



Institute For Theological Encounter With Science and Technology

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The Shroud of Turin

Our annual ITEST conference this year will be held on October 26 at nearby Kenrick-Glennon Seminary, and the topic will be *The Shroud of Turin*. This cloth has been revered by Christians for centuries. Is it really the burial cloth of Jesus? On a recent visit to Turin, the Pope termed it an “icon of love.” Previous Popes have also spoken favorably of this “icon,” but all have stopped short of calling it “authentic.” At our ITEST conference, we don’t expect to resolve any scientific questions, but rather, we’ll try to inform our attendees about the significance of the Shroud of Turin in today’s world.

With the invention of photography in the 19th century, it was discovered that the shroud bears a “negative” image of a crucified man. Ever since, the key question has been “Is the man on the shroud Jesus of Nazareth?” In the latter 20th century, a scientific group named STURP performed a collection of scientific tests on the shroud, and one after another test seemed to support its authenticity. Until ...

In 1988, radiocarbon dating was performed to determine the age of the shroud, and the number measured indicated that it dated from around the year 1300 A.D. That caused many people to dismiss it as just an artistic painting, or even worse, “a medieval forgery.” Others said the radiocarbon dating result was incorrect.

It was not hard to see how that result might be incorrect. There was a fire in a church in 1532 and the shroud was seriously scorched. ITEST’s founder, physicist Fr. Robert A. Brungs, SJ, immediately recognized that the fire would have introduced new carbon into the cloth, thereby throwing off any measurement based on the isotope ¹⁴C. Basically, the measurement task comes down to one equation with two unknowns, which cannot be solved for a unique date.

But several scientists have been arguing for new tests to be performed, based on new scientific methods of determining the age of items from antiquity. No test can pin down the age exactly, but a result indicating year 200 A.D. ± 300 years would put its age in the right ballpark. Then the many other indicators of authenticity would become much more persuasive.

One of our speakers this year, Mark Antonacci, has written a book “Test The Shroud,” which lays out the case for performing additional new tests. After reading the book I agree that more testing should be done.

However, the main take-away for me was a better comprehension of what an incredibly horrible death-by-torture Jesus suffered. The Romans were masters of torture, and crucifixion was surely the most horrible form of execution ever devised. For the good thief (Luke 23:41) to have said “we had this coming” is quite a concession! The shroud confirms everything written in the Gospels about Jesus’ passion and death. No other execution was ever that bad.

The ultimate significance of the shroud is not so much in its scientific details, but in the story it tells and the reaction it evokes in those who view it. At Kenrick-Glennon Seminary, there will be a replica of the shroud on display during our ITEST conference. We hope that many of you will take this opportunity to come and learn the most up-to-date information about this “icon of love.”

Thomas P. Sheehan
Director, ITEST

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Announcements

“An Evening with The Shroud of Turin: An Icon of Love”

Update: ITEST will join forces with the Office of Worship, Archdiocese of St Louis and Test the Shroud Foundation to present “An Evening with the Shroud of Turin: An Icon of Love” on Thursday evening, October 26, 2017. at Kenrick Seminary, St. Louis. Some may ask: “Hasn’t everything already been said?” Is there anything new? According to our speakers for the evening there is much more to study and reveal about the Shroud. Keynote speaker, Mark Antonacci, Attorney and longtime investigator on the topic of the Shroud, has published a book titled, *Test the Shroud*, (Forefront Publications Company, 2016) in which he claims that testing the Shroud at the atomic and molecular levels would “definitively disprove” the Carbon 14 dating results performed in 1988. Father John Nickolai, a priest of the St Louis Archdiocese, will interact with Antonacci and also present the results of his study on the religious and artistic aspects of the Shroud of Turin.

Watch for “**Save the Date**” message to prepare you for the promotion/publicity and registration materials to follow during the summer.

Spring Cleaning Time At ITEST

Spring is over with summer following closely on its heels. There is still time however, to do some spring cleaning at the ITEST offices. We have extra CD’s (audio only) of our conferences from 2015 and 2016 @ **\$10.00 each or two for \$18.00 (Postage and handling included)**

- 1) Economic Justice in the 21st Century
- 2) The Role of Technology in End of Life Issues:
A Christian Response

Many people today listen to lectures and talks on CD’s as they commute to and from work. We have heard from ITEST members that the two conferences above are worth spending your time on the topics that impact many people today: economic justice and end of life issues.

