Teilhard 2005 Conferences and Celebrations

Pierre Teilhard de Chardin passed away on the evening of Easter Sunday, April 10, 1955 at the Jesuit residence in New York City. Some fifty years later his vision is more timely than ever and this international event brought a much deserved recognition. A remarkable orchestration in Manhattan across several venues from the United Nations to the Cathedral of St. John the Divine was attended by over 1500 persons, including over 100 from the French Teilhard Association.

News coverage can be found in the National Catholic Reporter for April 22, 2005 and Science and Theology News in its May 2005 issue (www.stnews.org). We touch on its many high points, which are somewhat different from the flyer, and include the full Saturday program at the Cathedral. The image of Teilhard at the left is from a commemorative card prepared for these events.

The Future of Humanity was the subject of the initial Thursday morning, April 7, assembly in a formal conference room at the United Nations. Welcoming messages were sent by Kofi Annan, Jacques Chirac, Koichiro Matsuura, Director General of UNESCO, and Klaus Topfer, Executive Director of the United Nations Environment Programme UNEP. Georges Ordonnaud, President of the Association des Amis de P. Teilhard de Chardin then spoke first, followed by John Grim, President of the American Teilhard Association, and Ewert Cousins, a past President.

The main address was given by the economist Michel Camdessus, former head of the International Monetary Fund. Inspired by Teilhard from his student days in the 1960’s, Camdessus, following upon the previous speakers, saw him as a current and vital “prophet of the unity of the world.” The strong forces of globalization need to be leavened by a sense of advancing “personalization,” indeed even a “divinization.” A common hope, a worldwide human solidarity and fraternity, can be summoned by a spiritual Someone whom the world is creating and tending toward.

Teilhard’s Legacy Rediscovering Fire
A Conference to Celebrate 50 Years of Teilhard Scholarship
Chestnut Hill College
Philadelphia, PA
November 15 – 17, 2005
Full Information Inside
The afternoon session, The Philosophy of Teilhard in the Building of the Future of Humanity, took place at the Lincoln Center campus of Fordham University. It was organized by Thierry Meynard, SJ, Dept. of Philosophy, and introduced by the president of Fordham, Joseph McShane, SJ. We cite the presenters and their talks, Ursula King’s paper is excerpted further on.


Jean Boissonnat: Teilhard and Mondialisation.

(Globalization)

Henri Madelin, SJ: The Personalization of the Universe; or, the Era of the Person.

Thomas M. King, SJ: God and the Human Future.

A Thursday evening presentation was made by Mary Evelyn Tucker, Vice President of the American Teilhard Association, at Iona College in New Rochelle, NY on The Zest for Life: Teilhard and the New Cosmology.

The events returned Friday morning to the United Nations for the session: The Spirit of the Earth: Global Ethics and a Sustainable Future. After a brief opening film on the universe story, Brian Swimme and Mary Evelyn Tucker spoke on the cosmological context for our historic moment. Using examples from the evolution of the universe and the Earth, Brian Swimme showed how self organizing dynamics resulted in remarkable moments of creativity in the evolutionary process. In a similar vein, Mary Evelyn spoke about the evolution of human culture and how in the midst of enormous challenges societies of greater complexity emerged. The talk concluded with a discussion of a rising planetary civilization which is evident in the movement of religion and ecology, in the study of ecological economics, and politically in the Earth Charter.

Stephen Rockefeller, the Chair of the Earth Charter Drafting Committee and professor emeritus, Middlebury College next gave a strong talk on the Earth Charter as an emerging global ethics for a sustainable future. Arising out of the Rio Earth Summit of 1992 the Charter represents a declaration of interdependence for the Earth community. Bertrand Collomb, the chair of the World Business Council on Sustainable Development, spoke on the need for business to find practices that are ecological and equitable.

An extraordinary presentation was then offered by Jeffery Sachs, Director of the Earth Institute at Columbia University and a leading advocate of ending world poverty, especially in Africa. In great demand as a speaker, Sachs chose to participate because he felt that these efforts need a common ethical and spiritual dimension as a source of inspiration and action. Employing both detailed technical analysis and practical grassroots implementation in third world villages, Sachs told how at almost no cost an item such as mosquito netting could alleviate the endemic diseases that block any real progress.

The session closed with a remarkable endorsement by the Kenyan environmentalist Wangari Maathai, 2004 Nobel Peace Prize recipient. Unable to attend, her video presentation from an African landscape capped off the proceedings as she spoke movingly about how the survival of Earth and the welfare of all her peoples was in the balance. By peace, democracy and good care we may yet achieve a sustainable, humane abode.

On a warm early spring day, Saturday’s venue moved to the Cathedral of St. John the Divine. The morning program, The Influence of Teilhard’s Thought on Scientific Research, moderated by James Salmon, SJ, brought together five leading thinkers on the subject.

Kathleen Duffy, SSJ, Prof. of Physics at Chestnut Hill College, spoke of a divine energy that is being found to resonate at the heart of matter. As this activity proceeds it defines an ascendant milieu of cosmic divinization.

Ludovico Galleni, a biologist from the University of Pisa, noted how advances in geobiology, along with symbiosis and convergence in evolutionary theory, were presciently anticipated by Teilhard.

Mark McMenamin, a paleontologist from Mount Holyoke College, then spoke about Teilhard’s first assignment as a Jesuit to scientifically investigate the visions and miracles at Lourdes. Through his sense of a sacred, creative “within of things” arising through a temporal genesis, Teilhard found it possible to consider their credibility. Many decades later science is now moving beyond material reduction to begin to glimpse such an innately personalizing universe.

The emeritus biologist and author Harold Morowitz went on to explain how the latest theories of thermodynamics, information, and complexity likewise implied an increasingly noetic quality to an emergent evolution.

Fr. James Skehan, SJ, a Boston College geologist, went on to point out that Teilhard is credited with major geological and paleontological discoveries in China as a scientist. But in so doing he was engaged in a mysticism of scientific research. Teilhard saw his field work as a religious activity to learn about, in deep rapport with, a divinely imbued creation, as opposed to standard science which has no such dimension.
We next reprint the full program from the luminous Saturday, April 9 afternoon event in the Cathedral of St. John the Divine.

The Epic of the Universe
Affirming the Vision of
Pierre Teilhard de Chardin

WELCOME
The Very Reverend Dr. James A. Kowalski
Dean of the Cathedral Church
John Grim
President, American Teilhard Association

I. THE FLARING FORTH
In the beginning was Power, intelligent, loving, energizing. In the beginning was the Word, supremely capable of mastering and molding whatever might come into being in the world of matter. In the beginning there were not coldness or darkness: there was Fire.


