



# Institute For Theological Encounter With Science and Technology

Volume 47 - # 3

Summer 2016 Bulletin

## Opening Message

*(Our director, Tom Sheahen, graciously consented to ‘hand over the gavel’ to the editor for this issue.)*

Goals that we make with all good intentions, often have a penchant for disappearing in the aether when deadlines loom.

My goal, as editor of the summer issue of the ITEST bulletin was to publish a special members’ issue with the content written solely by members. Surprisingly, the members came through and we achieved the goal set months ago. Every writer in this issue *is* an ITEST member

Some contributors to this issue are: Fr. Augustin Udias, SJ, Professor of Geophysics at the University of Madrid, who, in his essay, emphasizes the spirituality of a man of science, Pierre Teilhard de Chardin. Sister Carla Mae Streeter, OP, ITEST Board Member, and Professor of Systematic Theology at Aquinas Institute, comments, “This is just what I’ve been looking for on Chardin – tight, clear and very understandable.” She continues, “As soon as it is published, I will begin to use it in my courses.”

Sister Mary Aquin O’Neill, RSM, a college professor, emeritus, who holds a doctorate in religion from Vanderbilt University, presents a unique perspective on the four cardinal virtues: explaining why the virtue of mercy enhances the “quartet” as “...an indispensable ‘hinge’ virtue.”

From the past we included a short essay by Father Robert Brungs, SJ, “God: the Primary Reality” published in ITEST bulletin (2002). He writes, “I see faith in Jesus Christ as the basis for our life. In other words, I am a Christian before I am a scientist.”

Recommended also is a review by our director, Tom Sheahen, of *The Great Partnership: Science, religion and the Search for Meaning* by Rabbi Jonathan Sacks. Rather than defending the attacks on religion, the author shows “... how understanding the meaning of our lives...” depends on the compatibility between science and religion.

We are looking forward to interacting with our presenters at the October 22 ITEST conference. Kimbell Kornu, MD, Instructor in Health Care Ethics at St Louis University and Dominican Father Charles Bouchard, will address the topic, “The Role of Changing Technology in End of Life Issues.” See the Announcements on Page 2 for further information.

We hope this little preview of the contents of this issue will motivate you to read on. In the meantime, may you all have a comfortable, restful summer in the Lord.

Sister Marianne Postiglione, RSM

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## Announcements

### SAVE THE DATE: October 22nd, 2016

Plans are progressing very well for our yearly fall conference: “The Role of Changing Technology in End of Life Issues,” Saturday, October 22nd from 9:00 – 3:00 pm at the St Louis University Medical Campus, the Allied Health Multi-Purpose Room. You will receive the brochure with more detailed information soon.

Kimbell Kornu, MD, Instructor at the Albert Gnaegi Center for Health Care Ethics, will discuss how the changes occurring in technology have affected treatment at that period of life, and Father Charles Bouchard, OP, Senior Analyst at the Catholic Health Association, St. Louis, will discuss the ethics involved in the treatment. Is there an appropriate Christian response to these changes that could result in both positive and negative outcomes? Has the Catholic Church altered its stance on appropriate treatment for the dying and near dying? These and other considerations will form the basis for the day-long program.

### Taking the Initiative: On Retirement

We should work until we die,” says R. Paul Stevens in *Aging Matters* (Eerdmans[2016], 2140 Oak Industrial Dr. NE, Grand Rapids, MI 49505; \$16.). Stevens does not, however, equate *work* with *paid employment*. His argument is based in a theology that defines *work* as any endeavor that cooperates with God’s plan. “We will work in some fashion even after we die,” Stevens boldly predicts. He rejects a heaven that is populated by *individual saved souls* who flutter about. Instead, heaven is a community of resurrected persons—body and soul—joined to the communitarian Trinity. “As extensions of God’s creation and redemption,” says Stevens, “our human work and labor will surely find a way into the new creation.”

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### Coming Soon On You Tube

We proudly announce the “birth” of four short 2-3minute video clips on the compatibility of faith and science created by our \*STAR high school teachers of religion and science, with their students. The teachers who have successfully used the Magis Center materials: “The Reason Series” and “From Nothing to Cosmos: God and Science,” discuss how they learned about the series and how they used the series with students. \*STAR – Science Technology and Religion

Video One Defending the Faith

Video Two Teaching with The Reason Series

Video Three Why Faith and Science in the Classroom?

Video Four Teaching Theology in a Scientific Age

In one video the students discuss the often common notion that there is conflict between faith and science; rather than conflict, the two are simply complementary paths to Truth. The students note that they are more capable of talking about their faith not only with those who believe as they do but with those who challenge their beliefs. As a result the study has further deepened their Faith lives. We thank ITEST Board member, Professor Ralph Olliges, of Webster University, St. Louis and technical director, Adjunct Professor, Scott Wagner for the hours spent in editing and packaging of the videos. Look for these videos in August; we will send you the access link.

### Membership Renewal

If you have let your membership dues (75.00) slide a bit, please remember ITEST when you are paying your monthly bills. We also appreciate any added donation you may make to the general ITEST coffers. Remember, you are the lifeblood of our institute; without you we would exist only in “virtual reality.”

*Virtual reality is an artificial environment that is created with software and presented to the user in such a way that the user suspends belief and accepts it as a real environment. On a computer, virtual reality is primarily experienced through two of the five senses: sight and sound.*



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## Pierre Teilhard de Chardin, the spirituality of a man of science.

By Agustín Udías, Professor of Geophysics, Universidad Complutense, Madrid

### Abstract

During his whole life Teilhard de Chardin, in addition to his scientific work as a geologist and paleontologist, developed a spirituality in which science had an important place. Science and Christian faith were the two poles of his life. He considered science as the driving force of human progress. As human progress was a continuation of the cosmic evolutionary movement that has progressed from the simple to the complex and from the material to the spirit, it must finally converge to its fulfillment in the Omega Point that Teilhard finally identifies with Christ. Thus his spirituality is based on this movement that goes from the cosmic evolution to its fulfillment in the Cosmic or Universal Christ. His first step is the overcoming of the matter-spirit duality for an understanding of matter that includes the spiritual dimension. As fundamentals of his spirituality he proposes the divinization of activities and passivities and the two concepts of the Divine Milieu and the Diaphany of God. The Eucharistic formulation of his spirituality is presented in his prayer, the Mass on the World. As a synthesis he finally presented the Christic dimension of the world. This spirituality is based on a true mystical experience in his life of a man of science.