We accept checks, Visa or MasterCard only. To order the CD’s you may contact Sister Marianne at 314-792-7221 or via email mariannepost@archstl.org

ITEST’s 50th Anniversary Ongoing Celebration

Because we received “an offer we could not refuse,” ITEST will be holding its 2018 fall conference in conjunction with CHI (Catholic Health Initiatives) St. Luke’s Health-Baylor, Houston, Texas. St. Luke’s, according to its web site, is a “nationally recognized leader in medical research and treatment and has given rise to powerful breakthroughs in heart, neuroscience, cancer and transplantation.” Our conference will focus on the genome editing technologies of CRISPR themselves with a secondary focus on applications such as making iPSCs. Fr. Kevin FitzGerald, SJ, of Georgetown, will lead the discussion in conjunction with speakers from St Luke’s Health Center. We will publish news of the state of ongoing experimentation using CRISPR* in future issues of the Bulletin.

**Clustered regularly interspaced short palindromic repeats (CRISPR, pronounced crisper) are segments of prokaryotic DNA containing short, repetitive base sequences. ... Each repetition is followed by short segments of spacer DNA from previous exposures to foreign DNA (e.g., a virus or plasmid).*

News From Our Overseas Members

Since we are all members of the Mystical Body we thought you would enjoy “hearing about one of its members, Prof Jozef Glasa, MD, PhD, from the Slovak Medical University in Bratislava, Slovak Republic. He will be visiting the United States in September to attend the Catholic Medical Association’s annual congress in Denver. Recently he was appointed chairman of the newly re-established National Bioethics Committee (NBC) located at the Slovak Ministry of Health. Glasa served as its founding secretary from 1990-1992 and was a member for most of the years since then. He fondly recalls his stay in the U.S. as a Fulbright Fellow many years ago. We hope Dr. Glasa may be able to make a detour south to visit ITEST in St. Louis. We would welcome him and would be interested in hearing about the current state of affairs in the bioethics area in the Slovak Republic.



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Catholic Social Teaching: Human Rights and principles

by Edward J. O'Boyle, Ph.D.

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Catholic social economics is based squarely on human rights and principles of Catholic social teaching (CST) that address human need and transform mainstream economics with its reliance on individualism into personalist economics with its emphasis on personalism. Maximizing personal net advantage is not the critical force driving everyday economic affairs. Meeting human material need is.

Sadly Catholic social economics has been replaced at most Catholic colleges and universities in the United States with mainstream economics where *homo economicus* is a central figure and individualism supplies its philosophical foundation. Worse yet there is not a single U.S. university that offers a doctoral degree where the student can learn more about and specialize in Catholic social economics. This means that there will be no one left to teach future students about economic affairs from a Catholic social economics perspective.

Three Human Rights of Catholic Social Teaching

We begin with three of many rights asserted in CST that are commonly recognized and accepted in everyday economic affairs: the right to private property, the right of workers to form a union, and the right to legitimate rest and Sunday rest.

The *right to private property* may be restated as follows: the good or service produced belongs to the person who produces it: "... so it is just and right that the results of labor should belong to those who have bestowed labor" (Leo XIII, § 10). This principle applies to both the owners, who at some risk built and operate the business enterprise, and the workers who exchange what they produce in that enterprise for wages. In this regard *Rerum Novarum* is

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outspoken about both classes but notably the workers: "... so have We thought it expedient now to speak on the condition of the working classes" (Leo XIII, § 2). In his reflections on *Rerum Novarum*, John Paul II stated that "the key to reading the Encyclical is the *dignity of the worker* as such, and, for the same reason, the *dignity of work* ..." (John Paul 1991, § 6; emphasis in the original).

Our emphasis, therefore, is with the property rights of the workers as affirmed in *Rerum Novarum* (§§ 5 and 57), for the father as a worker (§13), and for the masses including those who work (§15). This principle may be further restated as follows: the property rights of workers protect their ability to meet their own personal needs and the needs of their families through work.