BELLS INVOCATION
The Omega Liturgical Dance Company

THE FECUNDITY OF THE UNIVERSE EMERGES
Brian Swimme, Cosmologist and Author

PHOS HILARON The Choir

SUNSINGER
Paul Winter and Tim Brumfield, Musicians

II. THE EMERGENCE OF LIFE
And then later, after a long enough time, at a given moment these waters must have begun in places to teem with minuscule beings. And from this initial proliferation has come the astonishing mass of organized matter, whose complex matting constitutes at present the next-to-last of our planet’s envelopes to appear: the biosphere.

We will probably never – at least history alone will never directly find the material vestiges of this emergence of the microscopic out of the molecular, the organic out of the chemical, the living out of the pre-living....But this one thing is certain: a metamorphosis such as this can never be explained by a merely continuous process. By analogy with everything the comparative study of natural developments tells us, at this particular moment in terrestrial evolution we must locate a maturation, a transformation, a threshold, a crisis of the first magnitude: the beginning of a new order.

Teilhard: The Human Phenomenon. 42.

In the eyes of the physicist, there is legitimately nothing but the “outside” of things (at least until now). For the bacteriologist, whose cultures are treated as reactive substances of the laboratory, the same intellectual attitude is still permissible. But in the world of plants, it already presents more difficulties. In the case of the biologist concerned with the behavior of insects...to take this attitude is to attempt the impossible. In the case of vertebrates, it appears to be simply futile. And in the human, in whom the existence of an interior (a within), is inescapable, it finally fails completely....The internal face of things as well as the external face of the world will be taken into account....

The Human Phenomenon. 22/23.

Read by Rabbi Larry Troster, COEJL

“SONG OF CREATION” The Choir

“THE MIRACLE OF THE FIRST CELLS”
Miriam Therese McGillis, Founder of
Genesis Farm

“HUMPBACK WHALE”
Eugene Friesen, Tim Brumfield &
Omega Dance Company

III. THE FIRE OF CONSCIOUSNESS
Everywhere, as we knew before, the summits of the active phyletic lineages grow warm with consciousness. But in a clearly defined region at the center of the mammals, where the most powerful brains ever constructed by nature are being formed, they redden. And already, even, at the heart of this zone, a point of incandescence flares.

Let us not lose sight of that line crimsoned with the dawn. After rising for thousands of years below the horizon, in a narrowly localized spot a flame is about to burst forth. Thought is here!

Through commerce and the transmission of ideas conductivity from one to another has been increased. Traditions have been organized. A collective memory has developed. However thin and granular this first membrane must have been, from now on the noosphere has begun to close in on itself, encircling the Earth.

The Human Phenomenon. 142

The time has come for us to realize that to be satisfactory, any interpretation of the universe, even a positivistic one, must cover the inside as well as the outside of things – spirit as well as matter. True physics is that which will someday succeed in integrating the totality. The Human Phenomenon. 107

Read by the Reverend Jewelnell Davis,
Chaplin, Columbia University
“VENI CREATOR SPIRITUS’
The Choir

‘THE RISE OF SELF-REFLECTION’
Address by Ursula King, Emeritus Professor, Bristol University

“CANYON CHACONNE”
Paul Winter, Tim Brumfield & Omega Dance

IV. FIRE OF THE SPIRIT

The joy and strength of my life will have lain in the realization that when the two ingredients – God and the world – were brought together they set up an endless mutual reaction, producing a sudden blaze of such intense brilliance that all the depths of the world were lit up for me….Once the truth has made its presence felt in a single soul, nothing can ever stop it from invading everything and setting fire to everything.

The Human Phenomenon. 142

The day will come when, after harnessing space, the winds, the tides, gravitation, we shall harness for God the energies of love. And on that day, for the second time in the history of the world, man will have discovered fire.

Toward the Future. 86-87
Read by T. Mullin, Board of Trustees, American Teilhard Association

“NOW I WALK IN BEAUTY (NIGHTWAY CHANT) The Choir

“OUR PRESENT CHALLENGE”
Address by Helen Prejean, Author of Dead Man Walking

“FOR THE BEAUTY”
Tim Brumfield, Paul Winter, Eugene Friesen, The Choir, & Omega Dance Company, Carla de Sola, Choreographer

CLOSING PRAYER
The Very Reverend Dr. James Kowalski
Dean of the Cathedral Church

Teilhard’s Legacy: Rediscovering Fire
A Conference to Celebrate 50 Years of Teilhard Scholarship

Chestnut Hill College, Philadelphia, PA
November 17-19, 2005

This conference celebrates the 50th anniversary of the publication of Le Phenomene Humain in French by Pierre Teilhard de Chardin, SJ some months after his death in April 1955. This work, coupled with his many essays, sets forth Teilhard’s synthesis of the Christian God with the theory of evolution. The aim of this conference is to assess Teilhard’s contributions, to learn from his approach, and to allow his enthusiasm for synthesis to spark renewed interest and energy for the science and religion dialogue.

For more information, please contact Kathleen Duffy at kduffy@chc.edu, 215-224-7979.

Tentative Schedule

Thursday, November 17, 2005
5 PM Reception
7 PM Opening Session

Welcome: Carol Jean Vale, SSJ, Ph.D.
President, Chestnut Hill College

Lecture: “Spirit of Fire: The Contemporary Significance of Teilhard de Chardin’s Life and Vision”

Presenter: Ursula King, Ph.D.
Professor Emerita, Senior Research Fellow, Associate Member of the Institute for Advanced Studies, University of Bristol

Friday, November 18, 2005
9AM Lecture: “Teilhard and Beauty”
Presenter: Thomas King, SJ, Ph.D.
Professor of Theology, Georgetown University

10:30AM Paper Presentations: Parallel Sessions
12 Noon Lunch
1:30 PM Paper Presentations: Parallel Sessions
3 PM “Teilhard’s Scientific Legacy”
Presenter: James Salmon, SJ, Ph.D.

Acknowledgements

These many Teilhard 2005 events were primarily organized by John Grim, Mary Evelyn Tucker, Franklin Vilas, Thierry Meynard, and David Levine.

The assistance of Kathleen Duffy, James Salmon, Thomas King, Alex Kantor, Arthur Fabel, Donald Lehr, Donna Rosenberg and Ann Evans is also acknowledged.
4:30 PM  **Art exhibit, Teilhard display, films, etc.**

5:30 PM  **Conference Banquet**

7:30 PM  **Lecture:** “Teilhard, Theology and the Suffering of Sentient Life”

**Presenter: John Haught, Ph.D.**
Healy Distinguished Professor of Theology, Georgetown University

**Saturday, November 19, 2005**

9 AM  **Paper Presentations:** Parallel Sessions

10:30 AM  **Closing Session**

12 Noon  **Lunch**

**Registration Fee:**
$150 before October 17 -- $175 after Oct. 17.
Student rate: $100 before October 17;
$125 after October 17.

