TEILHARD PERSPECTIVE

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Teilhard Asia 2006 Conference

At Ateneo de Manila University in the Philippines, from August 31 to September 3, an International Conference was held on ***Teilhard de Chardin's Significance for Planetary Ethics and Creation Spiritualities.*** *This luminous event was noted in the last Perspective and is reviewed by Jennifer Morgan, who, along with Ursula King and Kathleen Duffy, attended and gave presentations.*

By Jennifer Morgan

What does it mean, today, to be human? How does evolution change our world view, our notion of who we are? Who, or what, is God? What are our responsibilities? What does it mean to be Christian? What do we teach our children? More than fifty years after his death, an increasing number of people around the globe look to Teilhard for a conducive framework to ask profound questions such as these.

In the steamy rainforests of the Philippines, these questions were at the heart of the Teilhard Asia 2006 Conference, hosted by Ateneo de Manila University. Sponsored by the GeoChris Foundation; Ateneo de Manila; School of Science and Engineering, Loyola Schools; the Manila Observatory; the Loyola School of Theology; Metanexus Institute, The American Teilhard Assoc.; and others, the conference drew more than 200 participants from the Philippines, Hong Kong, Indonesia, Latvia, Poland, and USA.

Teilhard Europe 2006 Conference

Sponsored by the Archdiocese of Pisa, the University of Pisa, and the Metanexus Institute, among other groups, the following event was held on December 1 to 2 in the Auditorium Toniolo in the Opera della Primaziale, Pisa, shown above. Organized by Professors Ludovico Galleni and Silvana Procacci of the University of Pisa, the meeting illustrates a keen interest in a Teilhardian vision so vital for a new global century and civilization.

Science and Theology: Teilhard de Chardin Universal Thinker. An Anniversary Balance

Introduction: Lodovico Galleni (Università di Pisa) The Reason Of The Meeting: Teilhard De Chardin Universal Thinker

Fiorenzo Facchini (Università Di Bologna) Actuality of ohe Teilhard Perspectives and the Today Debate About Evolution

Building the Noosphere: Teilhard de Chardin and the Plurality of Cultures

Fabio Mantovani (Verona) Teilhard de Chardin and the Future of Humankind

American Teilhard Association 2007 Annual Meeting

This springtime event will be held on Saturday May 5th at the General Theological Seminary, in the Mathews Lounge, located at 175 9th Avenue, New York City. The speaker will be Chestnut Hill College Professor Kathleen Duffy, SSJ, on *Teilhard and the Texture of the Evolution Cosmos*. A separate mailing will be made to ATA members.

The GeoChris Foundation organized the conference and timed it to coincide with Creation Day (September 1) which is now celebrated in the Orthodox world, many European churches, Australia and the Philippines. Teilhard was the centerpiece of this Creation Day celebration, according to Fr. Georg Ziselsberger, (president of GeoChris) because his work is so centered on the sanctity of the primary gift of creation itself.

A conference vision statement says that Teilhard gave birth to a profound new way of thinking, within an evolving world, human persons are given a new identity, and a task to seek salvation not apart from the world, but through its intended fulfillment. Humanity's search for such a new praxis calls for the involvement and contribution of all intellectual disciplines which inquire into natural reality. An urgent goal in this regard is how to find ways to live sustainably.

In his introduction on Thursday evening, Fr. Georg Ziselsberger said that "Christians need to internalize the insights of Teilhard, to bond the creator with the creation and allow our religious images to be transformed. Images of God need to correspond to scientific knowledge and faith. The Cosmic Christ opens out the historical Christ and everything is transformed. It becomes the living water and bread."

On Friday morning, renowned Teilhard scholar Dr. Ursula King gave a background on Teilhard and discussed the importance of his vision with respect to our growing consciousness of the planet as one world, and its biological fragility. "We are in the crisis of the birth of the noosphere. . . out of, and in collaboration with, the biosphere." Religion has a crucial role, she said, to "spur on a sense of purpose for life." For life to continue we need "the will to do it, we need a zest for life." And what gives us zest? "Seeing the divine milieu that surrounds us like an ocean (is) to experience God in and through the Earth. Everything is evolving, emerging. Nothing stands still, everything is a flow."

Sr. Kathleen Duffy (Professor of Physics, Chestnut Hill College) provided a survey of Teilhard's life as a scientist in the fields of geology and paleontology, which "rested upon a profound quest to find the durable. He saw his love of rocks as compatible with his love of God. He wanted to know what holds things together." When Teilhard read in Colossians 1:17 that "All things hold together in Him," Teilhard shifted his focus from stony strata to their innate energies. In pursuit of this theme, he developed his idea that Christ becomes the Omega in whom all things hold together.

In the afternoon, Jennifer Morgan (author of a Universe Trilogy for children), gave a presentation to children from a nearby Montessori school while conference participants looked on. Her work -- inspired by Teilhard, Thomas Berry, Brian Swimme, Maria Montessori, and others -- gives children and adults alike an experience of the story of evolution as a deeply spiritual narrative, one in which the Universe has its own interiority, its creative "within" as Teilhard would say. She donned an "electrifying robe" to speak as if the universe to show dramatically how all of us are part of a living, numinous creation. Her presentation was followed by a book launch for *Mammals Who Morph*, the third volume in her Trilogy.

On Saturday, Fr. Henri Boulad, SJ (Theology Professor, Catholic Institute of Theology, Cairo, Egypt), spoke about the need to reconcile ourselves with our intuitive senses. "We have oneness when the physical meets the spiritual," he said. The Spirit without the physical is disembodied. We overcome Manichean dualism and understand the mysticism of the incarnation. Mysticism is thus rooted in the Earth and it's "utterly Christian." Our sacraments need to be reinvented with this understanding. "Everything comes out of something else," he said. Talking about the Anthropic Principle, Fr. Boulad said that "at each crossroad, evolution chose the way toward man." (He took quite a ribbing later in the conference for his use of the word "man" instead of "human.") And God is everywhere, even "jumping in between your eyes and mine." Talking about the Cosmic Christ, Fr. Boulad quoted, "I am the living God, the Alpha and the Omega," and finished his talked with the question, "At which month of gestation is the world now?"

On Saturday evening, Ateneo de Manila University President, Fr. Bienvenido Nebres, SJ, discussed the importance of culture in the dialogue between science and religion. He grew up with very diverse ways of thinking and didn't have a problem with it. When he got sick, his mother pacified the spirits while his father recommended western medicine. He learned to live in two worlds and felt comfortable with that. "Asian scientists," he said, "don't experience a traumatic split between science and religion. . . At this point I look at science and religion, not so much as to whether they agree, but how much each contributes to the whole." How can we commune between science and religion within the specific culture of the Philippines, he asked. "Our matrix is our faith."

Following his talk, a group from the native T'boli tribe of Cotabato, Mindanao, told a form of the Universe Story that integrated their own understanding of nature and cosmology. "Everything has a soul – rats, oceans, stones, dogs, cats . . . they all tell us a story," they said. Near the end, a member of the audience worried, "Where's God in the story? This sounds like evolution." They then ran the whole story backward to the very beginning and ended with the ultimate mystery of what existed before the Big Bang whence "the ultimate mystery is the name of God."

On Sunday morning, Fr. Jose M. C. Francisco, SJ (President, Loyola School of Theology, Manila) picked up on the discussion begun by Fr. Nebres the night before, saying that "any discussion is incomplete without culture." And in the Philippines, "people trust God more than science." In the popular media, the scientist is often portrayed as power hungry, overstepping his bounds. Science needs to be in service of the wider society. People in the Philippines see God as someone they can lean on. God is an omniscient overseer of society and the natural world. "How does God act?" he asked. Is everything in the world God? Did God initiate creation and leave it alone, or intervene in every case? "Wherever there is reality, God is there," he said.

There were many lively and wide ranging discussions graced the 33 breakout sessions. To name a few of the speakers from the Philippines, Michael La Guardia compared Teilhard with the process theologian Charles Hartshorne. Amalia Rosana discussed the Trinity and Filipino culture as a model for ecological care. Sr. Mary Luz Bantilan explained how Teilhard's vision provides a basis for planetary ethics.

Sixto Roxas went on to view Teilhard's thought with regard to a theory and praxis of sustainable development for the millennium. Speakers from other countries included Thomas Klibengajtis, of Poland, who illuminated the deep roots of Teilhard's theology. A presentation on Christian Shamanism which compared faith healing in the Philippines and Serbia, was given by Leons Taivans of Latvia. Thomas Dabre, Bishop of Vasai, India, spoke on the relevance of Teilhard in a religiously pluralistic world.

John Jacome, a Theology Professor at San Beda College, Alabang, Muntinlupa City, Philippines, summed up the conference by saying that the main message of the conference for him was that "We're part of the Universe and we have responsibilities to shape our future."

For more information about this and future conferences in Asia centered on Teilhard's vision access the GeoChris Foundation website at: www.geochris.net. A Conference volume of the conference papers should be available in 2007.