The *workers' right to form a union*, defended in *Rerum Novarum* (§§ 49-51), may be reasserted as follows: the

In the United States the right to form a union was affirmed at the federal level by the Wagner Act of 1935.

needs of the worker are met through *private group action* in the workplace. Forming a union is one of the means by which those needs are met. In the United States the right to form a union was affirmed at the federal level by the Wagner Act of 1935.

Private group action takes the familiar form of negotiating with management on wages, hours, and working conditions, and may at times justify a strike in order to force management to negotiate in good faith. The right to form a union is meaningless without the corollary *right to strike* -- a necessary counterweight in negotiations to management's right to lock out the workers which is grounded in the right to private property. Those rights are protected best when the parties involved act non-violently (Leo XIII, §§ 20, 36, 39). By acting non-violently to resolve their differences with management, at times with the assistance of an arbitrator or mediator, unions contribute to the needs of the wider community for efficiency in production which proceeds peacefully, "that is, with the

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tranquillity that is born of order” (Dempsey 1958, p. 371).

Regarding the connection between the union and the social encyclicals, Ken Matheny has asserted that even though union membership in the United States has been declining and the influence of unions has been waning, “the fundamental right of workers to form associations for their protection and to advance their legitimate interests remains not only relevant, but essential to a just economy.” In this regard, Matheny cites the social encyclicals of John Paul and Benedict, specifically *Laborem Exercens*, *Sollicitudo Rei Socialis*, *Centesimus Annus*, *Deus Caritas Est*, *Spe Salvi*, and *Caritas in Veritate* as the basis for his claim (Matheny 2013, pp. 2-3).

The **workers’ right to legitimate rest and Sunday rest** is stated in *Rerum Novarum* and affirmed in *Centesimus Annus*. This principle may be restated as follows: the need for rest has two dimensions relating directly to human nature. As material beings, humans according to *Rerum Novarum* have a right to legitimate rest that is “proportionate to the wear and tear of one’s strength” (John Paul 1991, § 7). As spiritual beings, humans have a right to Sunday rest (John Paul 1991, § 9) that is put into effect by the common practice of allowing workers to worship on the Sabbath and select holydays, though it must be revised for some workers especially in those activities that are continuous such as air travel and hospital care. This principle is compromised increasingly by retail shops opening for business on Sundays.

For more on human rights from John Paul II, see *Sollicitudo Rei Socialis*.

Five Principles of Catholic Social Teaching

Five principles of CST are not so readily recognized in everyday economic affairs. They are the priority of labor over capital, the common good, subsidiarity, solidarity, and the universal destination of the goods of the world. Examples are provided that demonstrate how these principles are applied in everyday economic affairs. Those examples constitute a small part of a description of the significant characteristics of a personalist economy where the *person of action and personalism replace homo economicus and individualism*.

The **priority of labor over capital** may be construed as follows: the profits of capital are subordinate to the needs of workers. Profit-sharing, also called gain-sharing, is a common practice in the United States and has energized Cleveland-based Lincoln Electric for many years, mak-

Profit-sharing, also called gain-sharing, is a common practice in the United States...

ing its employees some of the highest-paid manufacturing workers in the world and the company one of the leading producers of quality electric motors, welding equipment, and supplies. Every year since 1934, Lincoln Electric has paid a profit-sharing bonus to its eligible employees in December. For its 2,800 U.S. employees in 2016 Lincoln Electric paid an average bonus of \$24,111, raising their total earnings for the year to \$72,323 (Koller, pp.1-2).

Gain-sharing is based on the simple proposition that workers are motivated to increase their productivity when they are promised a share in the gains that flow from those productivity improvements. Management benefits from gain-sharing because they too share in the gains. Management resistance to gain-sharing sometimes takes the form of this argument: we pay the workers once for their work; we should not have to pay them twice.

The **principle of the common good** for our purposes is taken to mean that the need of the person is fulfilled in part by that person’s contribution to the common good. Dempsey puts this obligation in terms of contributive justice.

... every man has need of community organization. It is indispensable to the maintenance, development, and perfection of his personality. The members are bound to contribute to the common good of every community to which they belong; *yet the community* can only give a return to its members in the degree to which the members have by their contribution made it a sound community. ... since I have unconditional need of sound, dynamic communities ... I have also an unconditional obligation to contribute to the common good of each (Dempsey 1958, p. 465; emphasis in the original).