### Introduction

As a priest and Jesuit, Pierre Teilhard de Chardin's (1881-1955) greatest concern was, first of all, how to integrate Christian thought with the new evolutionary world-view presented by modern science. We can already find this concern in his earliest writings and continuing until the last pages written a few days before his death. His whole life rested on two columns: his scientific work and his mystical experience. After joining the Jesuits he began his scientific work first in field geology, between 1905 and 1908, while he was a science teacher in the Jesuit school in Cairo. During the First World War he was called up to serve in the army as a stretcher-bearer, where he underwent the experience which he called afterwards a "baptism in reality", his immersion in the great human confrontation. His first writings date to this time. In 1919 after he finished his licentiate in science in Paris, he began teaching geology at the Institut Catholique that he had to leave soon after. In 1923 Teilhard made his first journey to China, where he worked on the geology of northern China and Mongolia and was involved in the

findings of early human fossils. From the time of this first journey his life would be tied to his work on geology and paleontology in China. Beginning in 1939 Teilhard began to be internationally known in scientific circles, made frequent journeys to France and United States and carried out field studies as well in China in Kashmir, Java, Burma and South Africa. Since his days in China his work became especially linked with the fossil origins of man. His scientific work - consisting of more than 200 articles was published in referred journals. Beginning in 1916 he carried out also intense work on religious and philosophical subjects linked with the evolutionary world view and the future of man and their bearing on the formulation of Christian faith. However, Teilhard kept his scientific work separate from his religious reflections. In his scientific ar-

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articles there is no mention of the religious problems. He was, thus, a true scientist recognized for his work in geology and paleontology. However, for him scientific work also had an intrinsic religious value and constitutes in itself a type of worship. Thus he affirms that science and religion form two faces of the same effort to know reality. Together with his scientific work Teilhard also carried out the development of an original philosophical and theological thought inspired by true mystical experience. He expressed it in a large number of essays and the two books, *The Human Phenomenon* and *The Divine Milieu*, that he was never allowed to publish during his lifetime.

### Main texts

We can follow the development of Teilhard's spirituality through some of his key texts, from the earliest writings during the war to the last one written a few months before his death. The fundamental lines are already present in his first writing "The cosmic life", but they will not be fully developed until his last and definitive ones. Among them one can select the following:

*Continues on page 4*

The Cosmic Life (*La vie cosmique*, 1916)  
 My Universe (*Mon univers*, 1918)  
 The Mass on the World (*La Messe sur le Monde*, 1923)  
 The Divine Milieu (*Le Milieu Divin*, 1927)  
 How do I Believe (*Comment je crois*, 1934)  
 The Human Phenomenon (*Le Phénomène Humain*, 1947)  
 The Heart of Matter (*Le coeur de la matière*, 1950)  
 The Christic (*Le Christique*, 1955)

These texts will help us to establish the general lines of Teilhard's spirituality and to understand the role played by a scientific view of the world.

### A son of the Earth and a son of the Heaven

Teilhard repeats often in his writings that he feels himself being at the same time a "son of the Earth" (Teilhard writes Earth, World and Universe always with capital letters) and a "son of Heaven". Thus he affirms: "I love passionately the World, but I love God as expressed in Christ with the same passion". Therefore the foundation of his spirituality builds on the synthesis of these two loves. These two poles of his love are always present in his life and he tries to synthesize them. He finds that this synthesis is realized in the *Universal-Christ* where the two are united. The two processes to carry out this synthesis are to *Christify the Universe* and to *universalize Christ*. First of all, the universe needs Christ in order to achieve its perfection. Without Christ the universe will be without a head, it will lack its key element needed for the whole structure to be sustained and perfected. On the other hand, we cannot fully understand Christ unless considering him as the Alpha and Omega of the universe. Christ is both the creator (Alpha) and the final end and achievement (Omega) toward which the whole universe is attracted and converges. Then, the Incarnated Christ cannot be understood separated from the material universe in which he has been made present.

### The role of science

Teilhard is aware of the role of science and technology in the modern world, as the two main forces that drive today's human progress. Teilhard considers science and technology to form a unity of what is today often called "technoscience". Technology is thus included when he speaks about science, a term he uses in a very general sense. In the modern world science, taken in this general sense, constitutes for him what he calls the *Grande Affaire du Monde*, a "human function as vital as nutrition and reproduction". This must be un-

derstood in the context of his evolutionary conception of the world. Cosmic evolution, for Teilhard, extended

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*Cosmic evolution, for Teilhard, extended by biological evolution on the earth continues today by human evolution.*

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by biological evolution on the earth continues today by human evolution. Thus at the human level, that is, in his terminology at the "Noosphere" — the conscious or thinking envelope of the Earth— science occupies the tip of the evolutionary progress. From this point of view and taking into account that the whole evolution progresses toward a converging point he calls the Omega Point, finally identified by Teilhard with the Christ of Christian faith, he can affirm in "Science and Christ" (*Science et Christ*, 1921): "there is no other most powerful food for the religious life than the contact with well understood scientific truths". With this, he means that science by itself is an important factor in

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religious life. Science shows the way of man's search for truth that implicitly moves the world in the direction of its convergence in Christ.

In one step forward, Teilhard affirms in the same essay: "Scientific research is a form of worship where the creative power of God is hidden and works around us". This worshiping character of science springs from its consideration as the means by which we discover the nature of the universe and its dynamic evolution, whose final end and perfection is achieved by its union with the divine Omega Point, that is, with the cosmic Christ. Considering science as human labor, Teilhard sees it as the common endeavor of humanity which consciously or unconsciously leads it to its ultimate end. In this sense Teilhard can say that in science the only true "human-Christian mystique is developed that can achieve in the future a human unanimity". Thus the common effort of science drives humanity towards its final unification through the process that Teilhard calls "socialization". In conclusion, for him scientific work has in itself a religious value.

*Continues on page 5*

### Key topics of his spirituality

In his essay *How do I believe* Teilhard tries to formulate the main lines of his views. As a synthesis he writes on the front page the following lines:

I believe that the universe is in evolution (*Je crois que l'Univers est une Évolution*)

I believe that evolution goes to the Spirit (*Je crois que l'Évolution va vers l'Esprit*)

I believe that the Spirit is fulfilled in the Personal (*Je crois que l'Esprit s'achève en du Personnel*)

I believe that the supreme Personal is the Universal Christ (*Je crois que le Personnel suprême est le Christ-Universel*)

His whole thought is summarized in these four lines. He presents them as a “belief”, so he begins each line with: “I believe”. The first step is the evolutionary vision of the universe discovered by science, which extends from the initial elementary particles at the big-bang to the intelligent life of man. Evolution continues today at the human level, that is, in the Noosphere, in a process of planetization and socialization. Evolution shows a direction that goes from simple to complex, but also from matter to spirit. The spirit achieves its perfection in the personal. Thus, the convergent Omega Point toward which evolution finally proceeds must have a super-human personal nature. This supreme personal crowning of all evolution is the Universal Christ. Thus, the Universal Christ represents the ultimate achievement and fulfillment of the whole evolutionary cosmic process. His attracting power is acting on the cosmic evolution from the first to the last moment.

