphe-nomenon—it comes after experience, image, and story. The same is true for scholarship in the other abstract social sciences and humanities, in-cluding the field of ethics. If we accept this analysis (as I do) then cyber-space becomes the perfect matrix, the womb/loom that can incubate/weave the emergent religions of the future and help us construct our multiple "ways" appropriate to the dawning "age of dialogue" of the Second Axial Period.

DIALOGUE, LOGOS, AND HOLOGRAPHY

In a brilliant if difficult work, *Meditative Reason*, Ashok Gangadean calls the grammar of reality at once cosmically universal, "the deep structure of thought, meaning, experience" (Gangadean 1993, 137) and unique to each of the multiple worlds we inhabit. According to Gangadean, all life, thought, and experience is shaped by its unique as well as universal gram-mar. The Hindu grammar is the ontological condition for the Hindu mind, just as the Buddhist or Christian grammars are the ontological con-ditions for the Buddhist or Christian minds. Grammatical worlds are monadic. There is no connection, no translation possible. What makes sense in one hermeneutical sphere is nonsense in the other. And yet in a pragmatic sense, especially in the United States, we simultaneously live in multiple grammatical worlds—worlds of religious grammars, scientific grammars, common sense grammars—each with its dialect and jargon, and all somehow accessing the individual "I" at the same time, the way a particular memory address may be called by several computer programs simultaneously. This leads to the pathology of fragmentation and break-down of rationality (1993, 150).

The solution lies in accepting the holographic structure of the Logos (1993, 155), a recurrent, self-referential dynamic. "We no longer begin with fragmented pathological identities and then ask about their univer-sality and unity; rather meditative reason begins with Logos (with holo-graphic mind) and anything, when truly perceived and interpreted, is taken in its holographic import" (p. 156). Gangadean points to three examples of universal relativity (the principle of meditative reason): the teaching of Advaita Vedanta, the teaching of Nagarjuna, and the example of Christ (pp. 156–57). "Meditative Reason is able to discern that the Christ is the Universal mediator that heals the splits between opposites—the overcom-ing of absolute identity itself, the living principle of non-dual unity" (p. 157). If we join the thought of Swidler and Gangadean we come full circle to the koan of the Immanent Transcendent, the "Esperanto" that arises from below but is drawn toward its fulfillment from above. Chronologi-cally the "below" precedes, but ontologically the "above" anticipates the beginning. And this brings us to Teilhard's vision of the evolving universe that fits so powerfully into the Internet "webscape."

Richard Lubbock (1999), in a tribute to Alfred North Whitehead, calls Whitehead's philosophy a soberly academic version of Hua-Yen Buddhism's doctrine of the Jewel Net of Indra, which compares the cosmos to an infinite network of unique and glittering jewels.

In each one we can see the images of all the others reflected. Each image contains an image of all the other jewels; and also the image of the images of the images, and so ad infinitum. The myriad reflections within each jewel are the essence of the jewel itself, without which it does not exist. Thus, every part of the cosmos reflects, and brings into existence, every other part. Nothing can exist unless it enfolds within its essence the nature of everything else.

Lubbock also argues that for Whitehead, God is not "One, but Two." The first aspect of Whitehead's God Lubbock calls the Alpha-God, the unconscious "Realm of Eternal Objects" that resembles the Chinese Tao, "Plato's world of ideal forms, Aristotle's world of potentia, and Stephen Hawking's wave function of the entire universe." The second aspect of Whitehead's God is the Omega-God, "which is conscious, in the same sense that we are conscious." I have not been able to determine whether Lubbock is deliberately alluding to Teilhard, Whitehead's younger contemporary, who described the cosmic process as a journey of the divine from point Alpha to point Omega, culminating in the emergence of what Teilhard calls the *noosphere*, or "sphere of spirit/mind/consciousness" (Lubbock 1999).

Toward Mutuality and Interconnectedness

Global civilization is not a future possibility; it is a present-day reality. Unlike most previous civilizations, it appears not to have gradually and naturally evolved a single central religion while conversely being shaped by that religion. Instead, much like the Hellenistic world of the late Roman Empire, contemporary global civilization is marked by religious, intellectual, and cultural pluralism. However, there would be no sense of coherence whatsoever if those who see themselves as shapers of this new universal civilization were not already committed to cross-cultural interreligious dialogue. In fact, the very pluralism of the present age has taken on the markings of religion. The willingness to engage in this sort of dialogue is also a sign of psychological maturity and respect for the personhood of others.

