

WHAT DOES IT MEAN TO BE HUMAN? A PERSONAL AND CATHOLIC PERSPECTIVE

by Ingrid Shafer

Abstract. A philosopher-poet-theologian ponders the implications of the multimillion-year biogenetic process that produced *Homo sapiens* and is beginning to reveal itself ever more clearly as evolution of the mind and consciousness. As meaning trappers and makers, called to actualize the divine image imprinted upon us, we are now facing biological and cultural evolution with deliberate human input as well as the evolution of evolution. As communicating animals that are becoming ever more aware of our adaptive behavior, we have the potential of affecting our own destiny by listening to the spirit within and nurturing the genes and memes that give rise to physical, intellectual, creative, and moral excellence. In the matrix of cyberspace we have the opportunity to heal the two-culture split, to reinvent ourselves, to incubate/weave the emergent religions of the future, and to create our multiple “Ways” appropriate to the dawning Age of Global Dialogue.

Keywords: axial period; biological evolution; cultural evolution; cyberspace; divinization; emergence of consciousness; four nucleotides; genes; Incarnation; information exchange; interactivity; interconnectivity; intuition; *Logos*; love energy; meaning; memes; mysticism; noogenesis; overcoming mind-body dualism; overcoming two-culture split; process philosophy; synchronicity; Tetragrammaton; transformation.

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[*Zygon*, vol. 37, no. 1 (March 2002).]

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FELIX CULPA

When I was first invited to participate in this symposium I surrounded myself with several dozen books and journals, searched my computer hard drive for any of some fifteen years of my past manuscripts (published and unpublished) on science and religion, and spent several weeks pursuing relevant topics on the Internet. I ended up with some 4 million bytes worth of potential sources for this twenty-minute talk. I also wrote and printed out an 8,000-word draft to be cut to size on the long flight. When I arrived at the airport I discovered that I had packed the wrong stack of papers—ironically (or synchronistically), a copy of a speech delivered by Edgar Berman, M.D., at the Inter-American Institute of Peace and Justice sent to Oklahoma Senator Fred Harris in 1967 and an article that appeared in the Chickasha paper on 26 November 1999 (Chaney 1999, 4). In his piece, Berman praised Pierre Teilhard de Chardin's synthesis of evolutionary biology and Christianity, while the newspaper article announced the recently passed requirement by the Oklahoma State Textbook Committee that all textbooks in the state that deal with evolution must contain the following disclaimer: "No one was present when life first appeared on the earth. Therefore any statement about life's origin should be considered theory, not fact." Lois Robinson, a scriptural literalist who started the crusade, is pictured proudly pointing to books with such inflammatory titles as *Refuting Evolution*, *The Evolution Conspiracy*, and *Evolution: Fact or Fiction*.

WHAT IS RELIGION?

On the flight from Dallas to Miami I found myself seated next to Professor Harbans Lal, chair of pharmacology at the University of North Texas Health Science Center, a Sikh and a fellow presenter at the Parliament whose research emphasis is the human brain. We spent much of the flight discussing the phenomenon of individual and cosmic consciousness and the possibility of a nonlocal connection of consciousness with someone at the point of death. He commented that he was troubled by what he considered an excessive emphasis in the Parliament program on ethics and planned to say so. I showed him a passage from Whitehead's *Science and the Modern World*, which I happened to have in my purse, in which Whitehead expressed a parallel concern, noting that "Conduct is a by-product of religion—an inevitable by-product, but not the main point. . . . The insistence upon rules of conduct marks the ebb of religious fervor." Professor Lal was delighted with this citation and with Whitehead's subsequent definition of the "religious spirit":

Religion is the vision of something which stands beyond, behind, and within the passing flux of immediate things; something which is real, and yet waiting to be realized; something which is a remote possibility, and yet the greatest of present

facts; something that gives meaning to all that passes, and yet eludes apprehension; something whose possession is the final good, and yet is beyond all reach; something which is the ultimate ideal, and the hopeless quest. (Whitehead 1967, 191)