### Matter and spirit

Science has shown that the universe evolves in the line of greater increments of complexity from the isolated elementary particles present after the big-bang to atoms and complex material compounds, to living beings and finally to man with consciousness. Consciousness belongs to the spiritual dimension in man.

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*Teilhard rejects all dualism matter-spirit, as two independent substances, and presents a unifying concept of matter that includes the spiritual dimension.*

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Teilhard rejects all dualism matter-spirit, as two independent substances, and presents a unifying concept

of matter that includes the spiritual dimension. This spiritual dimension is related in the material dimension though its “complexity”. To a greater degree of complexity in matter corresponds a higher level in the spiritual dimension.

Materialism seeks to understand man only through his material dimension. It reduces man to a mere material object capable to be fully explained by its ultimate material elements. Teilhard follows the opposite way. Recognizing the spiritual dimension in man, he seeks to understand matter from this fact. Man is a self-conscious material being, therefore this quality of consciousness must be present in some way in all matter. This leads Teilhard to propose the idea that there is in matter besides its “exterior” aspect an “interior” one. The interior of matter is linked with its complexity. To a greater degree of complexity corresponds a greater degree of interiority. Interiority is in turn linked with consciousness and the spiritual dimension. Increasing complexity is, thus, identified with a greater spiritual dimension.

To this double aspect of matter (exterior and interior) corresponds two types of energy: “tangential”, corresponding with physical energy, with which things interact with others at their same level and “radial” energy responsible for the convergence of evolution along the line of greater complexity and consciousness, that is, in the direction of the spirit. Radial energy can be also called “spiritual energy” and at the human level is identified with “love”, which unites elements keeping their identities. Thus the way of evolution is finally the way of love. These two types of energy are for Teilhard really the two components of a single fundamental energy that includes both. This energy drives the cosmic evolution from the isolated multiple to ever increasing complex unity, following the way from matter to spirit and from spirit through love to the Omega Point which is the Total Christ. Thus, Teilhard can poetically address matter saying: “I greet you Matter, Divine Milieu, loaded with creating power; Ocean shaken by the Spirit, Clay kneaded and animated by the Incarnated Word” (The spiritual power of matter, *La puissance spirituelle de la matière*, 1919)

### The Cosmic Christ

According to Teilhard evolution must converge to what he has called the Omega Point, which must be transcendent and personal and he identifies it with the God of religious faith. The transcendent God has been formulated traditionally as the “God on Height”, but

*Continues on page 6*

He must be considered also as the “God in Advance”. He is not only the creator (Alpha) of the world, but also the center toward which the whole cosmic evolution tends (Omega). Christian faith leads us to think that Christ by his incarnation and resurrection is precisely this Omega Point, cosmic center of creation. If the evolution of the universe is convergent and Christ occupies the function of Omega-Center, the evolutionary process of cosmogenesis can be considered as a “Christogenesis”. The whole evolution is, therefore, the process by which the “body” of the “Total-Christ” is built. Therefore, according to Teilhard, we can neither think of the universe without its center in Christ nor of Christ without being the center of the universe. It is his cosmic attracting action that makes all things to converge toward himself, and thus consummates the evolutionary process of the universe.

### The universal Christ

Teilhard uses also in this context the term “Universal-Christ”. He defines what he means by this in “A note about the Universal Christ” (*Note sur le Christ universel*, 1920) in the following form:

I understand by Universal-Christ, Christ as the organic center of the entire universe. Organic center, that is, the center from which all developments of the whole universe physically depend... not only on the earth and humanity but in Sirius and Andromeda, ... This includes all realities on which we depend physically, not only the moral and religious efforts, but all growth of body and spirit. This Universal-Christ is what the Gospels present and specially St. Paul and St. John. This is the Christ from whom all great mystics have lived.

Here Teilhard makes reference to St. Paul and St. John and the great Christian mystics as precursors of his concept of the Universal Christ which he formulates now according to the scientific world-view.

### Divinization of activities

Teilhard, based on his Christocentric vision of the Universe and of man, formulates Christian ascetics in his work “The divine Milieu” in a new form as a process of divinization of activities and passivities. In this formulation he gets beyond the traditional scheme of good intentions, in which terrestrial works do not have value in themselves, but only as an occasion for a supernatural purpose.

Teilhard insists that human activity or efforts must be considered as a participation in the achievement of the

world in Christ. Therefore they have a value in themselves as the human part of the process of cosmic evolution that, as we have seen, has its final fulfillment in Christ. Then, nothing can be considered profane, since by the mystery of the Incarnation, God has entered the evolutionary process of the universe and occupies its center that attract all to Himself. All human works are then part of the building of the body of the Universal Christ. This does not exclude the need of also fighting against all that hinders and obstructs our participation in this process. This justifies the need for an asceticism.

### Divinization of passivities

Teilhard ascribes to passivities of diminutions, everything that affects us in a negative way. They form the other half of human existence. They can be external or internal, as they affect our body or our spirit. They may appear to be just negative, but actually they also form part of the process of evolution whose final aim is the formation of the body of Christ. What may look as something empty and scattered is in fact a means for plenitude and unity. In life there is a time to grow and a time to decrease. Both cooperate as part of the general movement of human evolution in the building of the body of the Total-Christ. As there is a communion in action there is also one in diminution. In the latter instead of being we who act, God is acting on us.

### The Divine Milieu. The Diaphanie of God

The *Divine Milieu* is a key term in Teilhard’s thought and spirituality. Thus this is the title of the work in which he explains to a greater extent the nature of his spirituality. It is difficult to give a definition of what he understands by the Divine Milieu because he is ultimately referring to a mystical experience. He uses it to express the presence of God in the universe. It represents, as he formulates it, a “Center in which all the elements of the Universe unite and get in contact with each other”. For him the Divine Milieu appears as a consequence of the divine Incarnation in the material world. Thus, he can affirm that in a world animated by

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the Incarnation, the *Divine Milieu* appears to us as a modification of the most profound essence of things.

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By it the world appears bathed by an internal light that intensifies its relief, structure and depths. The Divine Milieu is the universe as it is known by science but that is found to be profoundly transformed by the presence of Christ.

Another key concept for Teilhard in the same line as the Divine Milieu is the *Diaphany of God*. He explains this term saying that by the synthesis in Jesus through his Incarnation of all the elements of the world, a *Diaphany of God* is produced in the Universe. It is difficult to distinguish this term from that of Divine Milieu. They should be understood as two formulations or two ways to express the same reality. Thus Diaphany of God is another expression to indicate the transparency of the presence of God in the world. He expresses it saying that by the Incarnation the Divine Milieu reveals itself as a glow or incandescence of the interior layers of being by which everything is penetrated by the presence of Christ. This incandescence is the result of the Diaphany of God. Thus, the presence of the Divine Milieu and the Diaphany of God are present all around us and only we need to see it; so he prays: *Domine, fac ut videam*, Lord make me see it. For Teilhard to live aware of this Divine Milieu and Diaphany of God in the world has practical consequences in our lives. It is a way that must be realized by purity, faith and fidelity. Regarding the relations between persons the objective is the communion in charity to form all of us in one only body.