Teilhard Europe 2006 Conference

Paolo Trianni (Pontificia Università Sant'Anselmo, Roma) Toward a Theology for India: Jules Monchanin and Pierre Teilhard de Chardin

Lino Conti (Università di Perugia) Teilhard de Chardin and the Future of Culture

Tito Tonietti (Università di Pisa) Before Teilhard de Chardin: Jesuits and China

Carlo Vinti (Università di Perugia) Teilhard de Chardin and Michael Polanyi

Giovanni Fois (Roma) Teilhard de Chardin and a Project for a Computer Bibliography

Building the Earth Ethics in Teilhard Perspectives

Vincenzo D'Ascenzi S.J. (Roma) Teilhard de Chardin in Front of Globalization

Aurelio Rizzacasa (Università di Perugia) The Existential Foundations of Ethics: the Meditative Itinerary of Teilhard de Chardin

Building the Earth: the Future of Humanity

Silvana Procacci (Università di Perugia) Teilhard de Chardin and Hans Jonas: Two Projects in Order to Build the Future

Cecilia Veracini (Università di Firenze) In Memory of Dorothy Stang. To Build or Destroy: the Case of the Amazon Rainforest

Antoine Manzanza Lieko ko Momay (Lisala- repubblica Democratica del Congo) To Remember the First Centenary of L. Sedar Senghor 's Birth: Teilhard de Chardin, Leopold Sedar Senghor and African Culture

To Build Research Program: Scientific Perspectives in Teilhard de Chardin's Works

Lodovico Galleni (Università di Pisa) Teilhard de Chardin and the Theory of the Biosphere

Carlo Cirotto (Università di Perugia) Beyond Holism and Reductionism: Teilhard de Chardin Forerunner of Emergent Properties Theories

Magdalena Konzalova (Università di Praga) Contribution to the Early Life Picture at the Microscopic Organisms Level with Reflection on Progressed Knowledge by Investigations in China.

Federico Masini (Università di Palermo) System Concept in Paleontology

Fabio Caporali (Università della Tuscia) Ecology and Centrology: a Comparison between Two Models of Reality.

Alessandro Cordelli (Pontificia Università del Laterano, Roma) Old and New Perspectives on Emergency and Ontological Novelties

Leonardo Angeloni (Università di Firenze) Stability and Complexity: a Rereading of Teilhard's Evolutionary Theory on the Basis Contemporary Acquisitions.

IRAS 2007 Star Island Conference.
Emergence: Nature's Mode of Creativity.
The Human Dimension.

The **2006** Institute for Religion in an Age of Science (IRAS) summer conference with the same title emphasized the more cosmological, evolutionary, and scientific aspects of a spontaneous natural development from universe to humankind within a conducive biosphere in need of much sustainable care. Abstracts of presentations for this week long cerebral and celebratory gathering are available on the IRAS website: www.iras.org, go to 2006 Conference Program Guide on the home page. Its premier faculty included biologists Stuart Kauffman, Ursula Goodenough, and Guy Hoelzer, theologian Gordon Kaufman, neuroscientist Terrence Deacon, along with our own Mary Evelyn Tucker, John Grim, and Brian Swimme.

Star Island is located among the Isle of Shoals, some ten miles into the Atlantic Ocean off of Portsmouth, New Hampshire. Registration fills up early, and anyone wishing to attend ought to do so promptly via the 2007 conference announcement on the website. Dates are July 28 to August 4, when the subject will shift to implications for person, creature and planet. With Deacon and Goodenough as co-chairs, a

similarly stellar group is planned such as theologians Philip Clayton and Neils Gergerson. A bibliography of Emergence books and articles can also be accessed on the site. We print next the 2007 conference introduction.

In 2006 we explored the concept of emergence in its physical, geological, biological and ecological contexts, enriching our sense of connection with the universe and other beings. For 2007 we will consider emergence in the context of the human, ranging across our cognitive, emotional, linguistic, cultural, artistic, and religious capacities.

Emergent properties arise out of relationships, like the neuronal signaling patterns that generate mental experience or the interpersonal connections that generate communal identity. They can be analyzed in terms of their interacting components, but the synergies that develop can generate higher-order unities with novel properties. Humans exemplify these emergent capacities in our modes of cognition, allowing us to generate phenomena that could not previously exist, such as music, morality, religion, and science.

The core thesis of the conference is that human mental evolution was not just "evolution as usual." Rather, it was a case of "emergent evolution," traversing a causal threshold as fundamental as the emergence of life, which in turn made biological evolution possible. Similarly, the emergence of symbolic communication made possible the subsequent co-evolution of brain, language, and culture, driving technology and generating new forms of consciousness in which vast webs of collective cognition and intersubjectivity are possible, many manifest in our religious traditions. These processes can be expected to lead to future transitions - not all human-friendly -- that are every bit as revolutionary, demanding that we reflect on our understandings of the true, the good, the beautiful, and the sacred.

Speakers and workshop leaders from many disciplines will join conferees and clergy in considering the consequences of the thesis that human nature is fundamentally emergent. We will explore such questions as: In what ways are uniquely human mental abilities the result of emergent evolution, in contrast, for example, to the evolution of upright posture? How does the human conscious self differ from consciousness in other animals, and how does it arise? How does human language differ from other forms of communication, and what is its role in shaping our consciousness? In what ways might present and projected forms of electronic communication generate emergent changes in human identity and community? Where do our aesthetic and spiritual sensibilities come from? How does the emergence of our symbolic capacities help us understand empathy, meaning, and purpose? Is a cosmology of emergence consistent with existing moral, spiritual, metaphysical and theological frameworks? How might it influence, or even transform, them?

Acceptance Remarks by George Coyne S.J. at the 2006 Arrupe Award Ceremony, University of Scranton, March 29, 2006.

Many thanks to ATA member and State University of New York at Stony Brook professor John Ryan for sending in this article. George Coyne was Director of the Vatican Observatory for 28 years and is an Adjunct Professor of Astronomy at the University of Arizona. The Award is named for Fr. Pedro Arrupe S.J, founder of Jesuit Refugee Service, and 28th general (1965-83) of the Society of Jesus.

Before we can address the long-standing discussion among Jesuits and their lay colleagues on the nature of Ignatian mission and ministry it would be useful, I think, to share with you how a believing scientist like myself views, based on scientific knowledge, the nature of God and the nature of the human being. Obviously such knowledge is basic to any discussion of Ignatian mission and I would hope that such knowledge will help to compliment that derived from philosophy and theology.

It is clear from all of the sciences, including geology, molecular biology, paleontology, comparative anatomy, cosmology, etc., that evolution is an intrinsic and proper characteristic of the universe. Neither the universe as a whole nor any of its ingredients can be understood except in terms of evolution. We human beings came to be through evolution and evolution is a daily happening. As the universe expanded from the Big Bang and evolved, stars were born and stars died. Since stars are born and sustain themselves by creating a thermonuclear furnace whereby light elements are continuously converted into heavier elements, when they die the stars pour out to the universe these heavier elements. And then a second generation of stars is born, not now of pure hydrogen but of the enriched chemistry of the universe. Thus, the universe is being continuously enriched with heavier elements. This process continued until through chemical complexification the human being came to be. Our sun is a third generation star and we are literally born of stardust.

All that I have presented thus far about the evolution in the universe of complex organisms, including ourselves, has occurred by natural processes intrinsic to a universe which is about 14 billion years old and contains about 10^{22} stars. Thus far science, even though no scientist would claim to have the ultimate truth about any of this. But what relevance does all of this scientific knowledge have to Ignatian mission and ministry?

Although God transcends the universe, he is working in it through his providence and continuous creation. This stress on God's immanence is not to place a limitation upon God. Far from it. It reveals a God who made a universe that has within it a certain dynamism, as seen by science, and thus participates in the very creativity of God. In such ways God emptied himself so that he could share his infinite love with his creation.

To my mind this view of the evolutionary universe and of our place in it, derived at least partially from the sciences, and of God's role in the universe, derived from the reflections of a religious believer upon that same science, may help us in a further understanding of Ignatian mission. We, in a special

way, share in the creativity which God desired the universe to have. I have not spoken above of the spiritual nature of the human being because that cannot be an object of scientific research. But the reflections of a religious believer upon the nature of God and his relationship to the universe brings us undoubtedly to a recognition of our spirituality; in fact such reflections are themselves an exercise of that spirituality.

Reflections upon our scientific knowledge of the universe bring us to a recognition of our role as co-creators, so to speak, in God's continuous creation of the universe. Ignatian mission is, therefore, not a choice taken independently of the world around us; it derives from our very nature in the universe. It cannot be separated from faith, our relationship of love to God, the source of all missions, of all creativity in the universe. Furthermore, it appears to me that the Jesuit identity expressed by St. Ignatius' vision of Jesuits as contemplatives in action is reinforced by our reflections on the nature of the universe. Co-creators on mission in the universe can only realize their mission if they are constantly united to God, the source of all missions. Jesuit identity is much more than what Jesuits do. It is bound intimately to the very nature of the universe which drives us as co-creators to the carry out our mission in union with the Creator.