**Please register** by sending name, address, phone, email, if applicable, and a check payable to Chestnut Hill College to:

Kathleen Duffy, SSJ, PhD
Conference Director
Chestnut Hill College
9601 Germantown Avenue
Philadelphia, PA 19118

**Housing:** Two nearby hotels have each set aside a block of rooms for the Teilhard Conference. A shuttle will also service a third hotel, located within a few miles of the College. The information about each hotel, including reservation deadlines and rates, is listed below. Please contact the hotels directly in making your reservation and be sure to mention that you are attending the Chestnut Hill College Teilhard Conference. Make arrangements as early as possible since the number of rooms that are available is limited. Please contact the Conference Director if you have any questions or difficulties.

Note: Registration includes the opening reception, coffee breaks, lunch on Friday and Saturday and the Conference Banquet on Friday evening.

**Hampton Inn Plymouth Meeting**
2055 Chemical Road
Plymouth Meeting, PA 19462
610-567-0900
$89 + taxes; Deadline: November 3

**Chestnut Hill Hotel**
8229 Germantown Avenue
Philadelphia, PA 19118
215-242-5905
$99 + taxes; Deadline: October 17

**Doubletree Guest Suites**
640 West Germantown Avenue
Plymouth Meeting, PA 19462
610-834-1300 (9:00-6:00, ET)
800-222-TREE (24 hours)
$119 + taxes

**Transportation:** Chestnut Hill College will provide shuttle service between the hotels listed above and the campus at the beginning and end of the sessions on Thursday, Friday and Saturday. Information on pick-up times will be provided at the hotels at check-in. Participants are responsible for all other transportation.

**Speakers for Parallel Sessions:** At present, some 37 presenters as listed below will take part in these several sessions, which will complement the plenary papers.

Teilhard’s Vision of Evolution

John Grim – April 7 – United Nations

Showing extraordinary insight Pierre Teilhard de Chardin, French Jesuit and scientist, early in the 20th century articulated a vision of human consciousness as directly related to cosmic and planetary evolution. Even today in the opening years of the 21st century we continue to grope toward an understanding of what Teilhard saw. “Seeing” was for Teilhard a primary mode, a bodily sensing that was also a way of knowing, for entry into the whole of life and a community of vision. It is fitting, therefore, that we gather today at the United Nations to begin a series of events in New York City celebrating Teilhard as his thought and presence were an early influence on this global body.

As the current president of the American Teilhard Association I am pleased to participate in these events commemorating the 50th anniversary of Pierre Teilhard de Chardin’s death on Easter Sunday in New York City in 1955. On behalf of the American Teilhard Association I thank our hosts here, the United Nations Environment Programme and UNESCO, and the French Ambassador and delegation for their assistance. I offer my congratulations to the French Associations for their remarkable series of symposiums celebrating the life and thought of Teilhard in many of those international settings where he was active during his life, namely, Egypt, China, Italy, France, England, and the United States.

I congratulate Georges Ordonnaud, Helena Brikke and Theirry Meynard for their planning related to the Teilhard 2005 events. I also want to thank Reverend Franklin Vilas for his enormous efforts in planning the New York events as well as the vice-president of the American Teilhard Association, Mary Evelyn Tucker. As we all know these types of gatherings require sustained effort and commitment from these and other individuals too numerous to mention. It is also appropriate to thank our co-sponsors and funders who are named in your program.

Born into a Catholic family in the Auvergne region of southern France in 1881, Pierre Teilhard de Chardin entered the Jesuit religious order where, along with theological studies, he undertook the study of early life forms or paleontology. His readings in evolutionary thought and his field studies of fossils brought him to explore new understandings of cosmology. Teilhard came to the realization that life on Earth, the Earth itself, and the universe were emerging processes that had radically changed over time. He had experienced a deep resonance of the concept of evolution in the physical layers of the Earth that he studied. The fossil rich chalk cliffs of Hastings in England literally vibrated for him with a deep story of time and the emergence of life. The layers of the rocks and minerals in the Earth, or lithosphere, the water layer of hydrosphere, and the layers of life, or biosphere, became for him a palpable cosmology.

Contemplating the curvature of these layers of Earth emergence gradually brought him to a vision of the human layer, or noosphere, and the florescence of human consciousness around the Earth. As a stretcher bearer during many of the major battles of World War I, Teilhard struggled to harmonize the new scientific story of an emerging world with his chosen religious path. As he wrote then he knew of “a communion with God, and a communion with the Earth,” but he sought “a communion with God through the Earth.”

One challenge that Teilhard undertook was to bring Christianity and evolution into a mutually enhancing relationship with one another. What was needed for this rapport was first to awaken to the immense dimensions of time that evolution opened up. Teilhard says, “For our age, to have become conscious of evolution means something very different from and much more than having discovered one further fact…It means (as happens with a child when he acquires the sense of perspective) that we have become alive to a new dimension.” (Teilhard, Science and Christ: 193)

This new dimension, namely, the place of the human in the larger emergent process of planet Earth and the cosmos, is what is presented here as Teilhard’s vision of evolution. This is a vision still immensely challenging to both religious and scientific perspectives. Let me briefly consider three aspects.

Scientific perspectives tend to reduce the cosmos to analyses of material processes void of direction or spiritual meaning. From the standpoint of the empirical sciences, consciousness appears as an emergent phenomenon having come from nothing but inert, non-conscious randomly mutating matter that composes the known universe. Teilhard’s vision of human consciousness challenges materialist science in that he saw consciousness as resulting from the self-organizing processes within evolution itself.

Religious-oriented thinkers have often framed their inquiry into human consciousness in terms of divine and human interactions. That is, a divine mediation is seen as having broken into the created worlds that bestowed consciousness on the human. Consciousness is imaged as having been extended from the divine realm to the human as if God reached across space to impart psychic vitality to the languid body of Adam.

Secular humanistic thinkers have emphasized a purely human mediation by highlighting the significance of personal experience and interactions with other humans. Human agency is considered primary and divine agency is discounted. In these anthropocentric perspectives matter in the non-human life-world may be acknowledged as evolving, but it is seen as subservient and as a resource for humans. Directly centered in the controversial ground of these perspectives is the human dimension of consciousness.
From a science standpoint human consciousness is often seen as an anomaly or aberration, a side eddy in the enormous flood of evolution. From a traditional religious perspective human consciousness is lifted out of the surrounding creation as a separate and special image of a transcendent Creator, or as a result of karmic forces, or a human ancestral inheritance. In secular worldviews matter and spirit are marginalized or eliminated, and human consciousness is both alienated and agrandized.

Teilhard took a different approach. He offered a more holistic vision by situating human consciousness as integral to the emerging universe, that is, a form of consciousness must have been in the process from the beginning. Teilhard proposed that the increasing complexity and consciousness of evolution in the universe manifested that differentiating consciousness. The emergence of galaxies from the initial flaring forth of radiance and proto-particles, and solar systems within those galaxies give indication of increasing organization and complexity that, for Teilhard, directly relate to the eventual appearance of humans.