### The Mass on the World

We can find the Eucharistic formulation of Teilhard's spirituality in this long prayer written in 1923. The occasion is when he finds himself in "the steppes of Asia" without the possibility of celebrating the Eucharist and he offers "on the altar of the whole Earth the

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labors and sufferings of the World". Thus he sees the world as a total Host which is transformed into the body and blood of Christ in each Eucharistic celebration. From this point of view this prayer can be considered as a summary of his spirituality considered now from the point of view of a world transformed by the Eucharistic consecration. We can summarize this long

prayer in his four key moments:

*Offering:* Receive, O Lord, this all-embracing host which your whole creation, moved by your magnetism, offers you at this dawn of a new day. This bread, our toil, is of itself, I know, but an immense fragmentation. This wine, our pain, is no more, I know, than a draught that dissolves. Yet in the very depths of this formless mass you have implanted, and this I am sure of, for I sense it, a desire, irresistible, hallowing, which makes us cry out, believer and unbeliever alike: "Lord, make us one."

*Consecration:* Fire has once more penetrated the Earth. The Universe an immense Host has been converted in Flesh. All Matter is now incarnated, oh my God, by your Incarnation. Grant, Lord, that your descent into the universal Species may not be for me just something loved and cherished, like the fruit of some philosophical speculation, but may become for me truly a real Presence. I firmly believe that everything around me is the body and blood of the Word

*Communion:* I will extend my hands toward the burning bread that you present me. Lord Jesus, I accept to be possessed by you. How can I refuse this chalice, Lord, when through the bread you have given me the passion for uniting to you beyond life through death has entered in me.

*Prayer:* Lord, at last, through all the powers of the Earth, I recognize you as my sovereign and I hand myself over to you. Glorious Christ, diffused influence in the sinus of Matter, glaring Center where all the fibers without number of the Multiple are united... It is to You that my whole being calls with a desire as large as the Universe.

In this prayer Teilhard insists again in the same ideas that we have already seen, but now considered from the point of view of the Eucharistic consecration. The whole world is consecrated and in the communion man partakes on it because it is already the body and blood of Christ. The material world is, therefore, part of the Total Christ who embraces everything.

### The Christic

The last essay Teilhard wrote shortly before his death entitled "The Christic" represents a last version of his vision about Christ and the world. It represents the synthesis between *cosmic convergence* and *Christic emergence*, that is, of the evolutionary view of the world of science and the central position of Christ of Christian faith. Science has discovered the process of

*Continues on page 8*

cosmic evolution following the direction of complexity in a converging way. Evolution must continue at human level and must be also convergent. This implies the existence of what he calls the Ultra-human and the Omega Point as the end of all evolution. Christian faith discovers the insertion of Christ by his Incarnation in the process of evolution, which expands by his resurrection to integrate the whole humanity in one body, the Body of Christ. The universe and Christ complement each other in a *Christified Universe* and a *Universalized Christ*.

Thus the consummation of the Universe by Christ and of Christ by the Universe takes place. In this process a new evolutionary super-milieu appears, the *Divine Milieu*, as we have already seen. Teilhard goes back to the insights of his first writings where he developed for the first time the concept of the Divine Milieu and formulates it with the new term of “the Christic”. The Christic is then the union and synthesis of the cosmic demands of an incarnated Word and the potentialities of a convergent Universe.

### Teilhard mystic

The notes written out during his Spiritual Exercises (religious retreats made by Jesuits each year) allow us to find how his ideas formed also year after year the core of his meditation and prayer (*Notes de retraites*,

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1919-1954). In these notes we find that his vision of Christ and the world was not a theoretical system to present to others, but the motor and center of his whole spiritual life. Year after year his Spiritual Exercises are centered in the same ideas relating Christ and the world. The idea of Christ-Omega appears for the first time in his notes of 1922 and repeats in the following years. In 1940 the term “omegalize” appears to express the union of the universe with the “total Christ” and in the following year he presents the two perspectives that will summarize his activity: “universalize Christ” and “Christify the universe”. Thus Teilhard conceives his whole life as a fidelity to “Christ-Omega”. Finally, in 1950, near to his death he expresses that nothing should enter his life that it is not “Christifiable”, that is, part of Christ. He shows also his concern for “ending well, that is, in a complete confession and faith to the Cosmos and the Christ-Omega. To end well, that is

having had the time and occasion to formulate my essential message, the essence of my message”. In 1954 in the last day of his last Exercises he summarizes his vision with a single word: “Pan-Christism”, meaning all in Christ.

In a few words Teilhard’s spirituality it is not only the results of a theological reflection on the modern evolutionary image given by science and the role of Christ, but mainly the fruit of a true mystic experience, in which he has experienced the presence and action of Christ giving full meaning to the evolutionary universe. For him neither Christ can be conceived apart from the universe, nor the universe apart from Christ. Teilhard lived with passion this Christ’s presence and action in the world, and he exerted himself to communicate it to others, in spite of all the obstacles and misunderstandings that he found. The Christocentric character of his spirituality is clearly expressed in the prayer at the end of his autobiographic essay “The heart of Matter”, with which we can finish:

God, who, in order to present yourself to our worship as He who evolves and makes evolve, you are from now on the only one who can satisfy us - free at last all the clouds that still hide you – those of hostile prejudices and of false beliefs. Let emerge, by the Diaphany and the Fire, your universal Presence. Oh Christ, always greater!

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## Cardinal Virtues

By Aquin O'Neill, RSM

Global Sisters Report cited from the National Catholic Reporter Online at NCRonline.org, March 9, 2016

There is a passage in Robert Wilkin's excellent book, *The Spirit of Early Christian Thought*, that I find intriguing. He writes that once, while praying in the Christ Church Cathedral in Oxford, England, he caught sight of something.

*...I noticed several large medallions set in the stone floor at the front of the apse. From where I was sitting I could see that one was prudentia, then I noticed temperantia and fortitudo. I knew there had to be a fourth, justitia, and after the service I went to the front of the church. To my surprise I noticed there were five, not four, medallions. The fourth was indeed justitia but the fifth was misericordia, mercy. Whoever designed the cathedral understood that the four cardinal virtues did not say everything Christians believed about the moral life.*

As a young college teacher, I taught the four cardinal virtues with gusto, convinced — as were the ancients — that human beings could, by practicing certain acts, make them second nature. That is, after all, what we mean by a virtue: a good habit, something that one does with greater and greater ease because resistance has been overcome by practice. Athletes understand this on the physical level, as do musicians and other artists on the aesthetic plane. It was important to me to convince students that the moral life could also be rendered habitual, so that one became a person for whom it was easy to do the good.