Father General Pedro Arrupe concretized these fundamental considerations about mission when in his "Jesuit Mission in the University Apostolate" he said:

> Our Lord's teaching is to be the salt that penetrates and sustains the vitality of human cultures. Now many human cultures, specially in the modern, technological world, are shaped in institutions of higher education. In these institutions, then, we are offered an unrivalled opportunity, where the graces of civilization flourish, for the grace of God to abound the more. ... How will they become wise in Christ, if Christian scholars are not present in their world of contemporary philosophy, science, or art and at home, even more so, in that world which evoked Paul's lyrical cry, "How great are God's riches. How deep are his wisdom and knowledge. Who can explain his decisions? Who can understand his ways?" (Rom. 11/33)

What would be some of the characteristics of Ignatian mission derived from religious reflections on the evolutionary nature of the universe and concretized by Father Arrupe?

Ignatian mission is a participation in the intrinsically missionary nature of the Church, the concrete presence of the Creator among his co-creators. God is continually encountering the world in new and creative ways because the world he created is responsive to his continual encounter. Ignatius sent his men into that world and sought to free them of any encumbrance to a free and total commitment to the world in whatever way their talents would best serve the Church. And their mission was to evolve just as the universe itself is in evolution. But for any individual Jesuit or Jesuit institution the evolution of mission must be in consort with the intrinsically missionary Church. The wisdom of God in emptying himself to create a world which shares in his creativity requires that, since God is the one God of all creation, such participation in his creativity must be universal. It cannot favor any particular social, cultural, religious movement. While to function any given mission must be limited, it cannot be exclusive.

Ignatius was fond of seeing himself as a pilgrim. The early history of the Society reinforces this notion of the early Jesuits as a group of pilgrims. We are, indeed, pilgrims in a universe never envisaged by Ignatius and his companions. And yet we are on a mission in this universe among all of our fellow pilgrims.

Our attempts to understand the universe have as much to say about ourselves as they do about the universe. In fact, in us the universe has become self-reflective. In our reflections we are increasingly aware that we are part of that upon which we are reflecting. Today, as we attempt, with the use of the most advanced methods of physics and mathematics, to understand ourselves and the universe of which we are a part, we realize that we stand on the shoulders of giants of the past and that the path to our present day understanding has been a long one, relative to a human lifetime, but a very short one, relative to the age of the universe itself, and that it has been traveled by many. We are today's pilgrims, aware of what lies behind us, but impatient to know what lies ahead.

Science has undoubtedly been one of the principal factors in determining the direction of our pilgrimage. In reflecting upon our scientific knowledge and in attempting to unify it with all that we know as human beings we sense that we are being led in our pilgrimage to realities beyond understanding and that our passion to know is really a participation in Love. It is remarkable that science has brought us to this.

As a footnote, George Coyne was removed as Director of the Vatican Observatory in August 2006 by Pope Benedict because of his strong stand against Intelligent Design, which the Pope prefers. Google "George Coyne Jesuit" to access a number of sites which contain his views on the matter. Fr. Coyne speaks lucidly of a Divine "nurturing parent" who creates and carefully guides an evolutionary increase in biological complexity and spiritual consciousness, whence the cosmos develops as a child. Intelligent Design claims that constant, overt intervention by God is required, which has been roundly debunked as unscientific and misconceived. The next paragraph is abstracted from an article entitled The Debate about Evolution: Science Confronts Religion in the December 2006 newsletter of the Society of Jesus USA, available at their website www.jesuit.org/sections, go to Publications and look for National Jesuit News Online.

Both cosmological and biological evolution reveal a God who made a universe that has within it, through evolution, a certain dynamism and thus participates in the very creativity of God. If they respect the results of modern science, religious believers must move away from the notion of a dictator God, a Newtonian God of the gaps, a designer God who made the universe as a watch that ticks along regularly. Perhaps God should be seen more as a parent. The universe, through evolution, has a certain vitality of its own like a child does. You discipline a child but you try to preserve and enrich the individual character of the child and its own passion for life.

The Biology of Ultimate Concern

As I was gathering material for a presentation which would attempt to situate and explain Teilhard's mid-20th century view of evolution, it seemed helpful to recall that one of the most eminent geneticists and evolutionary theorists of the day, Theodosius Dobzhansky, chose to be president of the American Teilhard Association in the early 1970's. This led me to revisit his book of the above title (New York: New American Library, 1967) which includes a long concluding chapter, "The Teilhardian Synthesis."

In this chapter Dobzhansky provides one of the most insightful appreciations of Teilhard's vision of an inherent forward movement and central axis in evolution. This does not mean, to Dobzhansky, a teleological rise, but through the myriad "groping" creatures, there is a "directed chance" at work, aided by natural selection. A "progressive evolution" can then be perceived which favors cooperation over competition, and that fosters the quality of love among members. This is not a predestined orthogenesis, but a reading by Dobzhansky which allows an inclusion of a Darwinian emphasis on populations of mutating genes.

These insights were the subject of a 1994 book: *The Evolution of Theodosius Dobzhansky* (Princeton: Princeton University Press) whose authors had trouble with such "progressivist" views, still anathema to the reigning scheme of a contingent, purposeless evolution. What was not noticed is that in his early years in Russia, Dobzhansky studied with the geochemist Vladimir Vernadsky, who knew Teilhard from the 1920s in Paris where they jointly with Pierre Le Roy conceived the theory of the noosphere. A premier scientist, Vernadsky did not adhere to materialism and advocated similar version of evolving sequential spheres of "living matter" which lead on to the emergence of knowing, active reason. From this perspective and because of his stature, Dobzhansky could move beyond the mechanical evolutionary paradigm to support a Teilhardian interpretation.

But Teilhard, Vernadsky and Dobzhansky can be situated in a broader historical milieu which extends back to the 19th and 18th century natural philosophers. It is said that Darwin himself was not a modern Darwinist but rather was immersed in the 19th century Romantic conviction that earth life had developed in some way as an embryonic organism. This option of a cosmogenesis, however vicarious, that eventually gives rise to selves, mind and spirit remains a minority view today.

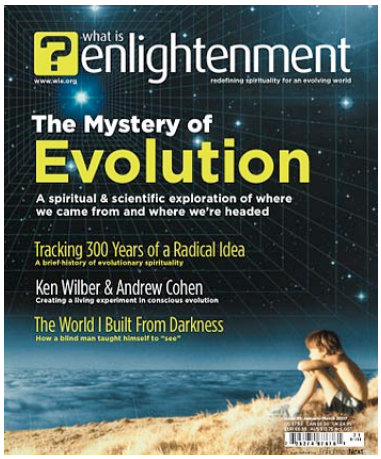
Thomas Berry Website

At the web address: www.thomasberry.org, is a new site where a brief biography, books and essays, of Thomas Berry can be found. There is also information about the film *The Awakening Universe*. This film, shown in rough cut at the United Nations at the Teilhard 2005 conference, is based on the book *The Universe Story* by Thomas and cosmologist Brian Swimme and takes one on an inspiring journey from the birth of the Universe, through the arising of galaxies, the formation of the Earth, the emergence of life and finally to the development of human consciousness. It was directed by Neal Rogin, written by Rogin and Drew Dellinger, and includes interviews with Brian Swimme and Mary Evelyn Tucker.

In similar regard, at the website for Bullfrog Films: www.bullfrogfilms.com/catalog/tbhv.html, can be found, and also purchased, "Thomas Berry: The Great Story" made by Nancy Stetson and Penny Morrell. We quote from this web page:

As a pioneer in the field of spirituality and ecology, Thomas Berry has created a quiet revolution. He is a monk, a cultural historian, an author, a teacher, and a mystic. The film opens displaying the beauty of the natural world as Berry unfolds the story of creation. He sees his life work as waking us up to that sacred story. He calls us "mad" for the way we are despoiling our home, our planet, its beauty, and its living systems. He is a force that reminds us that we are living through the greatest extinction spasm of the past 65 million years. We are the ones responsible. Berry urges us to change our ways.

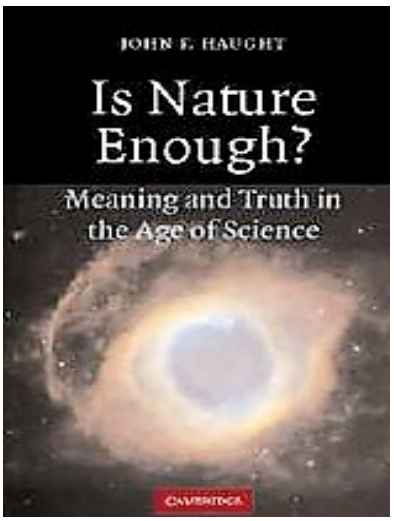
At the heart of the film is Berry's experience of the universe as a cosmic liturgy. He reminds us that "we are not a collection of objects but a communion of subjects." His values are rooted in this sacred cosmology which includes the entire natural world. The mountains, rivers, birds, fish, all living organisms are not there for our use but for a union which is needed for us to become who we are. As Berry says, "I am not myself without everything else.



The January-March 2007 issue of this *What is Enlightenment?* journal features a unique introduction to the frontiers of cosmic and biological evolutionary thought beyond the dated extremes of Intelligent Design and NeoDarwinism. A succinct history of a spiritual and romantic view of the rise of life and mind courses from Boehme, Liebniz, and Goethe to Whitehead, Aurobindo, Steiner, and Julian Huxley. A new evolutionary synthesis in the air with an innate, progressive, convergent direction enhanced by complexity, cooperation, and consciousness is next surveyed in its many facets and sources. And Teilhard's vision of a numinous cosmic genesis is seen to represent its essence both historical and for the 21st century.