Complexity-consciousness, for Teilhard, emerges in evolution from the interaction of matter with spirit. Teilhard did not separate matter and spirit but spoke of them as forms of energy, namely, tangential and radial energies, that are dimensions of a unity. Radial described that energy within, that draws matter forward. Tangential refers to that energy directed without, that attaches matter to other forms of matter. For Teilhard this increasing differentiation resulted in the plurality of beings in the universe. This massive plurality and effulgence of the universe could also draw matter back into entropy. In Teilhard’s thought both energy and entropy are necessary for increasing complexity-consciousness in the universe process.

Radial energy, or the “Christic” as Teilhard called it, draws matter forward into increased centration and complexity-consciousness. Tangential energy gives rise to connections and plurality of matter manifestations and eventually to fragmentation and entropy. Thus, for Teilhard the cosmos also contains a dimension of evil that could collapse into a random plurality of matter. Even as the cosmos becomes conscious of itself in humans the possibility of falling back into the chaos of entropy remains an ongoing challenge. The work of the human as a manifestation of Earth’s spirit-matter is for Teilhard a co-creative act. That is, the human through the daily work of cultural activity can directly participate in cosmogenesis, the ongoing creation of the cosmos.

Using the phrase, “the spirit of the Earth,” he focused on the quantum of matter that successively evolves into the layered envelopes encircling the planet from the lithosphere of rock, the hydrosphere of water, and the biosphere of life. This “spirit of Earth” subsequently evolves into the consciousness humankind now dislavs in the thought sphere or separate matter and spirit, he understood these linked spheres as differential and interrelated dynamics operative within the same emergent reality. For Teilhard, the plural, diverse matter of the universe in the process of evolutionary change is ultimately pulled forward by the unifying dynamics of spirit. This hope in the ultimate unity of the cosmos is the underlying source of Teilhard’s deep zest for life.

Teilhard dedicated his life work to fostering an active realization by humans of their evolutionary roles in relation to emergent matter-spirit. This is what he envisioned as seeing. He was aware of the incompleteness of his thought, since he did not teach in an academic setting where his ideas could be challenged and developed. Yet, he struggled to articulate his vision of a union of matter-spirit that would provide the human with a hope centered on the human person as participating in the ongoing cosmogenesis of the world.

Teilhard’s sense of “the formation of the noosphere,” and “the planetisation of humanity” has major contemporary implications. He directs us to consider the process of globalization as planetary and cosmological that has political, ecological, and spiritual implications. Teilhard’s thought encourages us to consider our political interconnectedness and global activity as planetary responsibility that has both social and environmental components. Teilhard challenges us to think of the world in its many layered parts as an interacting whole that we can now identify as ecological. Finally, his legacy challenges us to a deep spirituality in which humans realize in all their diversity that the health and well being of all life forms, of the Earth itself, is now dependent upon us.

This is a vision of evolution that is a communion with God through the Earth as Teilhard saw so many years ago. Now, we are called to “build the Earth” in our times in ways that Teilhard himself could not have anticipated. Our duty is to acknowledge and encourage the extraordinary contributions of science in widening our understanding of the world, yet to resist its reduction to a purposeless, machine-like materialism. Our duty is to credit the roles of the nation states, yet to resist their unbridled militarism and unilateral dominion of power as we aspire to planetary citizenship. Our duty is to realize that the religions are necessary for any transformation into mutually enhancing human-Earth relations, yet to realize they are also not sufficient in themselves for understanding the technical, environmental crises we have created.

What Teilhard has provided is a beginning vision of evolution that future generations and we will need to think through again and again as we make our way forward. Significantly, Teilhard’s life also models for us the zest for life that sustained him through difficult times. As he wrote, “For the human...the initial basis of obligation is the fact of being born and developing
as a function of a cosmic stream. We must act, and in a certain way, because our individual destinies are dependent on a universal destiny. Duty, in its origins, is nothing but the reflection of the universe in the atom.” (Human Energy. 29)

Feeding the Zest for Life: Spiritual Energy Resources for the Future of Humanity

Ursula King – Fordham University – April 7

Introduction: Reflections on the future of humankind and its further social, cultural and spiritual development feature prominently in the work of Pierre Teilhard de Chardin. His thoughts on these matters can be a splendid resource for our contemporary efforts to move forward in building a more interdependent network of mutual responsibility and care within the global community. He expressed with clarity and forcefulness that we are one humanity, with one origin, and one destiny. We are also a group of humans that has not yet reached maturity in terms of its possibilities, but its immense problems somehow resemble the tumults of youth. Teilhard argued that all of humankind bears a profound sense of responsibility for the shape of its own future, and that humanity’s future must be developed in close interrelation with all forms of life, with the whole of nature in its global and planetary dimensions. Central to his thinking about creating a more integrated future form of oneness for humanity are several key ideas: the zest for life in advancing the growth of humanity to achieve a better life for all; the noosphere as an expanding sphere of human thought and invention, of will and work, of love and action; the need for material and spiritual energy resources in assuring the future of humanity; and the contribution of world faiths in providing spiritual energy resources for feeding the zest for life. I shall briefly say something about each of these as they are mutually embedded and interdependent on each other.

Conclusion: Teilhard de Chardin’s vision of how to feed ‘the zest for life’ within ourselves and within the world is truly empowering and inspirational, if we really want to seed and grow a better future for the whole of humanity, and not only for its privileged members. There now exist a growing number of ‘noospheric institutions’ which are working in ever so many fields for the good of the inhabitants of the earth. New processes of global networking are constantly emerging, and the possibilities for a ‘global-interlinking-through-love’ that Teilhard first perceived in the 1930s, have grown exponentially through the fast advances of electronic means of communication. Nowhere is this more evident than in the global aid efforts for the victims of the recent tsunami disaster in Asia. Is this only a passing event soon to be forgotten again, or will it serve as an inspiring example for such global cooperation to help also the victims of the Iraqi war or the Sudanese famine, for transcending numerous forms of deeply engrained violence, human rights abuses, and for healing the lethal scars of war and hatred.

Traditional religions, spiritualities, and ethics provide irreplaceable resources to help our thinking and decision-making, but they are not ready-made blueprints. We need both ancient and modern streams of wisdom to effect the planetary transformation and renewal we seek, as Thomas Berry has so well explained in his challenging book The Great Work, where he lists besides the wisdom resources of the classical religious and philosophical traditions those of native traditions, the newly discovered wisdom of women, and interestingly, also the new wisdom of science. There is no shortage of spiritual energy resources, of inspiring visions and ideals, of pioneering groups and movements in the world today, yet it is also true that we still have to reap the benefits of these ideas and emergent practices, for so many hopes, visions, and ideals have yet to translate into concrete transformations in the lives of the poor and the oppressed. The significance and transformative potential of our visions and hopes for the future of humanity is immense, but their practical realization is so often still opposed by violent and powerful political and economic forces which have to be strongly counteracted and fought against.