Now these medallions on the floor of a church I've never

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*Why would Christians add mercy to the great foursome of prudence, temperance, justice and fortitude?*

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seen challenge me to rethink all that. Why would Christians add mercy to the great foursome of prudence, temperance, justice and fortitude? The philosophers of ancient Greece deemed these four sufficient. Christian thinkers from Thomas Aquinas to Josef Pieper felt no need to add a fifth. Nevertheless, I long ago learned to listen to the artists, especially the artists of church architecture and liturgy. The presence of mercy in the company of these

secular virtues is significant.

Before trying to solve the puzzle, let me review the four cardinal virtues. They are called cardinal — from the Latin word for hinge — because the moral life, so the ancients thought, is supported by them; all good habits are “hinged” to these four. If one has facility with these four habits, it is possible to attain that happiness which the Greeks thought to be the end or purpose of human life. The four are inseparable. In order to have one virtue, a person must have all four, because they work together in important ways. *Prudentia*, prudence, is the ability to make wise decisions, decisions that actually work out well. To become better and better at making decisions, two things are requisite. A person must have a true memory of what happened before (or the mistakes of the past will keep on being repeated); and he or she must take time to think about the possible consequences of the decision under consideration (or the decision can bring about unintended results). But true to being memory and foresight require self-control.

This is the connection to *temperantia*, or temperance. It is the virtue by which a person becomes capable of resisting enslavement to any particular desire. A temperate person is one who can say no to drink or drugs or sex, who is not driven by anger or fear or jealousy. In a temperate person, desires and passions are at the disposal of the self, not the other way round. Therefore, if a decision requires a denial of some desire or control of some passion, the well-ordered person is capable of doing so.

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*When integrated in such a way, the self can be risked for something loved and desired more than self.*

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When integrated in such a way, the self can be risked for something loved and desired more than self. That is the meaning of the virtue of *fortitudo*, or courage. It is the virtue that enables one to risk life or health, fame or fortune, family or friends for the sake of some other good. For the risk to be truly virtuous and not an act of folly, the risk must be worth it, and the self must be under control. In this way, courage connects to prudence and temperance. Above all, however, the good for which one sacrifices

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must be in reality a good. Thus enters the virtue of justice.

*Justitia*, or justice, is the virtue that enables a person to be fair, to give to others the things they have a right to. It also calls one to dispense benefits to the community in equitable ways (if one is in authority) and (if one is a participating member) to donate to the community according to the laws governing that community. Justice is the crown of the virtues because it makes it possible for persons to aim at what is truly good, rather than at the things that masquerade as true goods but inevitably disappoint in the end.

We can see now, I hope, that the cardinal virtues are aimed at the perfection of the self. If one acquires prudence, temperance, fortitude and justice, one is able to live the good life, as the ancients understood it. Happiness is within one's reach.

Now why would Christians add the virtue of mercy to this mix? Because Christian wisdom is very aware of the ways that human beings fail at the moral life and of the suffering that ensues from that failure.

Human beings make a lot of mistakes trying to learn to make decisions. Many times desires or emotions overwhelm all attempts at self-control. Foolish risks can land a person in messes bigger than one can fix alone. The allure of false goods is ever present. Moreover, it must be admitted, many people grow up without ever being instructed in the concept or the practice of virtue, so that they are ignorant of the ways that they can shape their character. The need for mercy is ever with us. The opportunities to extend mercy abound. The virtue of mercy directs all the

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*The virtue of mercy directs all the powers  
of the four cardinal virtues toward  
the suffering other.*

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powers of the four cardinal virtues toward the suffering other.

Against all the natural inclinations to avoid those who suffer, mercy impels one toward them. Thomas Aquinas maintains that it is a compassionate heart that will bring one to acts of mercy. The compassionate heart feels with another, takes into itself the misery of another — as does pity. But mercy, unlike pity, is not simply a passive experience; it is an active virtue. The merciful one will seek first to relieve misery but will not stop there. The causes need to be addressed, and the person supported in the struggle to attain fullness of life.

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*For the Christian, then, mercy is an indispensable “hinge” virtue.*

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For the Christian, then, mercy is an indispensable “hinge” virtue. While the natural virtues remain in the realm of what is owed in justice, mercy goes beyond what is owed to bring grace, bounty, unmerited kindness, the healing power of divine compassion. It connects, then, to the theological virtues — those gifts that enable more than nature can attain on its own. At the same time, as Sydney Callahan has observed: “To perform the works of mercy all the natural virtues and strengths, such as courage, temperance, justice and prudence, must be cultivated and developed . . .” (*Created for Joy A Christian View of Suffering*).

Such compassion can be both modeled and taught. In this respect, stories are indispensable. Those who feed on narratives of mercy will develop fellow feeling, the capacity to enter into the “chaos of the others,” as James F. Keenan has termed it. Those who feed on stories of hard-heartedness will not only fail to acquire the virtue of mercy but end up with hearts of stone. In this Jubilee Year of Mercy, it is imperative that we who have received mercy exemplify it in our lives and instruct others in its ways. The intriguing medallion of *miser cordia* among the cardinal virtues at Christ Church Cathedral in Oxford continues to issue its challenge.

[Mary Aquin O’Neill is a Sister of Mercy who holds the doctorate in religion from Vanderbilt University. After many years of college teaching, she founded Mount Saint Agnes Theological Center for Women and was its director from 1992 to 2009. Since the center closed in August of 2013, Sr. Aquin is in semi-retirement, writing as well as giving lectures and retreats.]

***“Today I ask you in the name  
of Christ and the Church,  
never tire of being merciful.”***

- Pope Francis  
The Church of Mercy

## The Great Partnership: Science, religion and the Search for Meaning

By Rabbi Jonathan Sacks

Book Review by Thomas P. Sheahen

There are many books out there that reaffirm religious faith despite attacks waged in the name of science. *The Great Partnership*, by contrast, *unites* science and religion, showing how understanding the meaning of our lives depends on their compatibility.

The very important distinction that Rabbi Sacks makes at the outset is this: “Science takes things apart to see how they work. Religion puts things together to see what they mean.” Hence we need *both* religion and science. “They are the two essential perspectives that allow us to see the universe ...” Sacks frequently notes the ways in which contemporary atheists miss that fundamental compatibility: the straw men they knock down are nothing at all like the unified, coherent perception that derives from valuing both religion and science.