Becker asserted that in subordinating him/herself to society the individual does not lose his/her selfhood. Rather he/she fulfills it by rendering to the common good his/her intelligent and freely-given service (Becker 1959, p. 6).

The response of thousands of private individuals and organizations to the desperate need of the residents left stranded in New Orleans in the immediate aftermath of Hurricane Katrina is a dramatic example of this kind of

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subordination freely and intelligently given, sometimes at grave personal risk to the responders.

The *principle of subsidiarity* may be reasserted as follows: the need of all, though different at different times, is best met first through private group action. However, subsidiarity accepts public group action through agencies of the government whenever private group action fails.

Since its founding 130 years ago, United Way has become a highly-regarded private organization operating in many U.S. cities that brings together local business enterprises and other organizations in order to raise funds to help those in the area who are needy. True to the principle of subsidiarity, United Way brings the source of assistance closer to the needy, enabling it to assess those needs more accurately, thereby reducing the need for government intervention. On a worldwide basis, United Way in 2015 raised \$99 million (United Way 2015, not paginated).

United Way is a prime example of a supra-firm alliance that allows member organizations to be more effective in addressing unmet needs collectively than they would be acting on their own. The supra-firm alliance is a formalized agreement that is largely independent of the more powerful public authority and is outside the direct control of the State. It is voluntary and representative of the various private firms and organizations that form the alliance.

The principle of solidarity... the need of every person is the need of all.

The *principle of solidarity* may be construed as follows: the need of every person is the need of all.

Reflecting on Leo XIII's messages in *Rerum Novarum* John Paul in *Centesimus Annus* (§ 16) points explicitly to producer, consumer, and credit cooperatives as one of the "effective instruments of solidarity."

Ocean Spray is a producer cooperative that embraces the principle of solidarity. Founded in 1930, Ocean Spray is owned by 700 cranberry and grapefruit growers in the United States, Canada, and Chile. It has more than 2,000 employees and delivers approximately seven million barrels of cranberries to nearly 20 receiving and processing facilities. The entire global industry delivers roughly 12 million barrels annually. Ocean Spray delivers its products in 70 countries around the world (Ocean Spray 2015 and 2017).

Land O'Lakes is a member-owned and directed producer cooperative that is a second example of solidarity in action. The cooperative dates from 1921, when a group of Minnesota creameries decided to put cooperation ahead of competition. The cooperative today has 300,000 direct or indirect owners who handle 12 billion pounds of milk annually, producing a wide range of dairy products. In 2016 Land O'Lakes had sales of \$13.2 billion compared to \$14.2 billion in 2013. It provides farmers and ranchers with a line of agricultural supplies including feed, seed, and crop protection products. Additionally, it provides agricultural assistance and technical training in more than 25 developing countries (Land O'Lakes 2015 and 2017).

Ocean Spray and Land O'Lakes are just two of more than 29,000 cooperatives (excluding housing where more than 1.2 million families reside) in the United States. Membership in U.S. cooperatives (some persons belong to more than one) exceeds 350 million. Annual revenues are greater than \$653 billion (Community-Wealth Organization c.2017).

...the profits of the company are subordinate to the need of all.

The *universal destination of the goods of the world* may be reasserted in these words: the profits of the company are subordinate to the need of all. In *Centesimus Annus* (§ 6; emphasis in the original) John Paul credits Leo XIII in *Rerum Novarum* with an awareness that "private property is not an absolute value" and for proclaiming "the necessary complementary principles, such as the *universal destination of the earth's goods*." John Paul also connects the universal destination principle to subsidiarity by arguing that the State has a duty to create "favourable conditions for the free exercise of economic activity, which will lead to abundant opportunities for employment and sources of wealth" and to solidarity, according to which the State has an obligation to defend the weakest (John Paul 1991, §15).

To uphold the principle of the universal destination of the goods of the world, John Paul calls for some public control of the market mechanism to assure "an abundance of work opportunities, a solid system of social security and professional training, the freedom to join trade unions and the effective action of unions, the assistance provided in

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cases of unemployment, the opportunities for democratic participation in the life of society...” (John Paul 1991, §19).