On the long flight from Miami to Cape Town I continued to ponder the issue of the tension between religion as social activism and religion as spirituality, a tension that clearly transcends individual religious traditions and is relevant both to the question concerning the meaning of being human and the science-religion syzygy. Andrew Greeley, for example, a sociologist and Catholic priest, is quite critical of the tendency of certain groups in the church to put the horse of action before the cart of faith and nuanced deliberation. On the other hand, there is a danger in any attempt to sever conduct from consciousness (and conscience). Religion is both, as Leonard Swidler's definition of religion as "explanation of the ultimate meaning of life, based on a notion of the Transcendent, and how to live accordingly," implies (2000, 7). Still, even as I teach a course on Global Ethics over the Internet to U.S. military personnel in different parts of the world and design the Global Ethics Web site for the Global Dialogue Institute, I believe that the appropriate initial "space" for a meeting of science and religion is the internal region of spirituality and consciousness more than the external arena of ecological, political, and social activism that might eventually flow from that primary encounter.

RE-VISION AND VISION

And so, I find myself in room 614 of the Cape Town Holiday Inn Garden Court St. George's Mall, at my computer, writing a revised paper, one that is more personal than the original manuscript and incorporates some of the events and experiences of the past couple of days. Lal inspired me to sharpen my focus on the notion of individual and cosmic consciousness, include specific references to Whitehead, and begin my presentation with a private visionary experience I did not have a chance to share with him on the flight (this experience has been previously published in *Zygon* and is here retold with a few minor changes). It is one of two key experiences of my life. The other is my discovery of the Shoah, which had happened a couple of years earlier, when I was eight or nine. The vision came to me when I was ten or eleven, and I will always remember it as if it were happening now:

I am hovering above an empty plane, looking toward the distant horizon line where the grey flatness below meets the grey hemisphere above. I am pure consciousness without body of any kind. I will become aware of this as unusual only in the recalling of the experience, when I am Ingrid Winter again, in my bed in a downstairs apartment at Wiesengasse 6 in Innsbruck, Austria.

For the moment I am seeing. Seeing is I. I see everywhere at once. I look toward the horizon and note a distant speck, a growing blob, a mighty, churning, amorphous mass. I am filled with a combination of anticipation and dread. It

comes upon me like a seething storm, a soothing breath, a gentle fog. It is. I am. We are. One.

I am a crystal, floating in the void, a double pyramid light-shape in the blank blackness, both myself and outside of myself observing myself, a perfect octahedron in empty space. My axis slightly inclined, I begin to rotate, waltzing slowly at first and then more rapidly, turning and turning toward the left. I am both whirl and axial stillness. My facets and edges multiply, gleaming, glowing white light, sparkling, sparking, diamond fire, exploding into red-orange-yellow-green-blue-violet slivers I spin a cocoon of radiance and weave a filigree of sound, infinitely more pure than any tone ever teased from flute or string. I glow. I sing. I grow. I spin. I grow-spin-glow-sing-grow-spin-glow-sing-grow-spin-glow-sing-grow until I fill the void: I am a cosmic bubble, a limpid sphere. I am the all. I AM.

I think “universe” and am countless pin points of brightness that burst into showers of color, spiraling out in a ballet of lights that dance on the void of my outer membrane. I think “earth” and sense myself zooming in and in and in, until I am the waters that feed the dandelion roots that nourish the stem that supports the blossom that transmutes into seeds that fall into me to grow new roots. I am mosquito and bee and grub and lizard and viper and vulture and sparrow and hyena and blood-dripping hare in the jaws of a wolf and wolf tasting the salty hot fresh kill and wet newborn calf standing on wobbly legs. I am the maggot that eats the flesh of the not-yet-quite-dead old man while a brown-skinned woman squats in the forest, howling her pain plain song of birth as her son drops into the leaf-lined hollow beneath her buttocks. I am the stink of death, the shriek of life.

I AM.

I shiver-tremble-quiver-glisten in opalescent shimmer. I explode into a fine mist. Then nothing. Void. For a microsecond or a billion billion years:

I AM NOT.

I am hovering above an empty plane, looking toward the distant horizon line where the gray flatness below meets the gray hemisphere above. I am seeing. Seeing is I. I see everywhere at once. I am pure consciousness. I remember having been here before. I remember what is to come. Future is past! I look toward the horizon expecting what is to come—cognition turns into re-cognition: a distant speck, a growing blob, . . . and then I hear The Voice:

“Wake up or you will be trapped! Wake up or you will forget! Wake up and tell!”