*The Great Partnership* is organized in three major parts: God and the search for meaning; why it matters; faith and its challenges. Sacks opens with two distinct stories of creation, one scientific and one religious. He then explains that the different interpretations are not about sci-

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*“The search for God is the search for meaning. The discovery of God is the discovery of meaning...”*

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entific facts, but about the meaning of it all. “The search for God is the search for meaning. The discovery of God is the discovery of meaning... To be human is to ask the question ‘why?’” The opposition between atheism and religious belief is established very clearly: “Only something or someone outside the universe can give meaning to the universe. Only belief in a transcendental God can render human existence other than tragic.” Sacks goes on to say that *proving* anything is not the point; “Meaning is always a matter of interpretation.” “Science does not yield meanings, nor does it prove the absence of meanings.” An individual can live without meaning, but a society cannot. Sacks cites the example of Viktor Frankl, who retained an element of human freedom and dignity in the face of horrible dehumanization. “...the search for meaning constitutes our humanity.”

A major theme is about science taking things apart and religion putting things together. Rabbi Sacks notes that the left and right hemispheres of the brain tend to specialize, respectively, in these two activities. The theme of “left-brain” and “right-brain” cultures recurs subsequently in the book. Greek philosophy is of the left brain; “We owe virtually all our abstract concepts to the Greeks.” The way different languages are written (left to right, right to left) is indicative of the dominant thought processes. Sacks buttresses his argument with examples from ancient Israel, from China, and even gender differences. The faith of the early Hebrews, on the other hand, was more right-brain. “The key acts of the mind – believing, desiring, intending, choosing – have to do with the way the individual seeks to interact with the world.”

Sacks then describes how the ancient Jewish faith was blended with the western Greek culture. In the first, Sacks stresses that Jesus was a Jew who spoke Aramaic and taught within a culture foreign to Greek modes of thought; “Greek is a language into which the personal religious background of Jesus does not go.” And yet Greek is the language in which the New Testament was written. Sacks reaches this remarkable conclusion about Christianity: “a religion whose sacred texts are written in what to its founder would have been a foreign and largely unintelligible language.” He goes on to stress that western civilization developed from this most unusual synthesis between Athens and Jerusalem. Sacks identifies a problem that remained long hidden: the assumption “that science and philosophy on the one hand, and religion on the other, belong to the same universe of discourse.” He proceeds to display the contrast between the Greek interpretation and the Hebrew interpretation of key points in the Bible.

Jumping to the seventeenth century, he describes the divorce between science and religion. “... the great arch stretching from Jerusalem to Athens began to crumble.” Topics like proving the existence of God were never a feature of the Hebrew Bible: “In the Bible, people talk *to* God, not *about* God.” The turmoil of the 17th – 19th centuries was “the undermining and eclipse of the Greek rationalist tradition” and the Judaic faith stayed exempt

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from that. Rabbi Sacks captures three centuries of fighting in these three sentences: “People have sought in the religious life the kind of certainty that belongs to philosophy

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*“Between God and man there is moral loyalty, not scientific certainty.”*

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and science. But it is not to be found. Between God and man there is moral loyalty, not scientific certainty.”

Next, Sacks points out an emerging “new synthesis” based on the recognition that *meaning* is something quite independent of philosophy and science. Meaning lives in relationships. Sacks is not pessimistic about the break between science and religion, but concludes the chapter by saying “Once we recognize their difference we can move on, no longer thinking of science and religion as friends who became enemies ...” and we can build a home “... that is neither blind nor deaf to the beauty of the other as the living trace of the living God.”

Sacks also describes his personal trajectory from early life through a period of atheism to becoming a rabbi (he is Emeritus Chief Rabbi of London). To the Christian reader, this is a wonderful insight into a journey that made religious faith the central focus of his life. “Faith is not certainty. It is the courage to live with uncertainty.” At the conclusion, Rabbi Sacks marvels at “...the faith God must have had in humankind to place us here as guardians of the vastness and splendor of the universe. We exist because of God’s faith in us.”

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*“When we lose God, what else do we lose?”*

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The second part of the book pose the question “When we lose God, what else do we lose?” It’s not that people adamantly reject religion, but gradually they drift away from it, no longer considering it relevant. First there is a “loss of belief in human dignity and the sanctity of life.” Second is a loss of the sense of citizenship, commitment to the common good. Third, the loss of morality. Fourth, loss of marriage. Fifth, loss of “the possibility of a meaningful life.” All five of these are aspects of the loss of relationships, changing the focus from “we” to “I”. As Sacks says elsewhere, religion is about relationships – not only with God but with each other. Sacks appreciates the honesty of Nietzsche, who was prescient in presenting the pathway that led to the Nazis: “No one saw more clearly the con-

sequences of abandoning Christian ethics, and Nietzsche unhesitatingly drew the Darwinian conclusion.”

Other chapters deal with human dignity, the politics of freedom, morality, relationships and a meaningful life. In chapter 6, for example, Sacks summarizes Darwin, Freud, Marx, Hitler and others, as they each contributed to the dehumanization of mankind. Each chapter is brilliantly insightful as Rabbi Sacks assembles the components of the decline into secularism.

The third consequence of the loss of religion is that “When people begin to lose their religious convictions, often the first thing they stop doing is observing religious rituals. The last thing they lose is their moral beliefs.” As the decline proceeds, “Moral relativism tells us that there are no absolutes in the moral life.”

Sacks turns to the topic of finding meaning in life. His illustrations draw from Holocaust survivors, Tolstoy, the book of Ecclesiastes, Camus and more. He notes the recurring use of “I” by the despairing, and contrasts that with those who invest in building relationships. “...instinctively ... they knew that Tolstoy’s life made sense in a way that Camus’s did not...”

Regarding Darwinism, Rabbi Sacks shares the insights about evolution enunciated by Arthur Peacocke, John Polkinghorne and John F. Haught: Darwinism actually supports creation by God. “... this is Darwin’s wondrous discovery: *the Creator made creation creative.*” That God has a role, even in “chance” processes, is illustrated via a reference to the story of Joseph in the Bible. “The story told by modern cosmology and Darwinian biology is wondrous almost beyond belief. It tells of a universe astonishingly precisely calibrated for the ...possibility of life. ... [F]inally one life form appeared, capable of standing outside its biological drives for long enough to become self-conscious of itself and the sheer improbability of its own existence, and sensing in all of this a vast intelligence that set it in motion, and a caring presence that brought it into being in love.”

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*Abrahamic monotheism is not a religion of acceptance. It is a religion of protest.*

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One of the later chapters addresses the problem of evil. Rabbi Sachs cites three pathways by which people interpret evil, and then discards them all: “What they have

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in common is that they are all, ultimately *philosophies of acceptance*. Abrahamic monotheism is not a religion of acceptance. It is a religion of protest. It does not *try* to vindicate the suffering of the world.” Thus Sacks accepts the contradiction, asserting “...this entire discipline is inapplicable to the Hebrew Bible...” He argues that we struggle with this because our thinking is built upon Greek principles of logic, and the meaning of the Bible is lost in translation. “[Faith] feels both sides of the contradiction. God exists *and* evil exists. The more powerfully I feel the existence of God, the more strongly I protest the existence of evil.”