At the present critical stage of the world we have to pay attention to the deep need for spiritual well-being beyond the existing physical, mental, and moral needs of humankind. This was already recognized long ago by former Secretary General of the United Nations U Thant, and also by Assistant Secretary General Robert Muller, who reflected on the place of spirituality in secular society in his book New Genesis – Shaping Global Spirituality. Today we hear much about development, but this is mostly understood in material and economic terms; it is seen as a problem of wealth and justice, as the distribution of resources and the balance of power. But Teilhard was asking for more than that when he posed the question of how far we have thought of the spiritual dimensions and the spiritual energy resources available for the further development of persons and planet. Will questions of spiritual development one day become an integral part of our efforts to ensure global developments toward peace and justice? What efforts are currently being devoted toward developing the inner resources of human beings, their power to love, care, and be compassionate, as well as peaceful and happy, so that we can ensure the growth of human flourishing for all peoples in the world? What the world needs most of all is a new global order and a new global ethics on whose fundamentals we can begin to agree. How much could be achieved, for example, if all Muslims
and Christians in the world, who represent half the global population, worked closely together for the well-being of the whole human community.

To change our world means that we have to foster the resolve, the commitment, and the will to change our ways. Only then can we create a new global order animated by a different, a new spirit. This will not be possible without a spiritual renewal, a return to the values of life, and a common commitment to a qualitatively better life for all. Religious and spiritual renewal are now occurring in a secular, pluralistic context, and religions must relate and speak to that context too.

Tremendous spiritual energy resources exist in each faith tradition and in many other sources of wisdom we possess. We can draw on all these as never before, and these resources can help us in developing more harmonious relations between humans, the earth and our cosmic environment. We can also find many seeds for peace-making in the world’s religions, but at the same time we need to recognize and address the existing seeds of violence and hatred. To transform our planet from one of dissension and disorder, from war, violence and strife, into one of peaceful co-existence and prevent ecological disaster does mean a change of heads and hearts. At present we have a world more torn apart than ever before, yet it is also a world that is longing to be one. The widespread public desire for closer collaboration and for a more just and peaceful world among so many people around the globe today may be well ahead of what many national governments are still thinking and planning.

As Teilhard de Chardin wrote long ago in The Human Phenomenon, some elements of the world may well ‘refuse to serve the world’ at this critical time of its development, but if our vision and will can grow large and strong enough, we can find the necessary energy resources to feed the zest for life, and work together toward a more hopeful future for all of humanity.

**Brian Swimme Elected as a Vice President of the American Teilhard Association.**

At the annual meeting on April 10th in NYC, Brian Swimme was elected as a vice president of the Teilhard Association, joining Mary Evelyn Tucker in that role. Brian is on the graduate faculty of the California Institute for Integral Studies and is the author with Thomas Berry of The Universe Story. He has also produced several video series including The Canticle of the Cosmos and most recently The Powers of the Universe. (For more information please check www.brianswimme.org) His work is deeply influenced by Teilhard's vision of an emergent universe.

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**The Influence of Teilhard’s Thought on Scientific Research**

Kathleen Duffy – Saturday, April 9

Teilhard was not a physicist although, early in his life, he did have a strong desire to become one. Rather, as a scientist, he is best known for his work in paleontology, geology, and geobiology. Yet, he was always fascinated by the content of the physics curriculum that, as a young Jesuit, he taught to high school students in Cairo. Throughout his life, he continued to follow breakthroughs in physics and eventually attempted a synthesis that he called hyperphysics, a new and broader kind of physics that would allow for the presence of mind.

When I was 33 years old and studying physics for the first time, I was reading, The Making of a Mind, a collection of Teilhard’s letters to his cousin, Marguerite. In one of these letters, Teilhard confides that, although he would love to continue his study of physics, at 35 years old there was too much technical baggage to acquire. This disclosure gave me pause since I was enjoying my new venture and seriously considered pursuing a doctorate in the field.

The fact that I found myself reading this particular passage at the time was actually a bit ironic since it was Teilhard who initially attracted me to physics. His writings, sprinkled as they are with images from optics, acoustics, relativity, and quantum mechanics, always thrilled me. Although, as a young student of music, I had difficulty plumbing their depths, I was thoroughly captivated by their charm. I thought that if only I could decipher Teilhard’s imagery, I would begin to see what he saw. I yearned to understand the secret language of physics, a language that intrigued me almost as much as the language of mysticism.

In fact, Teilhard has had a profound effect on my scientific career, on my spirituality, and on my way of viewing the world. His work has continued to inspire me, to nurture my desire for integration, and to heighten my ability to reconcile the worlds of science and religion. His stress on seeing things as they really are encourages me to remain curious and alert. I have always appreciated his emphasis on the importance of scientific knowing and his insistence that research is a sacred duty.

For me, Teilhard’s greatest contribution to science is the way he teaches the scientist how to see. Scientists who wrestle with matter, who search the heavens through their telescopes, who unravel DNA, who explore the potential of superstring theory, who discover order in chaotic systems, come to know the cosmos in an intimate way and so find themselves at
an auspicious point from which to probe the mind and heart of God. If only we scientists could learn how to see properly. To aid us in this art, Teilhard uses the language of physics. The dynamics of the evolutionary process become major input for his theology, his spirituality, his understanding of himself. His love for the cosmos, particularly for Earth, is contagious. His scientific imagery embeds us firmly within the cosmos.

Teilhard shows us a universe that is creative. He notes how, from the beginning elementary particles have been weaving the spacetime fabric of the cosmos, experiencing major phase changes, as they pass from atoms to molecules, from amino acids to living organisms, from sentient life to thought, from one critical point to the other, each one critical point to the other, constructing, as they go, forms that exhibit novelty and increasing complexity. For Teilhard, Earth is alive, a “great breathing body . . . [that] rises and sinks.” As we begin to explore the cosmos with him, we sense the spiritual power of matter.

What is most moving about Teilhard’s description is that the emergence we experience in matter has its complement in spirit. What happens in the vastness of the universe is also occurring within each person. Spirit and matter are no longer separate entities but the poles of a spectrum. Like the wave and particle pictures of quantum mechanics, they represent two ways of interacting with the Really Real. Teilhard’s imagery makes this clear. Like the physicists who construct a picture of the universe from superstrings, elementary particles, and electromagnetic waves and fields that are invisible to the eye, Teilhard makes use of these images as a bridge to unify the material and spiritual aspects of reality and to point to the relational character of the Divine. He uses optics to highlight the divine presence that permeates the cosmos; acoustics, to focus on divine communication; and field theory, to depict divine action. Written in the language of science, these images can teach the scientist how to see.