This magazine is available at Barnes & Noble stores. One can also assess its website at *www.wie.org.*

Book Reviews



IS NATURE ENOUGH? Meaning and Truth in an Age of Science.
John F. Haught. Cambridge, UK: Cambridge University Press, 2006.

By Thomas M. King, S.J.

This book carries the Dedication: "To the Memory of Pierre Teilhard de Chardin, S.J. (1881-1955)," and Teilhard is quoted at several key places as Georgetown University theologian Haught develops his argument. Yet several insights from Bernard Lonegran, S.J. (1904-1984) serve as the basis for much of his critique as he takes on the "scientific naturalists:" Carl Sagan, Richard Dawkins, Daniel Dennett, Owen Flanagan, Steven Weinberg, Jacques Monod, Gary Cziko, Steven Pinker, E. O. Wilson, P. W. Atkins, David Papineau, and so forth. A formidable list with differences among them yet all opposed to any type of transcendence. While Haught does not question their scientific work, nor is theology posed as an alternative to science, and surely Creationism or Intelligent Design is not viable, rather he reflects on the nature of knowledge to contend that a purely naturalistic understanding of reality is inadequate and indeed cannot be justified experimentally, logically, or scientifically.

John Haught's basic claim is that the acts of the critical mind cannot be fully captured by the objectifying categories proper to science. Mindful of what evolutionary biology has learned, he allows that science rightly situates the birth of critical intelligence within an unbroken series of natural causes, but he goes beyond what scientific naturalism can allow. It is then stated that we have a fundamental desire to know, and, following Lonergan, breaks down knowing into three steps: we must experience the world, we must come to some understanding of it, and we must judge whether our understanding is true. This is the work of a critical intelligence. Haught claims that our desire to know is anticipatory rather than possessive. That is, the mind always seeks beyond what it already possesses; it feels cramped in hearing "nothing but" and "all there is." For the mind can know a limit only because the vary act of knowing transcends the limit it has found. In speaking of a limit it has already passed beyond it. Haught tells of many scientific naturalists scolding religious people for not facing up to the fact that all knowledge is simply an adaptive phase of evolution, but in so debunking religion they do not see that their own claims can likewise be debunked. While some scientific naturalists try to suggest a beginning of morality in the scientists responsibility to truth; Haught shows their claims can likewise be set aside. He does not claim that morality was instilled in each person's mind directly by God. Rather that the imperative to be responsible is activated by the mind's anticipation of a transcendent goodness that grounds both the world and our consciousness. Haught see the scientific naturalists, with their willingness to recognize only objectivity, incapable of recognizing there can be other subjects; yet they would not be writing their books unless they believed such subjects exist.

I have read most of John Haught's earlier books, now some fourteen in number, and find the present text to be a significant advance in his thought. The arguments of this book involve subtle elements of philosophy, yet the writing is a model of clarity, and when he makes his major points, like a good teacher, he repeats the points using different words. He knows well an abundance of philosophy, but his text is free of excessive abstraction and philosophical jargon.

For too long the scientific naturalists have dominated publications on science and religion, or science and values. Meanwhile, many religious readers have a vague sense that they miss the point as they charge into theological windmills. Professor Haught has put his finger on their problem and does so with his usual skill in exposition. As a caveat, his book is not immediately accessible in every place, but it is a treasure of clarity and insight whose time has come. It should play an important part in the ongoing discussion concerning religion and science with its fresh consideration of the issues. Teilhard looked forward to a future wherein religion would become increasingly important. He would be grateful to Professor Haught for getting the discussion back on track and calling us forward.

TEILHARD DE CHARDIN: Theology, Humanity and Cosmos.
David Grumett. Leuven, Belgium: Peeters Publishing, 2005.

By Thomas M. King, S.J.

The present text begins with a long quote of (Cardinal) Henri de Lubac, S.J. saying we need to understand Teilhard in the context that formed him: "We must bring to mind again the situation of the religious and conservative world in France around 1900, and the interior exile of Catholic society, the theology current at the time, as well as the positivist, determinist, and anti-religious mentality then dominant." De Lubac saw Teilhard facing a conservative Church and a strongly secular society, and in the face of such obstacles he forged a spiritual interpretation of evolution that reaches its

consummation in Christ. This is the intellectual world that Grumett has uncovered in his monumental work.

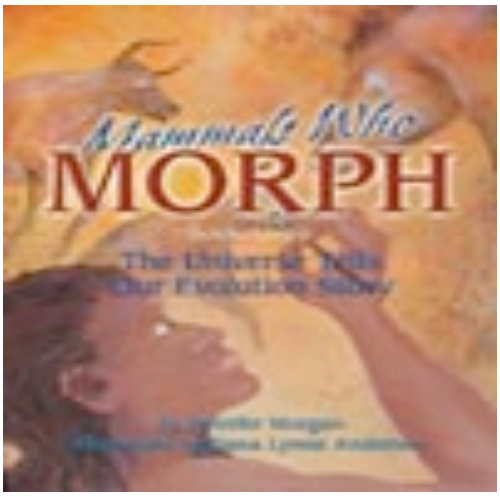
Grumett, a University of Exeter theologian, offers a thorough examination of the religious, political, and philosophic currents that formed Teilhard's thought. As the publication of his doctoral dissertation written for Cambridge University, it constitutes the most extensive academic study of Teilhard's sources likely to be written. Grumett has accessed the copious writings of Teilhard (essays, journals, letters, retreat notes, etc.), the books that he read (Teilhard has left his *carnet des lectures*), the French-Jesuit archives, the teachers who taught him, writings of his fellow Jesuits, the influential philosophers of the early twentieth-century, medieval thinkers that Teilhard read, the works of the Jesuit founder, St. Ignatius, along with the abundance of material written about Teilhard. And instead of losing himself in this wealth of detail, Grumett manages to achieve a well-argued central thesis: Teilhard was primarily a theologian and his theological vision was "rooted in Historic, catholic Christianity," in other terms, "Theology provides the hermeneutic for the whole of his thought." Grumett allows that many people have not read him that way, and he attributes much of this misunderstanding to the fact that his writings appeared in the troubled 1960s when people were looking desperately for a different message. To guide us through the complexities and details of his claims, Grumett offers a brief summary statement of each chapter.

Grumett is paricularily concerned to show that Teilhard, beyond having a distinctive philosophy of human action, also had a philosophy of human passion and suffering. The two themes are traced through his theology and philosophy. He sees Aristotle, Thomas Aquinas, Maurice Blondel, Henri Bergson, Pierre Charles, and Pierre Rousselot as having major influences on Teilhard. Grumett sees Teilhard's understanding of the body-soul relation as a key element that situates much of his thought in the Thomistic tradition. He points out that Teilhard's understanding of matter was more inline with the texts of Plotinus than was that of Henri Bergson (a supporter of Plotinus); he argues that Jacques Maritain's charge that Teilhard offered a "Hegelian theogeny" is not justified. He sees Teilhard closer to Origin that to Justin on the nature of matter, and so forth. Teilhard was not necessarily aware of all of these influences, but in presenting them Grumett situates Teilhard within the significant traditions in philosophy and theology. Grumett emphasis is on Teilhard's years of education, still one misses any mention of Edouard Leroy, a noted Catholic philosopher and professor at the College de France, whom Teilhard met in 1920 and soon was meeting weekly to discuss their common interests.

Grummett argues many people have not been aware of the academic quality of Teilhard's writings and attributes much of this to the fact that Teilhard wrote some essays between battles in the First World War and other essays while on expedition – or even while working in Peking. In such places he did not have the libraries necessary to make his works as scholarly as they might be. But Grumett shows that Teilhard was aware of an abundance of intellectual currents and was responding to many of them. On several occasions Grumett acknowledges Teilhard's mysticism: "Teilhard is seeking to communicate a profound spiritual experience which is as such strictly incommunicable." Though incommunicable, this experience was articulated in the somewhat-pantheistic flavor that runs through Teilhard's writings and sets him apart from most of the Catholic theologians that influenced him: it also does much to explain his extraordinary popular appeal. Though Grumett acknowledges this, he does not give it the recognition it deserves. Still one must recognize the extraordinary achievement of the present study. It is not light reading, yet is clearly written and so well outlined that many can find it a good tool for reference.

Hopefully by showing the subtlety and many dimensions of Teilhard's thought, *Teilhard de Chardin: Theology, Humanity and Cosmos* will enable scholars to see that Teilhard is more that a maverick and enable him to take the place he deserves among the philosophic and theological giants of the twentieth century.

Thomas King, SJ, is Professor of Theology at Georgetown University and author of many books and articles seeking to explain and convey Teilhard's spiritual vision.



MAMMALS WHO MORPH: The Universe Tells our Evolution Story.
Jennifer Morgan. Nevada City, CA: Dawn Publications, 2006.