Suddenly, I was wide awake in my bed, feeling as though I had been rudely dropped into my body and switched on. I started to tell my mother of my wondrous journey into infinity, but she thought I was delirious with some sudden fever and threatened to keep me home from school. So I said nothing to anyone about the experience for about seventeen years until Professor Gustav Mueller, a Swiss Hegelian at the University of Oklahoma, wondered what had prepared me for understanding Hegel’s *Phenomenology* with such uncanny, intuitive ease. (Shafer 1994, 589–90)

There was no sense of loving in this experience per se. It was purely noetic. But it left me with such an overpowering, abiding assurance of cosmic interconnectedness and meaning that hatred and lack of compassion for the other—*any* other, human, animal, extraterrestrial, even some form of artificial intelligence, if such a consciousness were to introduce itself to me—became as much of an impossibility as mind-matter dualism or a vision of the Really Real that was not emergence, process, transformation, both in and yet somehow beyond the ordinary space-time continuum.

From then on, in combination with my moral outrage at the Holocaust and my vow to myself that I would dedicate my life to religious, ideological, and ethnic bridge building, this experience became my personal master paradigm, the lens through which I filtered and saw everything, something like a mental radar beam scanning the environment for other expressions of congruent experiences. It inspired my dissertation on what I called the “chiliastic soul” in the work of G. W. F. Hegel, Carl Gustav Jung, and Hermann Hesse, and it became the primal source for my pursuit of what I would eventually call “the hermeneutics of love.”

WHITEHEAD: REALITY AS EMERGENCE

I was sixteen when, in 1955, in my native Austria, I won a crossword puzzle construction contest conducted by the Amerika Institut, a U.S. government organization to introduce the United States to the people of post-war Europe (and, presumably, other parts of the world). The Institut published my crossword puzzle and sent me a box of German translations of American fiction. I wrote back, thanking them for the prize, and I asked why they had sent books in German (and fiction!) when I had so little access to serious works written in English. After all, their crossword puzzle contest involved designing a puzzle in English! I didn't really expect a response, but a few weeks later a second box arrived, filled with assorted books in English, including a slim paperback of Alfred North Whitehead's *Science and the Modern World*. I started reading and found myself utterly captivated, not because Whitehead's philosophic understanding of the cosmos as configurations of evolving processes was new to me but precisely because for the first time in years I felt no longer quite alone. My chance prize had introduced me to someone who seemed to share my primal intuition of reality as process and my fascination with religion, science, and poetry—not as enemies but as valid complementary paths into the mystery of meaning.

At the time I had discovered my Roman Catholic roots and could not comprehend why being a woman kept me from the study of theology and priestly ordination. But faith for me was not a matter of scientific truth. It was a quest for the transcendent, a path of unconditional love for everyone and everything, a soaring of spirit. It never occurred to me to read Genesis or the story of Noah's ark literally, and I am still surprised when my students do so today. Long before I was in first grade, my father would take me on outings to gather butterfly eggs to place into muslin-covered jars with appropriate vegetation, and I would watch pinhead-size eggs turn into caterpillars and caterpillars into cocoons and seemingly dead cocoons open up to release wondrous winged creatures of color and light. But I was also fascinated by geometry and calculus, pored over my aunt's zoology textbooks, painted portraits, wrote poetry, and devoured Cicero,

Goethe, Undset, and assorted English poets from Donne to Shelley and T. S. Eliot. No wonder I fell in love with Whitehead. In his analysis of *Prometheus Unbound*, I even sensed echoes of the crystal pyramid of my vision (Whitehead 1949, 85).

I am still not quite certain why I stuck the disintegrating 1949 second printing of the Mentor edition of a book first published in 1925 into my purse on the way out the door to catch a ride to the airport. I had recognized the cover and retrieved the treasure from the trash after a colleague had disposed of it a few months earlier but had not even opened it until I saw it on the coffee table, looked at the title, and suddenly remembered its significance to my early intellectual meanderings. After all the reading I had done in preparation for this presentation, like Eliot returning home to discover what he had sought abroad, I found myself on the flight from Oklahoma City to Dallas returning to insights I had last joyously pondered when I was sixteen. I wondered why and how I had managed not to include Whitehead in my doctoral program. His ideas had certainly formed part of my preconscious intellectual matrix. As for the Symposium topic, I could not deliberately have chosen a more appropriate travel companion. Today, seventy-five years after the Lowell Lectures were first published, I read Whitehead on the relationship of religion and science and wonder why his notions have not more radically informed the intervening conversation. Whitehead wrote:

When we consider what religion is for mankind, and what science is, it is no exaggeration to say that the future course of history depends upon the decision of this generation as to the relation between them. We have here the two strongest general forces . . . which influence men, and they seem to be set one against the other—the force of our religious intuition, and the force of our impulse to accurate observation and logical deduction. ([1925] 1949, 180)

Whitehead goes on to note that, viewed from the large-scale perspective, religion and science have been in conflict from the beginning, but they have also both continued to change, adapt, and grow (p. 183) precisely in and through the kinds of challenges that force us to overcome the inertia of complacent attachment to one set of doctrines or the other. While we should keep from “mutual anathemas,” we should not despair, for “The clash is a sign that there are wider truths and finer perspectives within which a reconciliation of a deeper religion and a more subtle science will be found” (p. 184). “A clash of doctrines is not a disaster—it is an opportunity” (p. 185). He goes on to observe that the traditional ideas we inherit are never static. “They are transformed by the urge of critical reason, by the vivid evidence of emotional experience, and by the cold certainties of scientific perception. . . . You cannot permanently enclose the same life in the same mould” (p. 187). In the sciences, new theories that modify old ideas are interpreted as a triumph, and, Whitehead argues, “Religion will not regain its old power until it can face change in the same spirit as does

science. Its principles may be eternal, but the expression of those principles requires continual development” (p. 188).

FROM TEILHARD TO THE VATICAN OBSERVATORY

It is in this spirit that the Roman Catholic Church has not only—very belatedly—exonerated Galileo but now supports one of the most renowned astronomical institutes in the world, the Vatican Observatory, with locations in Rome and Tucson, Arizona, an ideal location for observational astronomy. I was touched when I visited the Vatican Observatory Web site and discovered the following translation of the text on a plaque to mark the spot where the Arizona observatory is located:

This new tower for studying the stars has been erected during the XV year of the reign of John Paul II on this peaceful site so fit for such studies, and it has been equipped with a new large mirror for detecting the faintest glimmers of light from distant objects. May whoever searches here night and day the far reaches of space use it joyfully with the help of God. (<http://www.santafe.edu>)

This, along with the pope’s recent endorsement of the theory of evolution, seemed an excellent example of the ability of a religious institution to adapt in response to genuine scientific challenges, cautiously, gradually, too slowly maybe for many, but adapt nevertheless. Even more important, this seemed a major step in the direction of fruitful cultural, religious, and ideological dialogue and cross-pollination, indicative of the vision of the human future by the Jesuit paleontologist and mystic Teilhard de Chardin—a vision that survived its condemnation by the Vatican and is becoming ever more convincing as the Internet connects even the most distant regions on Earth. A half century ago Teilhard presented evidence for “the relentless progression of the life force to a higher complexity and a higher consciousness, and hopefully to the nobler one which he calls the Omega point—that is, the point of an all-encompassing consideration of one man for the other” (Berman n.d.). He conjectured that the spherical shape of Earth combined with exponential growth of populations and proliferation of communication—including “those astonishing electronic machines (the starting point and hope of the young science of cybernetics)” (Teilhard 1966, 111)—would lead to the convergence of previously diverging cultures. He argued that global consciousness would precipitate creative unions, which would intensify and focus individuality and diversity. He used the metaphors of sexual love and radioactivity: by merging in the generative core of their being, creative nuclei release new energy, a process that engenders greater complexity, which precipitates a chain reaction of further creative unions (Teilhard 1961, 262).

Teilhard spent some sixteen years of his life in China (between 1924 and 1946, with periodic interruptions), and his “first Peking period” (1932–1938) was the time when many of his most original notions germinated.

Thus, he wrote in a letter of 3 July 1933: "I have the obscure feeling that something stirs and grows within me; as if, during this period of complete liberty, the true 'me' continues to free itself of the world of conventions" (Cuénot 1965, 213). The imagery is clearly birth imagery. China appears to have been the catalyst for the emergence of Teilhard's mature thought from the pupa stage. His vision of cosmogenesis establishes a bridge between the mind-matter dualism of the West, with its static, transcendent "'God model,' where an independent and superordinate principle determines order and value in the world while remaining aloof from it" (Ames and Rosemont 1998, 31), and the Chinese "commitment to the processional, transformative, and always provisional nature of experience," a sense of dynamic immanence that "renders the 'ten thousand things' [or, perhaps better, events] which make up the world, including the human world, at once continuous one with another, and at the same time, unique" (p. 31).