The policy of allowing rival pharmaceutical companies to manufacture and sell as a generic drug a product originally developed by another company once its patent has expired allows the originator to re-coup its research and development costs and earn a reasonable profit. This policy effectively makes that medication available to more persons in need because as a generic drug with little or no research and development costs it can be sold at a lower price. Thus generics are one means for achieving the objective of the universal destination of the goods of the world.

Person of Action: The New Economic Agent

Notwithstanding the language and intent of mainstream economics as to the importance of price determination and profits, it is human beings who are of the utmost importance because they alone are capable of *acting* in economic affairs as living, breathing, existential actualities. In 1890 Alfred Marshall stated in the very first sentence of his insightful *Principles of Economics* that “Political Economy or Economics is a study of mankind in the ordinary business of life...” (Marshall 1948 [1890], p.1).

Economic agency as represented in mainstream economics is seriously outdated in large measure because it has deliberately oversimplified the economic agent -- the individual or *homo economicus* that originated in the Enlightenment of the 17th-18th centuries -- in order to simplify economic analysis and produce empirical findings about which it can claim certitude. We propose as its replacement the *person of action* who is more faithful to 21st century understanding of human nature according to the encyclicals of John Paul II and CST, and better aligned with human activity in current economic affairs.

The *person of action* dynamically carries out such uniquely economic activities as producing, distributing, exchanging, consuming, saving, investing, credit-creating, lending, borrowing, innovating, developing, and (re-)vitalizing. We suggest *person of action* for two reasons. First, whereas *homo economicus* reduces the economic agent to an individual being, *person of action* recognizes the economic agent as a human being acting in economic affairs both as an individual being and a social being. Second, whereas *homo economicus* is tied to the philosophy of individualism, *person of action* links our conception of

economic agency to the philosophy of personalism that aligns much more closely to CST.

With the *person of action* emphasis is on creating new options from which the economic agent is able to choose. This kind of participation in economic affairs is dynamic. With *homo economicus* the emphasis is on choosing from among an array of options without creating new ones. This kind of participation is passive. The *person of action* is entrepreneurial. *Homo economicus* is not.

The result of this change in how the economic agent is represented admittedly introduces more complexity in economic analysis, which in turn demands more judgment on the part of the economic analyst in correctly interpreting the findings that the analysis brings forth. This proposition rests on the premise that certitude purchased at the price of oversimplification is an illusion.

Economic agency as conceived by mainstream economics is based on the proposition that *homo economicus* maximizes utility and profit and that the economy functions best when it reaches Pareto optimality wherein no one can be better off without making someone else worse off. Maximizing utility and profit means that the good invariably consists in *having* more. This construction misrepresents human nature because it asserts that the economic agent passively selects from among a set of options in order to maximize personal net advantage. In mainstream economics the economic agent is perceived as a “rational, self-interested, calculating *machine*” (Blinder 2000, pp. 18, 24; emphasis added).

Calling to mind Aristotle on virtue, we propose instead that human beings routinely maximize personalist capital in which certain good habits or virtues such as justice and love are learned and practiced by which a human being develops more fully as a human person. Further, as human beings develop more fully as persons, they become more effective and more highly valued as economic agents. It should be added that human beings become less fully human persons by learning and practicing certain vices such as injustice and hatred and become less effective and less highly valued as economic agents. This proposition rests on the premise that the economic agent is inseparable from the human person. Maximizing personalist capital rests on the assertion that the good inheres in being more.

A human being is not an automaton. A disposition to act one way or the other does not program a person to act in

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any predetermined manner. Otherwise that person would not be truly free for integral human development. Because the economic agent is a complex union of individuality and sociality he/she is free to act in a self-centered or other-centered manner, in a rational or emotional way, a benevolent or mean fashion, a generous or greedy mode, among many other behavioral options. This process of human development certainly is one of the profound mysteries of human nature and one of the reasons that predicting the behavior of economic agents is so weighed down with uncertainty.

Final Remarks

At the end of his professional work in employment security, in which field he was recognized as a leading researcher, Becker who for many years served on the staff of the Institute of Social Order, reminisced on the reasons that prompted him into that line of work. His ultimate motive was “a vision of Judgment Day and of the Judge saying: ‘I was unemployed, Joseph, and you supported me’” (Becker 1991, p. 56). In private Becker offered this advice to one of his graduate students: “If you’re really serious about this kind of research, you must roll up your sleeves and get your hands dirty in the information available only at the state employment security agency.”