By Arthur Fabel

This extraordinary volume completes a trilogy of the Universe Story for children presented in engaging prose and apt illustration. The previous award winning works are ***Born with a Bang; The Universe Tells our Cosmic Story,*** and, ***From Lava to Life: The Universe Tells our Earth Story.*** But these books are all so well done they also provide a graceful entry for adults. Several pages devoted to the supportive science, a glossary, and further resources. As one example, at the Star Island Emergence conference last summer, evolutionary biologist Guy Hoelzer was much enthralled and planned to order a set from amazon.com for his seven and nine year olds.

As some background, Jennifer Morgan has a degree in theology, but it was her dialogue with Thomas Berry and Brian Swimme that expanded such studies to a celestial realm. For this new story is not the machine model alien to life and faith,

rather with such inspiration, a genesis cosmos, as Teilhard so presciently evoked, is encountered. By this waxing vision each stage from universe to fertile planet, life's long procession, to human reflective creativity, is an intended phenomenon. Thomas Berry proposes that our cosmic abide, whose animate developmental and powers course through each of us young and old, should begin a child's education, not be held off until college or not entered at all.

This present volume and the series is a salient accomplishment for that purpose. What I find so worthwhile is how the narrative proceeds as if told by the universe her/himself. In the midst of scintillating artistry by Dana Lynne Andersen, the text begins:

Now I get to tell you one of the most fascinating parts of my life story – the one about mammal Earthlings…and that includes you.

When I was an infant Universe, 13 billion years ago, there were no eyes to see. No one played guitar or soccer. No one felt alive, sadness or wonder. There was no one at all. I was swirling clouds of hydrogen.

Then, I globbed into giant stars and galaxies. One giant star exploded and its stardust turned into your Sun and Earth. Earth twitched into life. Bacteria turned into worms… jellyfish… moss… dragonflies… pterodactyls… sequoia trees… koala bears! I'm a restless Universe, and I love trying out new forms and feelings.

Life hasn't been smooth. In fact, I seem to go from crisis to crisis! There was the Great Particle War, the Massive Supernova, the Oxygen Poison Crisis, and the Giant meteor Crash – to name a few. But when things get chaotic, I get creative. And so do you.

An evolution surely fraught with struggle and travail, but not of aimless Darwinian selection (much misconstrued from his original intent) that riles conservatives. A sense of innate progression is conveyed, an embryonic development pregnant with beings amphibian, reptilian, mammalian, human. And the appropriate style concludes with a real urgency, a crisis of planetary scale, which we bequeath to this next generation, forthwith the imperative to create a sustainable earth community.

Not one to sit by, the message is taken by Jennifer Morgan to classrooms and any interested group worldwide. In a long gown dressed as the universe, she spoke at the Teilhard Philippines conference to a rapt audience of children and adults. The Trilogy has a website: www.UniverseStories.com where more information can be found, along with reviews, and how to contact Jennifer for her presentation.

We should wrap up with a Dear Reader letter at its close to address religious concerns. For many folks, such an expansive vista can be daunting, and Jennifer is often asked, but where is God in all this. Once again Thomas Berry comes to the rescue and advises that a numinous divinity can be appreciated as immanent throughout cosmic to earthly creation. So a suitable reply is: "Where is God not in the story?"

THE COMPLEMENTARY NATURE.

J. A. Scott Kelso and David A. Engstrom. Cambridge: MIT Press, 2006.

My (Arthur Fabel) essay review of this extraordinary work was noted in the last Perspective and is here printed in full.

The 2000 United States presidential election was decided by some 500 votes out of 100 million, evenly split between conservative and liberal, red and blue states, rural or urban, and so on. Our 2004 election was similar. Recently in Germany the vote for chancellor or president divided exactly in half. These results seem to suggest some underlying influence might be at work. But such a deeper dimension or common pattern is not permitted by our tacit mechanical universe model. Everything is surface happenstance, no other source or force exists of which human life and affairs are a phenomenon. Another derivative reason might be a Western penchant for adversarial, either/or confrontation.

In this regard *The Complementary Nature* provides a novel scientific and philosophical synthesis which might help explain and resolve the situation. J. A. Scott Kelso holds the Glenwood and Martha Creech Chair in Science at Florida Atlantic University and is Founder and Director of the Center for Complex Systems and Brain Sciences. An earlier work *Dynamic Patterns: The Self-Organization of Brain and Behavior* was published by MIT Press in 1995. David Engstrøm holds a PhD in Neuropharmacology from the University of Colorado Health Sciences Center. Since 1991, he has worked with Scott Kelso to develop a conceptual link between cerebral coordination dynamics and complementary pairs. The book comes with an engaging website: *www.thecomplementarynature.com.*

In this essay review, a cosmological and evolutionary context is first established, along with a brief history of complexity science. With this in place, we can see *The Complementary Nature* as a transitional work toward a future of natural reciprocity. And such a perspective, we might suggest, could contribute to the discovery of an emergent genesis cosmos that Teilhard presciently foresaw.

Before exploring the authors' insights, let us examine what kind of a reality is conducive to this mutual quality so embodied in universe and human. Two recent books illustrate the problem. *The Cosmic Landscape* by Stanford string theorist Leonard Susskind, written as a summary of 20th century physics, claims that our celestial cosmos is but a pointless improbability in a multitude of universes which bubble in and out of existence. Likewise Charles Seife in *Decoding the Universe* decries a cosmos fated to expire as entropy trumps information. As necessary phase of scientific reduction reaches the depths of matter, space and time, nature is mostly left in this state which leads to these dour conclusions.

As an ancillary issue, this may be the first time when philosophy or the humanities, C. P. Snow's second culture, do not lead but follow and concur. Postmodernism says reality is an unknowable patchwork, and a scientific materialism says besides there is nothing to know anyway.

This dismissal confounds the Intelligent Design (ID) vs. evolution debate. ID tries to detect Divine fingerprints but within the wrong kind of universe (cells are not machines, as they often infer), while a dated Darwinism is taken to unwarranted ends, whereof human beings are of no intended account. At the same moment, largely unnoticed, a novel Copernican Revolution seems emerging in cosmology. Nobel laureate physicist Robert Laughlin proposes in *A Different Universe* that an animate materiality capable of spontaneous self-organization is equally plausible. The Natural Genesis website (www.naturalgenesis.net) provides extensive documentation for an organic, fertile cosmos and its quickening evolution of complexity and consciousness, now at a perilous moment of earthkind self-realization.

The biological sciences, with the sequencing of the human genome, have in fact embarked on an historic U turn to reassemble the molecules and pieces, broadly known as systems biology. Evolutionary theory has actually moved beyond selection alone to find much more is going on. Similar to an organism with an informational "genotype" and a developmental "phenotype," a nested gestation and emergence is now traced from biomolecule to microbe, cell, animal, society, along with a tandem rise in cerebral cognition. And the heretofore missing presence of a creative "genetic" impetus, Teilhard's radial energy and the within of things, has lately been engaged by the new sciences of dynamic complexity.

Theoretical inklings of an innate, generative nature from which life, mind and persons arise and exemplify began a few decades ago. In the 1960s general systems theory sought the elusive goal of a common pattern and process. In the 1970s and 1980s Ilya Prigogine and colleagues articulated a non-equilibrium thermodynamics of living systems, Herman Haken, with whom Kelso has collaborated, conceived the field of synergetics about a self-organized coherence. Among others were Benoit Mandelbrot (fractal geometry), Francisco Varela (autopoiesis), Stuart Kauffman (autocatalysis), John Hopfield (neural networks), and Murray Gell-Mann (complex adaptive systems). (Google will define these arcane terms for you.) In the 1990s, as science fields do, a stage of detailed studies commenced, revolving around the Santa Fe Institute and other centers such as the authors. For the next decade or so, more features of life's consistent impetus such as modularity, symbiosis, local interactions between independent agents, criticality, information sharing, scale-free networks, algorithms, were identified.

As these achievements converge and reinforce, a further phase is implied to at last glimpse a "universal" dynamic system. It is in this regard that *The Complementary Nature* can presage and facilitate such a breakthrough. Among these various system features and terms, the authors are able to distill and identify a core propensity to form complements which are not in opposition but in active coordination. Before proceeding, some examples from nature might help convey what scientists are trying to evoke and describe.

On occasion I can look out my window to a tree canopy filled with a flock of birds. Individuals are evenly spaced as they interact with local neighbors, guided by informational rules. The group or complex system is held together by a coordinated twitter. Any one bird can fly away but a bird~flock reciprocity is best for survival. Canadian geese on the campus pond are likewise in sync. Eukaryotic, nucleated cells are composed of bacterial and modular components joined by interrelations and "crosstalk" dialogue. Bacteria do not exist alone but in microbial communities due to chemical "quorum sensing." Even genomes are newly understood to behave this way. Genetic molecules are interlinked in dynamic nets, somewhat like word and letter in a paragraph, responsive to an environment, from which is conveyed a protein-template message.

As a reflection, what might these instances tell us? The moribund, "blind watchmaker" universe denies anything is going on. Some seven decades ago Pierre Teilhard, in a Foreword to *The Phenomenon of Man,* said the whole of life depends on "seeing." By this mindfulness something else and more can be perceived, which springs from and manifests a genesis creation. The same phenomenal pattern and process repeats everywhere, and is epitomized, as tradition teaches, by gender complementarity. In the early years of the 21st century, *The Complementary Nature* is a unique, concerted effort to lay out its theoretical lineaments. This is accomplished by three sections or Movements – conceptual roots in the history of wisdom and ideas, the technical theory of coordination dynamics, and philosophy and science rejoined via an integral research program.