Divine Presence:

Just as light always “eludes . . . our grasp,” so, it is difficult for us to comprehend the Divine presence that surrounds us. Yet, for those who know how to see, “something is gleaming at the heart of matter,” within “the crystalline transparency of beings.” Its perception begins “with a diffused radiance which haloes every beauty,” and “like those translucent materials which a light within them can illuminate as a whole, the world appears . . . bathed in an interior light.” Capable of scattering, reorganizing, and energizing, the divine presence totally pervades matter, transforming it from within. And, “like sunlight in the fragments of a broken mirror,” the Divine is reflected everywhere so that the center from which it radiates becomes difficult to locate.

In its radiance, “all elements of psychological life . . . become more colored, more intense.”

Divine Communication:

Embedded within the very fibers of the spacetime tapestry, at a level below even that of the modern-day superstring, divine energy pulsates at the heart of matter. By arousing a “resonance that lies muted in the depth of every human,” the Divine draws us out of ourselves into a wider harmony, into a richer spiritual rhythm. “Indeed, we are called by the music of the universe to reply, each with [our] own pure and incomunicable harmonic.” Sometimes, we are “caught up in the essential music of the world.” At other times, “the very core of [our] beings vibrates in response . . . sounding a unique note of expansion and happiness.” At these moments we are drawn to desire the radiance engendered by the synthesis of all the elements of the world.

Teilhard’s words have the power to move us because they are so rooted in the fabric of the cosmos, in the dynamic processes at work within our psyches, our bodies, our societies, our Earth. They ring true to the fundamental nature of the universe. They interconnect us with the cosmic becoming. Thus our spirits acquire a new dimension and begin to resonate with the divine dream of a humanity grown capable of consciously assuming its place in the cosmos and its responsibility for evolution. Let us honor the memory of Pierre Teilhard de Chardin, who has helped us to see what is truly happening in our cosmos.

5. DM, p. 74.

Teilhard de Chardin and the Laws of Thermodynamics
Harold Morowitz – Saturday, April 9

This is a rather personal story of a forty year unfolding of my understanding of Teilhard and Thermodynamics. I first met Teilhard on a bookstand in Grand Central Station, while waiting for a train to New Haven. The paperback version of The Phenomenon of Man was on sale and having heard of Teilhard I welcomed the opportunity to read a major work of his on my train ride home. Things have never been quite the same. In retrospect, what I learned was that biology consisted of a series of emergences leading to “complexification.” This was fifteen years before I started working on complex adaptive systems. Teilhard’s prescience never ceased to impress me. A few years back when I wrote The Emergence of Everything, in a curious way Teilhard was my mentor.

I have a long standing interest in thermodynamics in biology and was pleased in the section “The Numerical Laws” to find discoursing on the first and second laws of thermodynamics. A surprise followed when I came to the section describing two energies: radial and tangential. Subsequently I read several of Teilhard’s critics condemning this notion. From time to time I tried to resolve the two energies problem and was led to the Gibb’s Free Energy with its two terms, one enthalpic and one entropic. Some years later I began a dialogue with (physical chemist) Fr. James Salmon in which we re-examined the two energies problem. One direction led to the work of E. T. Jaynes on information theory and statistical mechanics. Jaynes demonstrated that the entropy of statistical mechanics which is equal to the entropy of thermodynamics is proportional to the information theory measure of the information we are missing about the microstate of a system if we know its macrostate. It was a measure of our ignorance and thus had a noetic character as was required by Teilhard’s radial energy.

A second direction was to examine Teilhard’s writing along with Nicole Schmitz-Moorman who is editing Teilhard’s works. This provided insights into Teilhard’s energetic intuitions and his lifelong efforts to bring together philosophical and scientific perspectives. It was important for him to accept the coherence of the universe and the necessary unity in our ways of looking at the universe. Thus Teilhard’s two energies represent a prescience since they preceded by many years the unification of thermodynamics, statistical mechanics, and information theory by Jaynes. Would that Teilhard’s critics understood the depth and prescience of his two energy views.

Pierre Teilhard de Chardin, SJ, and Evolution
Marist College May 14, 2005

Overlooking the Hudson River in Poughkeepsie, NY, a mile from where Teilhard is buried, Marist College graciously hosted a daylong symposium “to expand dialogue to increase the awareness of Teilhard’s life and evolutionary thought on the occasion of the 50th anniversary of his death.” We here offer a synopsis of the papers, and at more length for Freeman Dyson’s talk.

James Skehan, SJ, spoke first on Teilhard de Chardin’s Life and Major Themes of Thought, which served to introduce the person, his turbulent times and the luminous dimensions of his vision from geology and paleontology to a cosmic and Christic spirituality. Fr. Skehan has kindly agreed to have his comprehensive, carefully researched paper published as a Teilhard Study, so it will be available in full. It concluded with Teilhard’s succinct summary: There is a communion with God; there is a communion with Earth; is there not also a communion with God through Earth?

Cosmic Genesis in the 21st Century, presented by Arthur Fabel, next tried to convey where scientific frontiers seem to be headed in the coming years. But rather than more of the same materialist, mechanical universe where human beings have no place, a Copernican Revolution appears underway to an organically developing cosmos of which people are phenomenal participants. A working premise by which this can be seen is a global Noosphere just now coming to its own knowledge. By this composite humankind perspective a new emergent evolution of life, minds, selves and spirit could be traced, called a “Genesis Synthesis.” My Natural Genesis website was noted as a resource to provide various references in support. And of course, this
was the vista that Teilhard presciently saw decades ago.

The paper closed with Freeman Dyson’s often cited 1979 statement: *I have found a universe growing without limit in richness and complexity, a universe of life surviving forever and making itself known to its neighbors across unimaginable gulfs of space and time.*

Donald Gray, founding editor with Thomas Berry of the *Teilhard Studies* series and professor of religious studies at Manhattan College, concluded the morning session with *Teilhard and Roman Catholic Orthodoxy*. At this pivotal moment in theology, a great need exists for a Christianity which can still grow and develop in time, rather than trying to hold to a bygone past. Teilhard is a rare exemplar and beacon in this regard, who is becoming more relevant with each day. Prof. Gray made the point, via theologian J. V. Langmead Casserly, that orthodoxy need rightly be conceived as a dynamic eschatology, an evolving “coinherence of continuity and novelty.”

Kathleen Duffy, SSJ, PhD, professor of physics at Chestnut Hill College, began the afternoon with *The Spiritual Power of Matter: Evolution and Incarnation in Teilhard’s The Divine Milieu*. Once again the dichotomy of a static or dynamic worldview was posed. Is the human measure and concern only individual heavenly reward or could it be a co-creation through this life world? The question is how to join the Christ of the gospel with an embryonic cosmos just being revealed? These are issues with which Teilhard grappled throughout his mystic and scientific writings. In such an holistic compass we may then encounter and revere both Divine immersion and creative emergence.

A highlight of the day was the presence of renowned physicist and author Freeman Dyson, a visionary theorist of a universe that innately grows richer in life and intelligence. *The Future of Evolution* was his topic and he began with his familiar thought that the universe appears to know that we were coming. With a Teilhardian sense of cosmic analogy, he spoke of “speciation in the sky” whereby new galaxies, stars and planets arise in a similar way to biological species. The same symbiosis that formed eukaryotic cells seems to be at work as gravity acts to unify pairs and clusters of stellar material.