There are times when people do great evil in the name of religion. Sacks identifies five specific hazards: hard texts, dualism, messianic politics, the pursuit of power, and the inability to see that there is more than one perspective on reality. He examines each in turn. In fundamentalism, the belief is that “we can move *from text to application without interpretation*.” Sacks points out that both atheists and fundamentalists make exactly the same mistake: literal reading of sacred texts. Another danger-- believing that only your own vision has validity—“...is as likely to be found among the new atheists as among religious fundamentalists.” Fortunately, there is a pathway out: “We need a strong, vigorous, challenging dialogue between religion and science ... Bad things happen when religion ceases to hold itself answerable to empirical reality, when it creates devastation and cruelty on earth for the sake of salvation in heaven. And bad things happen when science declares itself the last word on the human condition...” Sacks concludes that the answer is not “no religion,” but “the critical dialog between religion and science...”

All the pieces are assembled in the final chapter, entitled “Why God?” In contemplating the wonders of the natural universe, Sacks presents a brief summary about cosmology, draws attention to the *Anthropic Coincidences*, and explains why the notion of the *Multiverse* is absurd. “The rule of logic known as *Ockham’s Razor* – do not multiply unnecessary entities – would seem to favor a single unprovable God over an infinity of unprovable universes.” As a further example, Sacks notes the suggestion that life arrived from Mars, and explains: “Since no trace of life has yet been found on mars, this too sounds like replacing one improbability with another.”

Human beings are just too complicated “...to be accounted for on reductive, materialist, Darwinian science.” After reviewing other contemporary science issues and

arguments, Sacks points out “Science gives us a sense of wonder. It does not disclose the source and origin of that wonder.”

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*“Science gives us a sense of wonder. It does not disclose the source and origin of that wonder.”*

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The “Greatest Improbability of All” is the survival of religion: faith survives the attacks of atheism. “Yet, in defiance of all the evidence *on their own terms*, the new atheists argue that religion is an epiphenomenon, an accidental byproduct of something else: once functional, now dysfunctional. If this were so, it would have disappeared long ago. Its survival is the supreme improbability.”

Sacks then returns to the religion of Abraham, “...the God who defies predictability and probability. By setting His image on humanity, he handed us the power to defy probability, to stand outside the taken-for-granted certainties of the age and live by another light. That belief gave the West its faith in the great duality chartered by science and religion, the orderliness of the universe on the one hand, the freedom of humanity on the other.” It is the partnership of science and religion that “...must now join together to protect the world that has been entrusted to our safekeeping...”

Rabbi Jonathan Sacks has given us a very fine guidebook for steering a course through our modern world, where science and religion each have an important part to play. His approach, which emphasizes Abrahamic religion, is thoroughly Jewish, but not disparaging of either Islam or Christianity.

This is a terrific book. Its 14 chapters would fit nicely into a one-term college course. Sacks weaves science and religion together into a coherent picture that most people can scarcely imagine is possible. His grasp of the way each of science and religion originated, and how they were blended together – but later separated – is exceptional, and he explains the entire synthesis very clearly. I can highly recommend this book to readers from all disciplines. You don’t have to be a scientist to appreciate *The Great Partnership*.

***“Being God’s children is in our DNA”***

- Pope Francis  
Pentecost Sunday, 2016

## God, The Primary Reality

By Robert A Brungs, SJ (2002)

*(Although we published this as an opening message in the ITEST Bulletin fourteen years ago, it still speaks very powerfully to us today about the faith/science relationship and the important difference in emphasis between the two)*

**ITEST** has now been in existence for almost 35 years. It seems as if we now have some experience with science and faith work – or maybe I might call it faith and science work. There is indeed a difference. And it may be well to point out what the difference is.

How can it matter which of the two words we put first? Maybe I am making too much of the order of those two words, but it would seem that which is first should indicate a sense of priority. And it seems to me that the priority is on faith, not science. I say this as one trained in science (maybe even as one born and bred in the scientific mentality). Nonetheless, I see faith in Jesus Christ as the basis for our life. In other words, I am a Christian before I am a scientist.

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*In our approach to the faith/science apostolate it is my experience that the order of the words makes a clear distinction about which is the more important aspect.*

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In our approach to the faith/science apostolate it is my experience that the order of the words makes a clear distinction about which is the more important aspect. But it is equally clear that science is also necessary to the apostolate. This work must be grounded on the dogma of the Church; the Creed is more important to us than the Big Bang, general Relativity or evolution. We confess first and foremost that Jesus Christ is Lord and then look at the implications, say, of evolution. We do not treat it the other

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*It is more important to us to believe in God than to believe in the Heisenberg Uncertainty Principle.*

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way around. It is more important to us to believe in God than to believe in the Heisenberg Uncertainty Principle.

Now, indeed, we can accept both the creation of the universe by God and evolution. There is no real problem with this, even though true and complete Darwinians proclaim there is a problem. What is a contradiction to them is not a contradiction to us. It is merely the working out of the

universe according to God's will – in freedom.

This position rests entirely on faith suppositions. As soon as we mention God we are acting in faith. God is para-

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*As Christians we cannot build a theology nor an expression of our faith on science.*

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mount in our approach to science. As Christians we cannot build a theology nor an expression of our faith on science. What would have happened to our “scientific theology” if we had based it on a Laplacian view of the universe? Would we be in the slightest vogue nowadays? Would anyone believe us – religionist or scientist? Or what if we had constructed a science based on the existence of the aether?

In ITEST's faith/science work God is the primary reality—both physically and spiritually. Our task as we envision it involves the four simple principles express in the little brochure that we send out. We presume that both faith and science rightly exist and we too believe there is no contradiction between faith in God and good science. Science is not a philosophy; it is science. It is all those studies that use the scientific method to isolate and experiment with

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*In truth science does not deal with the world; it deals with small parts of the world.*

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objects. In truth science does not deal with the world; it deals with small parts of the world. Scientific philosophy might deal with the world; science does not.

In truth ITEST does not deal so much with the philosophy of science as with science itself. We take scientific discovery quite seriously and praise God for it. We try to learn what science discovers and apply it as best we can to the faith. But faith is the final judge. It may be that some scientific data may cause some trouble with our interpretation of the faith. But only with our *interpretations*. It will not contradict the faith; of that we are certain.

## The Catholic Origin of the Big Bang Theory

By Dr. Thomas P. Sheahen

We sometimes wonder where scientific theories come from. Today there's a TV show named "the Big Bang Theory," but few people realize how that theory came about.