As John Dewey argued, a healthy liberal democratic civil society can only be created by educated and informed individuals who live in a milieu of open communication and public interchange of ideas concerning controversial issues, such as conflicts of interests or values. The printing press precipitated the first step in that direction by facilitating regional democratization. The electronic revolution is paving the way toward global democratization, precisely by providing a public forum for anyone interested in disseminating ideas to literally everyone, friend and foe of democratization alike—individuals, groups, associations. Words and images can travel

from continent to continent at the speed of light, or by fax at a slightly slower rate. Distance is becoming irrelevant.

The process of creative collaborating with others from all over the world may itself take on some of the characteristics of a religious act, an invitation to look at things a certain way, to celebrate differences while rejoicing in convergence (*not* conformity), to undergo what Lawrence Sullivan calls an "initiation" (cf. Sullivan 1988, 143–48), a sort of Lonerganian appropriation/conversion. Thus, while the Internet, World Wide Web, interreligious and intercultural dialogue, and even the various ongoing global ethics projects do not propagate certain specific, already-existing faiths or ideologies, they all are rooted in the newly emerging master paradigm of dialogue and interconnectivity, and that paradigm is bound to affect the way people understand their various worlds including their religious doctrines and rituals. In fact, the process of engaging in these kinds of linking or integrating activities has itself the potential of becoming the catalyst of a genuine change in the way human persons understand themselves, one another, the world, and ultimate reality. The key term at the edge of the twenty-first century is the term *inter*—a word that assumes a both-and ontology and alludes to the processes of life-giving, growth-enhancing exchange—in other words: the primacy of love!

If we accept that "narrative images are both causally and chronologically prior to other religious manifestations and to political and social orientations" (Greeley 1995b, 193), a point Andrew Greeley has argued convincingly for most of his academic career in dozens of articles and several books, then the Internet becomes both the messenger and the message of the story of creative and open-ended interconnectedness.

To embrace pluralism constructively is a metaphysical commitment, a stepping out of one's cozy cave of familiar certainties and modes of functioning into the larger arena of competing paradigms and values. At this point participants in the dialogue become more than transmitters of information, facilitators of the exchange of ideas. They become agents of change, Socratic midwives, who de-familiarize the familiar and encourage their fellow seekers to break through their respective pupa shells without leaving them newly hatched and unprotected in a void, their old assurances and criteria for judgment gone and nothing to take their place. All those involved are drawn into the ongoing conversation on an existential level, and all are at once learners and teachers, mutually responsible for themselves and others. In the words of David Tracy,

then the autonomy of each will be respected because each will be expected to continue, indeed to intensify, a journey into her/his own particularity. . . . The actuality of variety and the demand for authentic particularity unite as the environment of all. An analogical imagination may yet free us to a communal conversation on behalf of the kairos of this our day—the communal and historical struggle for the emergence of a humanity both finally global and ultimately humane. (Tracy [1981] 1986, 449, 453).

THE ROLE OF LOVE

Teilhard used the concept of evolution not only as a theological category but also as a hermeneutical principle that allowed him to develop a Christian paradigm of the universe as process of becoming, and specifically as the coming not "of the decline of God *in our minds and our hearts*" but as "an undreamed-of renaissance of God *in the universe*, in the form of love-energy, produced as the fruit of, and within, a matter that has become for us the home and the expression of *an evolutionary convergence*" (Teilhard 1970, 280). He saw the Judeo-Christian God as God of evolution, the one who caused the evolutionary process that thrusts through countless organisms, up through humanity, up through the Christ Logos toward what he calls the Omega Point of ultimate unification. Arthur Peacocke noted in *God and the New Biology* that Teilhard replaced an emphasis on Christ as Redeemer with an emphasis on Christ as Evolver, thereby extending the idea of salvation to include genesis.

This re-visioning, it seems to me, was not as much a matter of exchanging paradigms as it was a matter of filling in or completing the traditional emphasis. In a cosmogenic cosmos redemption equals evolution: for the caterpillar, being released from the cocoon as a butterfly is simultaneously death, redemption, liberation, and actualization. Teilhard saw evolution as giving meaning to Christ (to be distinguished from the historical Yeshua/Jesus) and Christ as literally the active foundation of evolution. Peacocke notes, "it is not always clear in Teilhard's writings . . . whether the 'God of evolution' and the 'Christ-evolver' are vitalistic, teleological factors, or whether they represent a conjunction of two ultimate, but fundamentally coincident, consummations in human consciousness and in the evolutionary process" (1986, 78). Peacocke is right, precisely because those functions are simply two sides of the same coin.