The geographic location of the Vatican Observatory is a region I knew to be of deep spiritual significance for Native American populations, and I was delighted by this sharing of "sacred space." I saw this not only as a weaving together of science and religion but as an example of Teilhard's creative synthesis of native ways with a formerly hostile religion as well as the most advanced scientific and technological tools. My father was an agnostic, but among the most powerful religious experiences of my childhood were the hours we spent peering into the heavens on clear nights. More recently, Chris Corbally, S.J., one of the astronomers at the Tucson facility, brought a telescope to a couple of Star Island conferences I attended, and he helped me recapture that same wondrous mixture of awe and cosmic belongingness that had marked my initial imaginative journeys into space. Hence, before arriving in Cape Town and picking up my registration packet including the Parliament program, I had prepared to reflect on this joint venture as an example of the kind of cooperation of religion and science that points the way toward the future, especially since astronomy has been linked to a sense of the infinite and the sanctity of the cosmos in many civilizations, past and present.

Alas, when I started reading the program, I discovered another good reason to revise my presentation—apart from having left it at home: my very paradigm of hope was being discussed in a Parliament symposium on Native American Religious Freedom with Professor Huston Smith as an example of the "dangers of organized religion partnering with science" because constructing telescopes on Mount Graham is interpreted as a profanation of what the Apache people consider a sacred place. Apparently, the forces of what Teilhard considered "dissipating tangential energies which delay and obstruct the evolution of the mind and society until it can again be redirected back into the main radial channel" (Berman n.d.) have not yet been overcome.

TOWARD COSMIC CONSCIOUSNESS

This in no way invalidates the thrust of my main argument that the dialogue of religion and science tends in the direction of an understanding of humanity as manifestation of ever more advanced consciousness, culminating in the emergence of what Teilhard calls the noosphere. Teilhard is not alone. Charles Laughlin, John McManus, and Eugene d'Aquili assert (1993, 133–76) that the “transcendent desire” that leads to mystic experiences can be explained in terms of neurophysiology, and they credit Paul Ricoeur’s category of “philosophical reflection” (1993, 164) with allowing the rational integration of knowledge gained during a numinous experience into a cycle of meaning that can be shared. Physicist Fred Alan Wolf argues that “modern physics, particularly quantum mechanics or quantum physics . . . provides a theoretical basis for understanding the mind’s basic functions: intuition, feeling, sensation, and thought” (Wolf 1984, 12). In a chapter on the “physics of love” he posits fear and love as structural elements of matter, as the particles of “annihilation-fear” we call fermions and the particles of “condensation-love” (cf. Teilhard’s “convergence”) we call photons—or particles of light. “We are all,” Wolf writes, “beings of light, the lowliest to the highest among us, from the slugs to the astronauts” (1984, 145). In 1949, discussing the “Formation of the Noosphere,” long before current virtually instantaneous modes of communication were envisioned, Teilhard noted the “sudden multiplication of ultra-rapid means of travel and transmission of thought” leading to “collective cerebralization (in a convergent milieu) using the sharp spear-head of its vast power to complete and anatomically improve the brain of each individual” (1966, 110–11).

Despite sociobiologists’ resistance to the very notion of consciousness during much of the twentieth century, the study of consciousness—including self-consciousness—is becoming acceptable again, in reference not only to humans but also to the higher animals. Donald R. Griffin, for example, writes in *Animal Thinking* (1984) that we cannot legitimately defend a human monopoly on conscious thinking. Earlier, in *The Questions of Animal Awareness* (1976), he had already pointed out that neurophysiologists have found a continuity of structures and functions in neurons and synapses among animals and humans that would lead one to assume a parallel continuity of mental experiences among higher animals. Gordon G. Gallup (1983) argues that chimpanzees and orangutans have “minds” because they clearly have a sense of self.