Dyson next told of how science evolves and progresses not only by theoretical concepts but as much by novel instruments and tools. While paradigms shifts such as quantum mechanics involve new concepts, more revolutions occur due to enhanced observations through advances such as X-ray diffraction which could discern the DNA double helix molecule.

The final part of his talk was called The Darwinian Interlude, based on an article by microbiologist Carl Woese “A New Biology for a New Century” (*Microbiology and Molecular Biology Reviews.* June 2004) which advises a turn from reductionism to put nature back together in a synthesis founded on communities and ecosystems. Woese goes on to state that Darwinian evolution was not always the case, rather at the dawn of life there was much “horizontal gene transfer” between microorganisms. Only with the rise of distinct species could vertical gene transfer and natural selection apply. This phase has lasted for some 3 billion years. But as human beings become the dominant species in the biosphere, with a burgeoning biological and genetic knowledge they can initiate a new age of gene transfer from microbes to plants and animals. So we are moving into a post-Darwinian era when the evolution of life will now be consciously communal.

A Q&A panel went on to field issues such as Intelligent Design (ID), redemption and/or creation, and how Teilhard would be regarded today. ID is a school of thought which at one extreme says matter is unable to complexify and evolve on its own and requires Divine intervention to do so. Teilhard is often put at the other end as an example of a “theistic evolution” whereby the universe was created in such a way as to self-organize into life and people by its innate properties. And finally it was suggested that if Rome has a problem with *America* magazine, then Teilhard would likely be exiled to the moon.

**Thomas Berry Award and Lecture**

*The Center for Respect of Life & Environment is once again sponsoring their Thomas Berry Award event. Their website is: [www.crle.org](http://www.crle.org), where the following announcement appears.*

The 2005 Thomas Berry Award will be presented to **Miriam MacGillis**, a Dominican Sister and founder and director of Genesis Farm, a 140-acre haven for biodynamic agriculture with a graduate level Ecological Learning Center and Earth Literacy program. This award ceremony will take place at St. Paul's Abbey, Newton, NJ, following the conclusion of the "Religion Enters its Ecological Phase" daylong program with Mary Evelyn Tucker, Professor of Religion, Bucknell University. Cost for the day: $25.00. To register for this one-day event on October 1st, or to register for the five-day program "Religion Enters its Ecological Phase" from September 29-October 3, 2005, at St. Paul's Abbey, contact Lori Gold at: genesisfarm@tellurian.net or call 908-362-6735. Also visit: [www.genesisfarm.org](http://www.genesisfarm.org).
April 10 Visit to Teilhard Gravesite

On Sunday, April 10, 2005, the 50th anniversary of Teilhard’s passing, a pilgrimage was made to his grave on the grounds of the former Jesuit Novitiate of Saint Andrew, now the Culinary Institute of America in Hyde Park, NY. Organized by ATA member Tracy Higgins, this journey was a highpoint of the American Teilhard 2005 celebrations to many visitors from overseas, especially from France. An emotional ceremony was conducted by Fr. Thomas King, SJ and Fr. Olivier Teilhard de Chardin, Pierre Teilhard’s grandnephew, who is shown above at the headstone. Thanks to Tracy Higgins for taking the photos.

The town of Hyde Park, also the site of Marist College, is on the Hudson River near Poughkeepsie. The presence of Teilhard’s grave is indeed recognized on the Hyde Park website with this note: *On the Jesuit graveyard is buried the great Jesuit theologian and scientist, Pierre Teilhard de Chardin, a shrine to many around the World, particularly to European theological dissenters.*

New Books and Articles

Beatley, Timothy. *Native to Nowhere: Sustainable Home and Community in a Global Age.* Washington, DC: Island Press, 2005. In a time of worldwide sameness, how can peoples achieve a meaningful, ambient sense of place and abode? A professor of Sustainable Communities at the University of Virginia, Beatley offers many insights and strategies for living together in cities and the countryside with frugality, aesthetics, sharing and celebration.

Boyden, Stephen. *The Biology of Civilization.* Sydney: University of New South Wales Press, 2004. The public health ecologist author was many years an originator and proponent of “biohistory” as the study of human settlements in their natural setting. This edition provides a popular introduction. An intentional new phase of civilization is now mandated to attain a global sustainability by way of an informed “biosensitive” society that appreciates the indispensible web of living systems.

Carroll, Sean B. *Endless Forms Most Beautiful.* New York: Norton, 2005. For some twenty years the study of individual embryology – ontogeny – has been converging with evolutionary biology – phylogeny. Originally unified in the later 19th century, research agendas caused these fields to separate in the 20th century. Lately a cross fertilization of developmental and evolutionary theory, aka evo-devo, is causing a major reunion. Carroll, a biologist at the University of Wisconsin, Madison and a leading researcher in this regard, explains a prime reason is a new understanding of the genetic code. The recent sequencing of the human genome, along with many other creatures, reveals that people and chimpanzees have an almost identical molecular DNA, while even worms have 50% of these genes. How then does animal diversity arise?

The answer is a master, regulatory system, known as homeotic or Homeobox genes, from the Greek for similar, which acts to switch on and off specific genes that encode for proteins during embryonic gestation. The same “tool kit gene” controls the fin on a fish, wing on a bird, or human arm, and has been in effect since the origin of cellular life. A constant modularity, division of labor and serial repetition is also recognized in both anatomical and cerebral domains. These revolutionary findings are seen to compose a third synthesis, after the Darwinian and Modern, to radically (re)join embryo and evolution in life’s grand procession.

By these novel insights, evolution is no longer to be seen without direction or progress, rather a constantly convergent path of ramifying complexity and cognition will be traced as a result.


*In this unique collection of eighty prose prayers and related commentary, William Cleary invites you to consider new ways of thinking about God and*
and scientific teachings of Diarmuid O’Murchu and Teilhard de Chardin, Cleary reveals that religion and science can be combined to create an expanding view of the universe—an evolutionary faith.

Prayers to an Evolutionary God inspires you to discover your own place in the story of the universe, challenges you to rethink life in new ways, and enables you to express yourself in words that make sense—to an evolutionary God.

Daly, Cahal. *The Minding of Planet Earth.* Dublin: Veritas House, 2005. We read about this new work in the McDonagh book noted below. Written by a Catholic Cardinal, it seems a quite Teilhardian endorsement of the value of living lightly within a biospiritual realm. We quote from the publishers website. The book is available from amazon.com.