As for the human Yeshua in whom the divine Christ was enfleshed, there is at the very center of Teilhard's vision the kind of radical love that does not view God as vengeful deity who would demand the crucifixion to balance the cosmic scales as compensation for human sins. In this view the Passion was ever so much more than the mere dying on the cross (which was suffered by scores of others). Yeshua/Jesus, this absolutely clear lens to focus the rays of divine love, accepted the bitter chalice of total immersion into the pain that is part of all life and especially the agony we humans continue deliberately to inflict upon one another (ever since reason and conscience replaced instinct, and sin became possible) that his com-passion is a river of grace, somehow beyond time and space, and permanently poured out over those who suffer because of the inexorable movements of nature, and because of human cruelty.

Yeshua-the-Christ is crucified at the crusades, the witch burnings, the pogroms, in the crematoria of Auschwitz. Imagine him weeping with the

victims as well as the perpetrators. This in no way diminishes the significance of Yeshua's death and resurrection. The focus is shifted from the partial emptiness of the human vessel to its potential for being filled: we too shall rise again! The Easter event is our road sign toward the assurance that there is hope; that there is meaning; that love is not merely as strong as death (as the Song of Songs tells us) but stronger—and not merely stronger than death but stronger than time.

Teilhard affirms again and again throughout his work that it is love that draws the cosmos towards its goal:

At two critical points human energy has already assumed the form in which we know it today: first the appearance of life, whence emerged the biosphere; then the emergence of thought which produced the noosphere. . . . Cannot a further and final metamorphosis have been in progress since the birth of love in Christianity: the coming to consciousness of an "Omega" in the heart of the noosphere—the circles' motion towards their common centre: *the appearance of the "Theosphere"*? (1969, 160)

Here Teilhard the scientist-mystic describes the love of which Dante sings in the beatific vision at the conclusion of the *Divine Comedy* (1861)— "The Love which moves the sun and the other stars."

NOTES

I wrote the first draft of this article in 1995 and presented it at a conference on Computer Ethics and Moral Theology at Virginia Theological Seminary, Alexandria, Virginia, 6–7 March 1996. About two years later, when I found out that there was no funding for the planned proceedings, I began to integrate segments of the article into other papers, including a presentation at the Parliament of the World's Religions conference in Cape Town in 1999 that was published in the March 2002 issue of *Zygon*. I also continued to develop and expand the original piece and agreed to the publication of a German translation of one of those drafts, scheduled to appear in late 2002. Then, in July 2002, Philip Hefner told me that he wanted to publish the manuscript I had sent to him several years earlier. I was delighted, but I asked that *Zygon* publish a current, much-expanded version of the original article instead. Since I began to work on the Teilhard-Internet connection in the early 1990s, the topic has become very fashionable, starting with a June 1995 article by Jennifer Cobb Kreisberg in *Wired*. On 20 July 2002 a search of the terms "Teilhard and Internet" in the EBSCO Host data base yielded 61 full text articles, primarily published since 1997; in the Google search engine the same terms resulted in 6,220 hits. Even the presumably obscure term *noosphere* appears 16,800 times, with explanations ranging from "The Emerging Web of Consciousness" to "UFO-Seek" and "The Astrology Directory." Clearly, Teilhard is being discussed among a vast spectrum of admirers and critics, including scholars, computer scientists, New Age enthusiasts, and would-be Net-profiteers.

1. Just in time for this section of the article, I received an unsolicited e-mail, apparently part of a mass mailing, from a stranger, Fritz Berggren, Ph.D., dated 22 July 2002, in which I was being reminded that "God chooses whom He wishes to save. Since all men are sinners and rightly deserve eternal punishment, God's eternal and endless mercy is demonstrated by choosing some people to receive the gift of eternal life offered through Jesus Christ . . . not everyone has the honor of being called to serve the Lord Jesus. Those whom God rejects will be damned. And there is nothing they can do about it."

2. See Cousins 1999 for a summary of his argument.

3. The term *second naiveté* was coined by historian of religion Ricoeur to indicate not the primordial innocence of the child but a naiveté that acknowledges the indispensability of critical thinking whle passing through and beyond it to a higher level of a consciously willed affirmation of meaning and coherence based on acceptance of ambiguity, contradiction, and uncertainty.

4. Nietzsche's Overman laughs at the futility of human life. He lives by a "master morality" that reflects the strength and independence of one who is liberated from all constraints, except for those he imposes on himself. He affirms life in all its absurdity.

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