TEILHARD’S NOOGENESIS

As we consider the multimillion-year biogenetic process that produced *Homo sapiens*, the noogenetic aspect of evolution leaps into focus the way a pattern hidden to those who are caught up in it on Earth becomes clear

from the elevated vantage point of a jet or Earth-orbiting satellite. We are mind-in-the-making. Before us opens the terrifying and fascinating vista not only of evolution but of biological and cultural evolution with deliberate human input as well as the evolution of evolution. As far as we know, humans are the only animals that can become aware of their adaptive behavior and hence have the potential of consciously affecting it. We now have not only the chance to locate the chromosomal bases of certain birth defects or potential illnesses but also the opportunity to discover the genes and memes that give rise to intellectual, creative, and moral excellence. We are called upon to co-invent ourselves, both physiologically and culturally, and not give in to what Harvey Cox (1967, ix–xix) called the greatest sin—sloth. Contemporary science adds poignant significance to the words of the humanist Count Pico della Mirandola, speaking with the Creator’s voice:

We have made you a creature neither of heaven nor of earth, neither mortal nor immortal, in order that you may, as the free and proud shaper of your own being, fashion yourself in the form you may prefer. It will be in your power to descend to the lower, brutish forms of life; you will be able, through your own decision, to rise again to the superior orders whose life is divine. (<http://www.santafe.edu>)

Teilhard believed that human beings are charged by God with helping to spiritualize matter and build the Earth by collaborating with the inherent divine purpose. In *The Heart of Matter*, he speaks of “a suddenly launched current of love [that] spreads over the entire surface and depth of the world” (quoted in Tresmontant 1959, 86), and in *The Divine Milieu*, echoing Paul, he writes, “By virtue of the Creation and, still more, of the Incarnation, nothing here below is profane for those who know how to see. On the contrary, everything is sacred to those capable of distinguishing that portion of chosen being which subject to the attraction of Christ in the process of consummation” (Teilhard 1960, 35). Teilhard’s spirituality was integrated into his fascination with investigating the processes of nature, and he spent most of his life battling the dualistic understanding of spirituality that pervaded much of the Catholic culture prior to the Second Vatican Council.¹

KARL RAHNER’S EVOLUTIONARY CHRISTOLOGY

The most renowned Catholic theologian to integrate evolution and Christology was Karl Rahner, a major contributor to the Second Vatican Council. In the 1960s he developed a 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 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 histori-

cal and becoming concrete in 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” (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” (p. 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).

THE SECOND AXIAL PERIOD

Ewert Cousins (1992, 7–10) interprets Teilhard’s vision as one of the indicators that the present age represents a radical quantum leap of consciousness—the Second Axial Period—that will transform individual consciousness into global consciousness, envisioned not as simple, homogenized, or empty obliteration of individuality but as fruition of the person in and through mutuality.

The process of creative collaboration 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 (1988, 643–47) calls an “initiation,” a sort of Lonerganian appropriation/conversion. Thus, while the Internet, World Wide Web, interreligious and intercultural dialogue, various ongoing global ethics projects, and this Parliament do not unilaterally 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 integrating activities has itself the potential of becoming the catalyst of a genuine change in the way humans understand themselves, one another, the world, and ultimate reality.

The key term at the beginning of the twenty-first century is *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! 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, co-creators who defamiliarize 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.

For Teilhard the concept of evolution was not only a theological category but also a principle of interpretation, which allowed him to develop a Christian paradigm of the universe as a 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” (1970, 280)—up through countless organisms, up through humanity, up through the Christ *Logos* toward the omega point of ultimate unification.

FROM *HOMO SAPIENS* AND *HOMO FABER* TO *HOMO*
COMMUNICATOR AND *HOMO SAPIENS SAPIENS*

The present age, often called the Information Age, challenges us to consider a modified model of what it means to be human, a model that involves 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 individual node in the vast web of the exchange, merging, and emergence of ideas, past, present, and future. It is highly significant that the development of an accessible and nuanced written language ushered in the major transitions in Western civilizations, from Plato's Academy and the scriptoria of the Irish monks or Charlemagne's court to movable type and finally the Internet and World Wide Web. In addition to the written language, indexing is essential. Without indexing, information cannot be readily retrieved and utilized. Libraries need catalogues. Books need tables of contents. The World Wide Web would be useless if it were not for search engines that allow countless minds to share information and learn with and from one another.