The **first movement** extends over two millennia from Heraclitus, Socrates, Plato, and Aristotle, eastward to Lao Tszu and Buddha, and on to Thomas Aquinas, Kant, Hegel, and Marx. The psychologies of Jung and Piaget, the physics of Einstein, Bohr, Dirac, Heisenberg, Feynman, and Wheeler, along with a dip into computer logic, follow. By this retrospect can be noticed a persistent promulgation of complementary pairs, for nature is indeed so arranged that way.

The most definitive prior image, of course, is the feminine yin and masculine yang of Chinese cosmology, which Bohr took as his exemplar. What *The Complementary Nature* then lays out is the advent of its empirical evidence. In so doing, a tilde or squiggle, at the upper left of a keyboard, is effectively used to replace the either/or slash with a middle way, not polar opposites but individual~group, reduction~holistic, and so on in balanced harmony.

With this in place, **Movement 2** begins with a familiar precedent of the particle/wave complementarity. Its founder Neils Bohr was not mathematically inclined and is said to have come to this because he realized that every other culture had such a principle, so the quantum realm, the nature of light, should also. (Quantum physics is lately coming to add an informational component.)

The author's research experience over the last decade and a half now comes into play. Through intensive studies of how brains develop and think and children learn kinetic mobility they find that *coordination* between elements and processes is the essential ingredient. These animate systems are distinguished by context-dependent rules or norms which orchestrate how components fluidly relate (neuron and network). This aspect, designated Coordination Dynamics, involves the self-organization of interactive patterns, a creation of functional information and its conveyance, which in turn spawns generic complements of independent agents and relational discourse.

Be advised this is a technical section where a detailed grounding is laid out. The discussion introduces how viable patterns organize and coordinate themselves before moving on to theoretical and empirical neuroscience. As signals in the brains flash amongst cells and synapses in cycles of segregation and integration, oscillation and rhythm, a correlation and synchronization occurs, which at once forms reciprocal modes and is created by them.

The authors know this may be unfamiliar terrain and write in accessible prose. Many topics are prefaced by a portrait and a quotation. How the Brain~Mind Works, for example, is introduced by reflections from Virginia Woolf. And as one reads along, it is not hard to imagine our cerebral dance of complements, "no coupling, no coordination," as yin and yang spiraling together and apart and together.

The three main book divisions are themselves intended to show how a complementary vision can resolve past differences. Movements 1 and 2 survey philosophy (humanities) and science, but the two cultures have long been at odds, recently as the "science wars." **Movement 3** explains how these approaches are obvious halves of a singular human comprehension. Similarly within science, theory ought not to vie with experiment, but as two sides of one project, philosophy~science as a coordinated quest.

How might this go forth? An initial glimpse is offered of a waxing "natural philosophy." The perennial referral to Complementary Pairs can now be understood via Coordination Dynamics: CP~CD. The text can get carried along with its argument and vernacular. "Vignettes" of the CP of CD – e.g., advances in experiential learning - and the CD of CP – e.g., ways to understand gene regulation – cover a range of tangible instances. These explorations conclude with a Complementary Pair Dictionary to document their ubiquitous presence, i.e. if we can refocus our either/or lens to recognize both~and.

The Complementary Nature is a work in progress as the authors and colleagues proceed to sort, explain, and convey a bicameral spontaneity. Their distillation of Complementary Pairs, due to and enhancing Coordination Dynamics, as the salient quality of complex systems, promises to initiate a consummate phase with these features:

Universality – a realization that the *same* pattern and process organizes itself everywhere in nature at each nested stage and instance.
Complementarity – whose creativity is most distinguished by a dual pair of components not in opposition but in mutual reciprocity.
An Archetypal Identity – whereby each takes on a representative role of a discrete, autonomy or holistic interrelation - particle~wave - individual~collective - compete~cooperate - masculine~feminine.
Translation – there is much need for a common terminology since everyone is citing the same vitality. An array of disparate words tends to obscure their common narrative.

So by these lights might the frontiers of western modernity be at last catching up to the heart of wisdom? Confucian scholar and ATA vice president Mary Evelyn Tucker often writes of a Chinese cosmology graced by a "relational resonance." This is to be found in Chinese wisdom and is called correlative thinking. Can our task be its dynamical verification and rediscovery with new theory, clarity and import? Such an insight would do much to quantify and qualify a cosmic and earthly genesis of which people are an intended phenomenon. I do not want to make too much of this, but it is incumbent to recognize when something of incisive value is achieved.

For in closing what kinder and gentler Earth Community, as Thomas Berry would suggest, could a *complementarity* of civilizations inspire? The previous Perspective considered in my article a bilateral accord not only of East and West but South and North, with Islam located corpus callosum-like in each case. The Natural Genesis website section on Sustainable Ecovillages finds this imperative future rooted in a balance of person~group~planet. And what will it take for an electoral polity of familial right~left, orthodox~reformed, mother~father, which could not be more obvious, to come into salutary being?

The most desperate need, however, must be to correct and heal the long imbalance of male domination, excluding and denying the feminine, now spending itself in social oppression, terrorism, militarism and engulfing conflagration. In all these regards, *The Complementary Nature* is a significant contribution.

Berry, Thomas. ***Evening Thoughts: Reflecting on Earth as Sacred Community.***
Berkeley: University of California Press, and San Francisco: Sierra Club Books, 2006.

This luminous volume of Thomas Berry's essays is edited by Mary Evelyn Tucker. We quote next from the publishers website and include the books' Table of Contents.

Among the contemporary voices for the Earth, none resonates like that of noted cultural historian Thomas Berry. His teaching and writings have inspired a generation's thinking about humankind's place in the Earth community and the universe, engendering widespread critical acclaim and a documentary film on his life and work.

This new collection of essays, from various years and occasions, expands and deepens ideas articulated in his earlier writings and also breaks new ground. Berry opens our eyes to the full dimensions of the ecological crisis, framing it as a crisis of spiritual vision. Applying his formidable erudition in cultural history, science, and comparative religions, he forges a compelling narrative of creation and communion that reconciles modern evolutionary thinking and traditional religious insights concerning our integral role in Earth's society. While sounding an urgent alarm at our current dilemma, Berry inspires us to reclaim our role as the consciousness of the universe and thereby begin to create a true partnership with the Earth community. With *Evening Thoughts,* this wise elder has lit another beacon to lead us home.

Editor's Preface

1. Our Way into the Future: A Communion of Subjects

2. The Place of the Human

3. Loneliness and Presence

4. Earth as Sacred Community

5. Creative Continuity

6. The Nation-State in the Twenty-first Century

7. The Petrochemical Age

8. Global Warming

9. Legal Conditions for Earth Survival

10. The Epic of Evolution

11. Catching the Power of the Wind

12. Evening Thoughts

Appendix 1. Twelve Principles for Understanding the Universe

Appendix 2. Ten Principles for Jurisprudence Revision

Appendix 3. Editor's Afterword: An Intellectual Biography of Thomas Berry

Thomas Berry, one of the leading environmental thinkers in North America, was the director of the Riverdale Center for Religious Research and founder of the History of Religions Program at Fordham University. His major publications include *The Dream of the Earth* (1988), *The Universe Story,* with Brian Swimme (1992), and *The Great Work* (1999). He lives in Greensboro, North Carolina.

Mary Evelyn Tucker is coordinator of the Forum on Religion and Ecology, a visiting professor at Yale University's Institute for Social and Public Policy and a Vice President of the American Teilhard Association.

DICTIONARY OF THE WORKS OF TEILHARD DE CHARDIN.

Fabio Mantovani. Verona: Gabrielli Editori, 2006.

Fabio Mantovani has long been a mentor and president of the Italian Teilhard Association. We have been exchanging emails for some time, and he advises that the book was very well received at the Pisa Teilhard conference cited on the first page and that plans for an English translation are underway. Fabio sent me the following features for inclusion in this Perspective. We have agreed that the word "Dictionary" is not an accurate translation, nor does justice to a succinct entry to each of Teilhard life long thought and essays.

The "Dictionary of the Works of Teilhard de Chardin" has been produced in Italy by Fabio Mantovani who, for several years, was the President of the "Italian Teilhard de Chardin Association" and of the "European Teilhard Center". He has borne in mind the following general situation:

Teilhard de Chardin's essays have been published (posthumously) without regard for the *chronological order* in which they were written. It is, therefore, difficult to trace the development of his ideas in the course of time.

The editors of these essays have included some writings which Teilhard would certainly have reviewed prior to publication. This questionable practice has been compounded by the lack of critical comments in differentiating between both *hypotheses* and *theses,* and *provisional reflections* and *final conclusions*.

The publication of the *opera omnia* (thirteen books) has occurred over a long period of time: from 1955 to 1976 for the original French works; from 1968 to 2004 for the Italian translations. The impossibility of having *immediate* access to the complete and *chronologically ordered* framework of Teilhard's thought has created problems for the critics and reviewers, above all in the 1960s. To a great extent, these difficulties persist to the present day.