In *The Minding of Planet Earth* eminent theologian Cardinal Cahal B. Daly addresses the relationship between religion, ecology and science, asserting that religion and science are complementary, not contradictory; both are needed for a completely satisfactory explanation of the world. There is an intentional play on words in the book’s title. The word ‘minding’ refers first to the fact that human beings, using their mind, can find traces of mind in the patterns of order and law in the universe. This makes science possible. By use of the same reason, we can rationally conclude that the mind or reason in human beings and the rational patterns in the universe have a common source in the Creative Mind of God, the Maker of both. ‘Minding’ also means ‘taking care of’. God gives human beings a share in His own minding of the planet; He places them in the world with a duty of care for the earth and its inhabitants. This is encapsulated in the triad: justice, peace and the integrity of creation. The Minding of Planet Earth pleads passionately for peace, for fair conditions of world trade and for a more equitable sharing of the world’s resources in a more just world order. It pleads powerfully for responsible use of the earth’s limited resources. The author puts the case for world development aid and the reduction of the debt problem of poorer countries. He insists that these issues must be faced with urgency if catastrophes on a cosmic scale are to be averted.


Ferriere, Regis, et al, eds. *Evolutionary Conservation Biology.* Cambridge: Cambridge University Press, 2005. An attempt to provide the fields of conservation genetics, demography and ecology, in their study and remediation of human impacts (anthropogenic) on the environment, with a vital evolutionary dimension. By this approach, not only can current living entities be saved but the underlying development of earth life will be protected.


A study of Teilhard’s "Mass on the World" that enables all Christians to assume their priesthood and transform both their life and death into an all-embracing Mass on the Altar of the World. “The Mass on the World" remains Teilhard’s most popular essay. It is a fifteen-page prayer rich in imagery and passion suggesting more than it states. In exploring the careful thought behind Teilhard's images the present work reveals the heart and mind of the man as other approaches have not done. In the Offertory of his "Mass" Teilhard brought the world's
Consecration is seen as the consummation of his work in science; while the Communion called him to a life of adventure, of success and sorrow rarely equaled. The Post-Communion tells how Teilhard transformed the simple devotions of childhood into the adoration of maturity. He ends his "Mass" with a dedication to the apostolate, and starting from this text the present work develops what it means to be an Apostle of Christ in a pluralistic world. Above all, Teilhard was a priest—and under his guidance all Christians can answer their call to priesthood. "Teilhard's Mass" shows how every Christian can transform one's life and death into an all-embracing Mass on the Altar of the World.

King, Thomas, SJ. A Holy Man and Lover of the World. America. March 28, 2005. A meditation on Teilhard’s lifelong project to reconfigure the Christian spiritual mission in and through a temporally unfolding earthly experience. An editorial in the same issue written for the Teilhard 2005 events and celebration offers a vibrant endorsement of this timely vision and task.

Laughlin, Robert. A Different Universe. New York: Basic Books, 2005. When a Nobel Laureate in Physics announces a revolutionary new science and worldview, it is of significant notice. The 20th century phase of looking down into matter and back in time in search of a fundamental, lawful certainty, a Theory of Everything, has run its course. Although a necessary step and not wrong, reducing the world to particles, innate principles of organization and relationship are at work. From many imperfect, inexact entities (molecules, organisms) then arises a more predictable, collective order. The book gives a good sense a Copernican shift in perspective from sterile mechanism to dynamic emergence.

Thus the tendency of nature to form a hierarchical society of physical laws is much more than an academic debating point. It is why the world is knowable. (8) What we are seeing is a transformation of worldview in which the objective of understanding nature by breaking it down into ever smaller parts is supplant by the objective of understanding how nature organizes itself. (76) Emergence means complex organizational structure growing out of simple rules. (200) ...I think a good case can be made that science has now moved from an Age of Reductionism to an Age of Emergence, a time when the search for ultimate causes of things shifts from the behavior of parts to the behavior of the collective. (208)

McDonagh, Sean. The Death of Life. Dublin: Columbia Press, 2004. An environmentalist, author and priest in the tradition of Thomas Berry and Teilhard contends that for much too long the Catholic Church has distrusted and denigrated a world seen as flawed and fallen. In a new millennium, a creation theology is more appropriate that can value and care for a deeply numinous nature. Of special concern to McDonagh is the precipitous extinction of animal species through habitat destruction.

Millennium Ecosystem Assessment Group. www.millenniumassessment.org. This group, initiated in 2001 by the United Nations to evaluate the viable ecological health of the planet, has now issued its main report. As noted below, soil and water systems, timber and fuel resources, and so on are under severe stress by unsustainable growth and consumption.

The bottom line of the MA findings is that human actions are depleting Earth’s natural capital, putting such strain on the environment that the ability of the planet’s ecosystems to sustain future generations can no longer be taken for granted. At the same time, the assessment shows that with appropriate actions it is possible to reverse the degradation of many ecosystem services over the next 50 years, but the changes in policy and practice required are substantial and not currently underway.

Russell, Robert, ed. Fifty Years in Science and Religion: Ian Barbour and his Legacy. Burlington, VT: Ashgate Publishing, 2003. Ian Barbour is recognized as a founder of and constant contributor to this now popular endeavor. His initial 1966 text Issues in Science and Religion cleared the ground and set an agenda for a dialogue between these two ways of knowing. This Festschrift contains a cross-section of leading thinkers such as Nancey Murphy, Philip Clayton, John Cobb, Ted Peters, and many others. Ian Barbour is especially accomplished as a Teilhard scholar since his father, the geologist George Barbour, worked extensively with Teilhard in China.

Sherwin, Byron. Golems Among Us. Chicago: Ivan R. Dee, 2004. A rabbinical scholar draws upon Judaic wisdom in search of necessary guidance for the potentials of artificial intelligence to mold robotic entities, traditionally known as golems. To complement liber scripturae, a second liber naturae is recommended as just now becoming comprehensible.
appreciated as a Divine creation and natural scripture, which people can begin to read, write and contribute to as co-creators. An important, unique work.

Medieval Jewish and Christian philosophers, theologians, and scientists, such as Augustine, Gersonides, and Galileo, described God as the author of two books, Scripture and Nature. In this view, the theologian and the scientist share a common vocation: to decode the book written by God. (48) In this view, creation is a process initiated, but not completed, by God. Human beings have a divine mandate to act as “God’s partners in the work of creation,”... (53)

quality. A wild card is an unknown propensity to suddenly (~10 years) alter a critically poised dynamic climate. But this multifaceted research proceeds without a conducive cosmology of which precious earth and human beings are an intended phenomenon. So a major section is named Planetary Machinery.

Human activities clearly have the potential to switch the Earth system to alternative modes of operation that may prove irreversible and could inadvertently trigger changes with catastrophic consequences. (261)

**Teilhard Perspective**

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.

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Steffen, Will, et al, eds. *Global Change and the Earth System: A Planet under Pressure*. Berlin: Springer, 2004. A summary report of the International Geosphere-Biosphere Programme which views humankind as entering an Anthropocene Era of unprecedented impact on planetary life support systems. This project seeks to quantify these effects in every category from mineral resources to