I would argue that information exchange is 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 a 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 this perspective, the organic world is constituted of interacting fields of power of the vehicles that self-replicating genes construct in order to transmit copies of their images across space and into the future. The genome project is simply the attempt to index genetic information in order to make it useful in the practical sphere. In a way it represents the becoming conscious of previously unconscious patterns.

In order to extend across space, persist through time, and have a sense of identity, communities must consist of individuals who are engaged in information exchange and can pass on the essential elements of what makes their community this-and-no-other community to the next generation. Richard Dawkins coined the term *memes* for those remembered images and cultural building blocks, these bits of information generally encoded in documents and texts, to complement the genes of evolutionary biology. In metaphoric language, memes, like genes, may appear to have a life of their own, independent from their cultural incarnations, acting as “selfishly” as genes, determined to replicate/create more of their own kind in their image. And yet, as we become conscious of our evolutionary potential and capable of “mapping” not only genes but memes, we are given the opportunity to direct the course of human evolution as co-creators toward what Pico called the “superior orders whose life is divine.” We can reinvent ourselves and project our emergent selves into the future as caring, spiritually awakening, and potentially truly wise. In other words, we can begin to become what we have long called ourselves: *Homines sapientes*, the wise ones of the earth—and we have the opportunity of pursuing knowledge in the spirit of love.

As *Homines sapientes* we have both a material-biological (*Homo*) and a spiritual-mental (*sapiens*) dimension. Both of these dimensions share the linguistic model, and that basic connection of the deep meaning of humanness to speech and information exchange has been intuitively grasped since ancient times. Mythically, in the Judaeo-Christian tradition, this

notion is expressed in such images or stories as God revealed/concealed in 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 evolving sense of self. In cyberspace we have a chance to weave poems and stories on the loom of the Web as we invent midrashim on the meaning of the broken tablets and haltingly enter each other's worlds and imperceptively change and are changed in the process of dialogue. Cyberspace becomes the perfect matrix, the womb/loom that can incubate and weave the emergent religions of the future and help us construct our multiple "Ways" appropriate to the dawning Age of Dialogue of what Karl Jaspers, Ewert Cousins, and others have called the Second Axial Period.

PRAYER

Let us give thanks for chaos and logos and
 explicate, implicate, and superimplicate orders;
 for black holes, bright galaxies, and nonlocal connections;
 for crystals and continents;
 for the emergence of mind and memes from matter;
 for Lucy's skull and Mary Leakey's
 footprints in volcanic ash; for Thales' water,
 Heraclitus' fire, and Pythagorean music of the spheres
 that choreographs
 the elementary particle dance of Heisenberg's
 fundamental symmetries;
 for Aristotle's taxonomy and Bacon's idols;
 for the Indian zero, algebra, and algorithms; for the
 oscillations of the Yin and the Yang; for
 acupuncture, Su Sung's astronomical clock, and
 Huang Tao P'i's textile technology; for Arabic
 alchemists on the Old Silk Road and Ibn Sina's
 Canon of Medicine;
 for Euclid and Newton and Einstein's space-time;
 for Leonardo's bio-art and Rembrandt's
 meditative merging of darkness and light;
 for Kepler's snowflake and Kekule's dream;
 for Mendel's monastery peas and the genetic
 Tetragrammaton on the spiral staircase of life;
 for fractals, ferns, and fall foliage; for
 caterpillars and cocoons; for the infant's first
 cry; for Pachelbel's canon; for stained glass

windows, Leeuwenhoek's microscope, and the Galileo probe; for Sheldrake's morphogenetic fields of archetypal information exchange and Teilhard's noogenetic vision of the emergent higher consciousness; for the World Wide Web to help us become aware of ourselves as co-creators of cosmic interconnectedness; and most of all, let us give thanks for the twin passions which make us fully human—the meaning-making yearning to transcend the boundaries of time and space by learning and by loving.

NOTE

1. The Second Vatican Council, the largest and first truly ecumenical council in the history of the Roman Catholic Church, with some 3,000 participants drawn from all over the globe, was called by Pope John XXIII to promote "peace and unity of all humankind," and was in session from 1962 to 1965. It opened the church to the modern world and radically changed the traditional official attitudes toward non-Catholic Christianity, non-Christian religions, and Catholics who called for freedom of thought and conscience. Self-segregation, condemnation, and proselytizing gave way to constructive dialogue with the secular world and other denominations or religions.

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