At the moment, as regards the translated versions of Teilhard's works, they are subject to a limited availability (in Italy, six of the thirteen books are out of print); and currently, views about Teilhard originate more from his *commentators* than from a *direct knowledge* of his works.

The "Dictionary" is a detailed compendium of *all* Teilhard de Chardin's essays and a useful means of quickly tracing the development of his ideas. In particular:

The 190 essays, collected in the thirteen books of the French *opera omnia* (amounting to a total of approximately 4,000 pages), have been arranged in their *chronological order*, from January 1913 to March 1955;

For each essay, a "Synthesis" has been drawn up, which highlights the Author's *fundamental* concepts. There are brief comments either at the beginning of the "Synthesis", or in the text [in square brackets] or in footnotes. There are cross-references linking the essays having identical themes, but written by the Author at different times;

The *sequential arrangement* of each original document --- in parts, chapters, sections and paragraphs --- has been retained, thus enabling it to be found immediately; each "Synthesis" ends with a list of *"Key words and concepts"* which stress the main themes.

There is an *Index of Themes* for the whole of the *opera omnia*. This will enable the reader to locate immediately the writings dealing with the same subject; for example, if one wanted to know what the Author had to say about Original Sin, it would suffice to read the "Synthesis" 26, 28, 35, 60, 89, 94, 119, 126, 154 and 176, already arranged chronologically.

The "Dictionary of the Works of Teilhard de Chardin" is intended both for those who are not familiar with his works and for the experts: the former will be helped to understand the original texts, while the latter will be able to examine them as an organic whole.

New Books and Articles

Cantor, Geoffrey and Marc Swetlitz, eds. ***Jewish Tradition and the Challenge of Darwinism.*** Chicago: University of Chicago Press, 2006.

This wide-ranging survey of Jewish theological responses to modern evolutionary theories. What is of much interest is the adoption in a number of papers of a similar approach to Kenneth Miller's *Finding Darwin's God* and John Haught's *God After Darwin,* whereby a progressive evolution of complexity, information and consciousness can be appreciated as a Divinely ordained creation. In "The Order of Creation and the Emerging God: Evolution and Divine Action in the Natural World" Lawrence Troster, the Jewish chaplain at Bard College, considers the writings of Paul Davies, Hans Jonas and John Haught which allow temporal evolution, albeit with much struggle and tragedy, to be revealed as an ascent in vitality and consciousness fulfilled in human self-reflection. Thus, Judaism is not troubled by Darwin within an enhanced evolution graced by self-organization and information, but rejects the materialist model devoid of any such telos.

Biologist Carl Feit likewise considers the earlier 20th century thought of Rabbis Abraham Kook and Joseph Soloveitchik and notes their general affinity with Bergson and Teilhard. But throughout the collection, the holocaust casts its daunting shadow. In closing, Troster suggests that a resolution may occur with a recovery of the 'two books of God' metaphor in which nature, as a quickening genesis, may finally gain scriptural status.

Davies, Paul. ***The Goldilocks Enigma.*** London: Allan Lane, 2006.

In his latest work, astrophysicist and author Davies tours the widest cosmic expanses now composed of ensembles of universes, which constitute a multiverse, and the deepest issues this vista forces upon us. To set the scene, the first half of the book proceeds apace through the physics of string theory, dark matter and energy, anthropic principles, paths to unification, and so on. But Davies' interest, following upon earlier volumes, is to explain "A Universe Fit for Life." How can a cosmos which gives rise to earthly nature, mind and humans, seemingly due to innate properties, be squared with an moribund physical milieu? Many options are duly considered, including a Divine designer, and at some length that the "just right" conditions of our universe are but a lucky dice roll out of an infinity of possibilities.

But all this is unsatisfactory to Davies, a premier thinker in this regard, who goes on to propose an as yet fully specified "life principle" as the source of such complex, teleological emergence. But his most innovative resolve is to endorse and bring to the fore the cosmological theories of renowned Princeton physicist John Archibald Wheeler. For we seem to ultimately abide in a "self-creating, self-explaining, self-understanding universe-with-observers." An act of human sentient observation is required, a backward causation, for it to come into existence. This surmise has august ramifications for again placing the human phenomenon at the center of creation.

First published in England, it is now available via Amazon.com, through a distributor. (I choose Super Book Sales and got it in two weeks.) A work which promises to be a 2007 science book of the year will come out in an American edition in April, entitled *Cosmic Jackpot,* at once sensational and inaccurate.

I am convinced that human understanding of nature through science, rational reasoning and mathematics points to a much deeper connection between life, mind and cosmos than emerges from the crude lottery of multiverse cosmology combined with the weak anthropic principle. (261-262) So our universe possesses laws and states which not only permit self-simulation, they also permit self-comprehension. The cosmic rule book, in being fit for life and in facilitating the eventual emergence of consciousness, has not only ensured that the universe has constructed its own awareness. The cosmic scheme has also constructed an understanding of the cosmic scheme. (288)

My own inclinations, it will be clear, lie in the directions of E, (The Life Principle) and F, (The Self-Explaining Universe) although there are many details to be worked out. I do take life, mind and purpose seriously, and I concede that the universe at least appears to be designed with a high level of ingenuity. I cannot accept these features as a package of marvels which just happen to be, which exists reasonlessly. It seems to me that there is a genuine scheme of things – the universe is 'about' something. (302)

Harding, Stephen. ***Animate Earth.*** White River Junction, VT: Chelsea Green Publishing, 2006.

Ecologist Stephen Harding attempts to right centuries of misconception about the nature of our abiding biosphere. Rather than a moribund spheroid with vicarious life clinging to it, the mainstream view, we ought to revive and avail ourselves of ancient and indigenous wisdom to rightly perceive its living essence. Our human role in service to this Gaia would be to intentionally, mindfully, sustain its physiology and well being. We quote from the publishers website, also worth a visit. Biologist Lynn Margulis endorses in a foreword statement.

Modern science and western culture both teach that the planet we inhabit is a dead and passive lump of matter, but as Stephan Harding points out, this wasn't always the prevailing sentiment and in Animate Earth he sets out to explain how these older notions of an animate earth can be explained in rational, scientific terms.

In this astounding book Harding lays out the facts and theories behind one of the most controversial notions to come out of the hard sciences arguably since Sir Isaac Newton's Principia or the first major publications to come out of the Copenhagen School regarding quantum mechanics. The latter is an important parallel: Whereas quantum mechanics is a science of the problem—it gave rise to the atomic bomb among other things—Gaia Theory in this age of global warming and dangerous climate change is a science of the solution. Its utility: Healing a dying planet becomes an option in a culture otherwise poised to fall into total ecological collapse.

Replacing the cold, objectifying language of science with a way of speaking of our planet as a sentient, living being, Harding presents the science of Gaia in everyday English. His scientific passion and rigor shine through his luminous prose as he calls us to experience Gaia as a living presence and bringing to mind such popular science authors as James Gleick.

Animate Earth will inspire in readers a profound sense of the interconnectedness of life, and to discover what it means to live harmoniously as part of a sentient creature of planetary proportions. This new understanding may solve the most serious problems that face us as a species today.

Stephan Harding holds a doctorate in ecology from the University of Oxford. He is the coordinator of the master of science degree in holistic science at Schumacher College at Dartington, where he is also resident ecologist. He lives in Dartington, Devon, UK.

Hester, Randolph. ***Design for Ecological Democracy.*** Cambridge: MIT Press, 2006.

A consummate illustrated volume from a professor of landscape architecture at the University of California, Berkeley which teaches a reinhabitation of our communal abide. We quote from the publisher's website.

Over the last fifty years, the process of community building has been lost in the process of city building. City and suburban design divides us from others in our communities, destroys natural habitats, and fails to provide a joyful context for our lives. In Design for Ecological Democracy, Randolph Hester proposes a remedy for our urban anomie. He outlines new principles for urban design….showing how we can design cities that are ecologically resilient, that enhance community, and that give us pleasure. Hester argues that it is only by combining the powerful forces of ecology and democracy that the needed revolution in design will take place. Democracy bestows freedom; ecology creates responsible freedom by explaining our interconnectedness with all creatures.

Hester's new design principles are founded on three fundamental issues that integrate democracy and ecology: enabling form, resilient form, and impelling form. Urban design must enable us to be communities rather than zoning-segregated enclaves and to function as informed democracies. A simple bench at a centrally located post office, for example, provides an opportunity for connection and shared experience. Cities must be ecologically resilient rather than ecologically imperiled, adaptable to the surrounding ecology rather than dependent on technological fixes. Resilient form turns increased urban density, for example, into an advantage. And cities should impel us by joy rather than compel us by fear; good cities enrich us rather than limit us.

Nadeau, Robert. ***The Environmental Endgame.*** New Brunswick, NJ: Rutgers University Press, 2006.

An English professor at George Mason University and co-author with Menas Kafatos of works expanding scientific frontiers tackles a rethinking of global economics and ecologies in this regard. Noting how Thomas Berry has long evoked a 'New Story' of a life-friendly cosmos to supplant the reigning but terminal mechanist model, Nadeau surveys the animate fluxes of self-organizing, non-equilibrium systems with an eye to how they can reveal a more viable, sustainable abide. With the human presence most distinguished by complex language abilities, which now impart to us God-like powers over the biosphere, it is our responsibility to conceive an Environmental Ethic and Ethos appropriate to the task.