A century ago, we had no idea of separate galaxies. There were some fuzzy objects out there, but telescopes weren't good enough to resolve what they actually were. Astronomy was still a fascinating field, but there was not yet a field of *cosmology*. Then in 1916 came Einstein's *General Theory of Relativity*, which was a comprehensive theory uniting space and time and gravity.

Einstein's theory was totally different from what people had previously assumed. However, Einstein's previous theoretical accomplishments (four important new theories in 1905) assured that many scientists at least paid attention. By 1919, a prediction of Einstein's theory was verified via an experiment conducted during a solar eclipse, and that greatly enhanced the credibility of General Relativity.

Soon many more scientists got interested, because it was possible to associate the huge amount of observed astronomical data with a theory that made sense of it all. The measurable difference in light arriving from some very distant stars (the "red shift") provided convincing evidence that the universe was expanding – and that begged for an explanation. Einstein's equations of General Relativity involved *tensor calculus*, which was unfamiliar to most scientists at the time; but a few set out to solve those

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*Einstein, who once said, "I want to know God's thoughts...the rest are details..."*

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equations for special conditions of the universe. Einstein, who once said, "I want to know God's thoughts...the rest are details," himself believed that the universe was in a "steady state," hardly changing at all.

In 1922, the Russian Alexander Friedmann worked out a solution for a universe expanding from a singular starting point; unfortunately, he died soon thereafter and his work wasn't noticed. Working independently, Georges Lemaître, a Belgian Catholic priest, solved Einstein's equations for a universe starting at time  $t = 0$  and expanding from a singular point to its present size. He submitted that as his doctoral thesis to both Harvard and M.I.T. in 1925, and that was quickly noticed in the western scientific world.

When Einstein heard of Lemaître's work, he scoffed at it; and that disdain put Lemaître into an uphill struggle. The notion of a "Steady State" unchanging universe out there was very strong in those days, and the thought of everything starting off at a single tiny point was incomprehensible to most physicists.

The disdain for Lemaître didn't last long. Better telescopes were built, and other galaxies beyond our own Milky Way were found. By 1929, Edwin Hubble's observations permitted a calculation of how fast the universe was expanding, and it was all consistent with Lemaître's theory. Einstein himself eventually came to agree with Lemaître – for the simple and honorable scientific reason that Lemaître's theoretical solution accounted for the data. Einstein's Theory of General Relativity, meanwhile, became fully accepted throughout the scientific world. The term "Big Bang theory" didn't come along until decades later. Astrophysicist Fred Hoyle favored the "steady state" theory, and derisively coined the term "Big Bang" for Lemaître's singularity theory.

With his scientific respectability secure, Lemaître moved in higher circles within the Catholic Church, and became a key scientific advisor to Pope Pius XII. In 1950, a most interesting backstage drama took place, which shows what real scientists think about even the best scientific theories. This is described in chapter 8 of Fr. Michael Heller's book "Creative Tension." Pope Pius XII saw that the Big Bang theory coincided very nicely with the narrative in Chapter one of the Book of Genesis, and was going to declare it to be true, a doctrine of faith. Obviously that would have been a huge accolade for Lemaître, a permanent vindication of his theory.

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*Lemaître explained that NO theory in physics, however elegant or reliable, is truly final.*

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Instead of rejoicing at this, Lemaître himself talked the Pope out of it. Lemaître explained that NO theory in physics, however elegant or reliable, is truly final. *Every* theory can always be revised; *every* theory can be contradicted (and thereby destroyed) by a single experiment. Lemaître knew his history well: only a century earlier, "the ether" seemed a sure thing.

In 1963, new evidence from radio astronomy gave further

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evidence (the cosmic background radiation) that indeed the universe originated in a sudden explosion. With that, Fred Hoyle called a press conference to declare that he was abandoning the competing “Steady State” theory. The Big Bang became the only game in town.

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*Einstein, who once said, “I want to know God’s thoughts...the rest are details...” Lemaître explained that NO theory in physics, however elegant or reliable, is truly final.*

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However, with the passage of yet another half-century, recent observations have indicated that some correction may be necessary to Einstein’s theory: there may well be some additional force (customarily termed “dark energy”) that causes the expansion of the universe to accelerate. In the years ahead, will General Relativity or the Big Bang be corrected? Stay tuned.

It is enormously to the credit of Fr. Georges Lemaître that he stood up to sustain the independence of science

and religion. Lemaître had an enduring confidence that both science and religion are complementary pathways to knowledge, but scientific theories can stand or fall on their own, and don’t need religion to referee. As Albert Einstein said, “Science without religion is lame; religion without science is blind.”

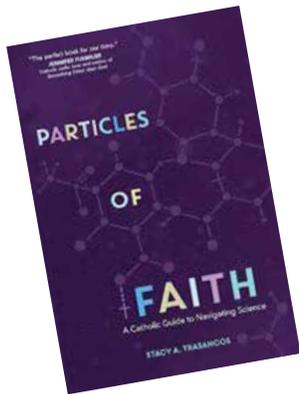
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*In the years ahead, will General Relativity or the Big Bang be corrected? Stay tuned.*

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More recently (1987), Pope John Paul II stated their complementary relationship very cogently: “Science can purify religion from error and superstition. Religion can purify science from idolatry and false absolutes. Each can draw the other into a wider world, a world in which both can flourish.”

These words provided important guidance for the future – not only in astronomy and physics, but in other fields (such as medicine) as well. Everyone needs to understand and appreciate the partnership of science and religion.



**Particles of Faith:  
A Catholic Guide to Navigating Science”  
Ave Maria Press, October, 2016  
By Dr. Stacy Trasancos**

*“What is the origin of life? Hasn’t the Catholic Church always been hostile to science? Can a Christian accept the scientific theory of evolution?”*

*“How can you, as a Catholic, explain what the Church teaches about the relationship between science and faith? Scientist, writer, and scholar Stacy Trasancos gives us ways we can talk about how science and our Catholic faith work together to reveal the truth of Christ through the beauty of his creation.”*

*“As a scientist who was led to Catholicism through her work, Stacy Trasancos has confronted some of the basic questions we all face. In Particles of Faith, she teaches us how to explain the symbiotic beauty between our curiosity expressed through science and our love of Christ and his Church.”*

*“Trasancos uses her own story, as well as encyclicals such as Pope Francis’s Lumen Fidei, the deep reflections of theologians such as St. Thomas Aquinas, and the exacting work of Catholic scientists like Rev. Georges Lemaître (who proposed the game-changing Big Bang theory), to show how science and faith are interwoven and meant to guide us on the path to truth.”*

*“By the time you finish reading Particles of Faith, you’ll be able to answer questions about, generate discussion on, and explain why science helps deepen your faith.” (from description of the publisher, Ave Maria Press)”*