Schaab, Gloria, SSJ. **A Procreative Paradigm of the Creative Suffering of the Triune God.** *Theological Studies*. 67/3, 2006.

In this article, Gloria Schaab, professor of systematic theology at Barry University, Florida, expands on the panentheistic (all nature is God) evolution of biochemist Arthur Peacocke to propose that a most appropriate way to fathom its struggles and travail is as female procreative experience. This vision is considered from three perspectives – feminist theology, ecological action as midwifery, and pastoral ministry. Along the way we encounter She Who Is, the Matrix of all being, Shekhinah, an indwelling Kabbalist Divinity, and Sophia as creative spiritual wisdom. The result is a luminous articulation of a genesis cosmos from a woman's sense of carrying and birthing sacred life and new being. As noted in the last issue, Professor Schaab spoke at the 2005 Chestnut Hill College conference on *Illuminating Key Concepts in the Evolutionary Theology of Arthur Peacocke through Teilhardian Insights*.

As evolutionary processes demonstrate, however, the being and becoming of all things in the cosmos is inevitably attended by suffering and death in the movement toward emergent existence. The cosmic child of this Mother's womb endures these pangs of suffering and death that life may be birthed anew. (551)

Schenk, Jim. ***What Does God Look Like in an Expanding Universe?*** Cincinnati: ImagoEarth Publishing, 2006.

We were delighted to receive a copy of this extraordinary collection of 78 statements by an array of familiar folks – Brian Swimme, Mary Coelho, Helen Prejean, Pat Mische, et al. With Pierre Teilhard and Thomas Berry as its prime inspiration, they contemplate, experience and live the New Creation Story. The paperback book is available from the publisher at www.imagoearthpublishing.com. Their address is 700 Enright Ave., Cincinnati, OH, 45202. We quote from the website.

If you are amazed by the present understandings of the Universe, (12 billion light years across, billions of galaxies

each with billions of stars, with its quantum theories and string theories) you will find this new book, What Does God Look Like In an Expanding Universe, amazing as well. Jim Schenk invited theologians, scientists, artists, poets, and thinkers of all walks of life to share their thoughts on "Where Did We Come From", "Why Are We Here", and "What Happens After Death" based on the new cosmology. This is a thought-provoking book, of mostly original works, with new images and thoughts about these age-old questions.

At a time when the old religious myths are leading us to war, speaking of Armageddon, and saying almost nothing about the destruction of the planet, this book is refreshing. It sees humans as a species of this Earth, a planet that is but a speck in the Milky Way Galaxy, which is one of billions of Galaxies in Universe. In this context, writers in this anthology grapple with the notion of how amazing God must be, the meaning of life, and what happens after death.

Schenk says, "This book is looking at new metaphors and images coming from the new cosmology that has changed so rapidly over the past 50 years. The images of God, life and afterlife from the old cosmology are so detrimental to our planet, that new metaphors are essential for the survival of our planet, our human species, and the many other species that share this home with us."

This book comes out of Schenk's theological background, combined with his deep love and connection to Earth. The significance of this book is its ability to connect us to the Universe, Galaxy and planet of which we are a part, and it allows us to see God, life and death in this unifying context. It excites our imagination, challenges us to think deeper.

Shafer, Lothar. **Quantum Reality and the Consciousness of the Universe.** *Zygon*. 41/3, 2006.

In this article, the Professor of Physical Chemistry at the University of Arkansas, and frequent speaker at Teilhard conferences such as Chestnut Hill College and Palacky University, Czech Republic, here presents an innovative synthesis of the Teilhardian vision of mindful evolution within the essence of the quantum perspective. By so doing, a creative consciousness can be found to actively inform every emergent strata of a cosmic genesis, so as to break through to reflective self-awareness in the human phenomenon.

Staune, Jean, ed. ***Science and the Search for Meaning.*** Philadelphia: Templeton Foundation Press, 2006.

A copius survey within the Templeton orbit of the lineaments of knowledge itself, interstices between a scientific version and religious traditions, and whether the universe may be conducive to life and human or not. What distinguishes the edition are several papers which could summarize the thought of their author. Thomas Odhiambo, first president of the African Academy of Sciences, describes in *Essence and Continuity of Life in the African Society* a conception of an organic milieu composed not only of extant beings, but suffused by an internal, ascendant life pulse. (notice phenotype and genotype in the quote) Similarly, the Nobel laureate biochemist Christian de Duve implies in *Mysteries of Life: Is There "Something Else"* that the (Northern) materialist view misses such a vital agency to sanction, as de Duve avers, an innately life bearing cosmos.

In *Glimpsing the Mind of God,* cosmologist Paul Davies likewise agrees that by its physical and chemical nature, the universe will generate increasingly complex and sentient life. Finally, in *Dialogue of Civilizations: Making History through a New World Vision,* the California Institute of Technology professor and Nobel laureate chemist Ahmed Zewail provides an illuminating essay on the course of Islamic science and culture as a way to build a bridge to an imperative synthesis of Qur'an scripture and the global scientific community.

Likewise, the Akan people of Ghana consider a human being to be constituted of three elements: the okra, sunsum, and honam. The okra is the innermost self, or life force of the person expressed as a spark of the Supreme Being in the person as the child of God. It is also translated as the English equivalent of the "soul." The sunsum seems to be equivalent to the spirit of humanity, and with close analysis is not essentially separate from the okra. The honam refers to the physical body. (70) The relationship between God and humankind is as that of a parent and child. (68) ***Thomas Odhiambo***

The emergence of life and consciousness, I maintain, are written into the laws of the universe in a very basic way. (35) The origin of life and consciousness were not interventionist miracles but nor were they stupendously improbable accidents. They were, I believe, part of the natural outworking of the laws of nature and, as such, our existence as conscious enquiring beings springs ultimately from the bedrock of physical existence – those ingenious, felicitous laws. (35) ***Paul Davies***

Waldau, Paul and Kimberly Patton, eds. ***A Communion of Subjects: Animals in Religion, Science, and Ethics.*** New York: Columbia University Press, 2006.

This book arose from a Harvard University conference organized by the Forum for Religion and Ecology. We quote from their summary of the book.

It is the first comparative and interdisciplinary study of humans' conceptualization of animals in world religions. Cultural historian Thomas Berry eloquently insists that "the world is a communion of subjects, not a collection of objects." Using the implications of this statement as a starting point, the contributors to this collection treat animals as subjects and consider how major religious traditions have incorporated them into their belief systems, myths, and rituals. Their findings offer profound insight into humans' relationships with animals and a deeper understanding of the social and ecological web in which we all live.

Leading scholars from a wide range of disciplines and religious traditions, including Marc Bekoff (cognitive ethology), Wendy Doniger (study of myth), Peter Singer (animals and ethics), Jane Goodall (biology), Thomas Berry

(history), John Grim and Mary Evelyn Tucker (religion) have supplied original material for this volume. They address issues such as sacrifice, animal consciousness, suffering, and stewardship in innovative methodological ways. By grappling with the nature and ideological features of these religious views, the contributors cast religious teachings and practices in a new light. They also reveal how we either intentionally or inadvertently marginalize "others," whether they are human or otherwise, and the ways in which we construct value. Though it is an ancient concern, the topic of "religion and animals" has yet to be systematically worked out by modern scholars.

This groundbreaking collection takes the first steps toward a meaningful analysis. Paul Waldau is the director of the Center for Animals and Public Policy at Tufts University's Cummings School of Veterinary Medicine in Boston. He is also cochair of the Animals and Religion Consultation at the American Academy of Religion and president of the Religion and Animals Institute. Kimberly Patton is professor of the comparative and historical study of religion at Harvard Divinity School. She is the author of many books, including the forthcoming *The Sea Can Wash Away All Evils: Modern Marine Pollution* and the *Ancient Cathartic Ocean (Columbia University Press, 2006.*

Walker, Alice. ***We Are the Ones We Have Been Waiting For: Light in a Time of Darkness***. New York: New Press, 2006.

The renowned author and crusader for social justice, in a series of insightful essays including commencement remarks to the California Institute of Integral Studies, exhorts we the people folks to a "global antiwar rage" in this time of insane, rampant militarism. A worldwide enlightenment could just as readily be at hand if we can appreciate and nurture our common planetary selfhood.

Teilhard Perspective

TEILHARD PERSPECTIVE is published by the American Teilhard Association, a non-profit organization whose goals are to explore philosophical, scientific, religious, social and environmental concerns in light of Teilhard's vision and to clarify the role of the human phenomenon in this emerging understanding of the cosmos.

We welcome suggestions of relevant ideas, books, news, events and contributions of articles for this newsletter. The editor's address is (Arthur Fabel) 11 Meadowbrook Dr., Hadley, MA 01035; email: *artfabel@crocker.com*. The *Teilhard Perspective* newsletter along with the biannual *Teilhard Studies* pamphlet and meeting notices are available through membership. Please contact us at: American Teilhard Association, The Spirituality Institute, Iona College, 715 North Ave., New Rochelle NY 10801. Annual membership is $35. Our new website address is: **www.teilharddechardin.org.**

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