Good advice then and good advice now because it underscores the importance of (1) keeping in mind why Catholic social economists do what they do and (2) doing the ditch-digging work necessary to develop an accurate description of the significant characteristics of a personalist economy. Without that kind of work, CST will never be seriously re-examined in terms of everyday economic affairs, and in the worst case it is in danger of wasting away.

Orthodox economics of the kind espoused by Thomas Divine, who studied under Lionel Robbins at the London School of Economics, informs the thinking of economic faculties across the United States, including those at Catholic colleges and universities. In that sense, there is very little difference between economics faculties at Catholic institutions of higher learning and other private or state institutions. A survey of the textbooks used to teach the principles courses would demonstrate that in general the same ones are used in Catholic colleges and universities as in private or state institutions. The personalist economics espoused years ago by Bernard Dempsey, a student of Joseph Schumpeter at Harvard, is barely visible. Even so, Dempsey’s perspective is the key to a re-invigoration and

re-establishment of Catholic social economics because, unlike orthodox economics, it is constructed on a concept of the economic agent and a philosophy that are drawn directly from CST.

Eventually the differences between Jesuit colleagues Dempsey and Divine, who were largely responsible for establishing the Catholic Economics Association in the early 1940s and who wrote on social justice, the just wage, human perfection as the primary goal of society, and business ethics were reconciled. Divine noted as a graduate student that the French Catholic social movement involving individualists and corporatists were characterized as “divided on theory but united on social action.” In effect Dempsey and Divine were *divided on theory but united on social action* (O’Boyle 2014, p.5).

Putting Catholic social economics back into the economics curriculum and supporting rigorous research along those lines, notably though not exclusively applied to real-world problems such as employment security, discrimination, market failure, and non-collusive cooperation, will take a huge commitment on the part of Catholic university administrators who somehow must convince their economics faculties that the mainstream paradigm based on the autonomous, entirely rational, self-interested, utility and profit-maximizing individual and strict individualism do not square with CST, notably John Paul II’s writings on person and personalism. There is much work to be done in re-thinking economics, re-constituting the economic agent as the *person of action*, and applying this thinking to current economic affairs and problems -- a worthy undertaking for any economics faculty free to explore beyond the boundaries of mainstream economic thought.

Our own reflections on these matters led us to re-think economic affairs in terms of a personalist economy that is based on private property, the market mechanism, private enterprise, the common good, economic freedom, subsidiarity, solidarity, worker participation in enterprise decision-making, the universal destination of the world’s goods, the legitimacy of profit, personalist capital, and the *person of action*. A personalist economy represents a viable option to both a market economy and a command economy because it is organized around private groups positioned between the individual person and the more powerful State, groups that emerge due to the suffocating influence of the State and the marketplace on the human

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person. These private intermediary groups reconcile the individual good of the market system and the common good of the command economy, and are the distinguishing characteristic of a personalist economy.

If such a recovery at Catholic universities is not forthcoming, the work will be left to men and women acting alone without the benefit of mentors who would have seen to it that they were thoroughly grounded in the rights and principles of CST and would have been willing to undertake the work of arriving at an accurate description of the significant characteristics of a economic order that is

consistent with those rights and principles. A website constructed and maintained possibly by a generous Catholic university, which identifies or better yet provides access to the full range of CST materials already published and relating either to its philosophical base or empirical observations, would be most useful in pointing to what has been done to date and what remains for the interested CST scholar to do. Once that work has been completed, a coherent and effective social economic policy is more likely to emerge.

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We welcome essays, articles and reflections from our members on topics related to faith/science, such as Dr. O'Boyle's analysis above.

(In the following excerpts from reflections on theology and science written by Father Robert Brungs, SJ in 2005, he pondered the implications of the state of theology in relation to emerging culture as he saw it then. He wondered if theologians and scientists were meeting the challenges of emerging culture, both secular and religious, as the Church Fathers of the early Church did. What would Father Brungs say, if he were alive today, about the research of scientists and theologians like Father Robert Spitzer, SJ, Bishop Robert Barron and others, secular and religious, as they probe the questions of the universe in an effort to meet the challenges of our emerging culture? Would he be hopeful? (Ed.)

Theology and the Interrelatedness of all Things

by Father Robert Brungs, SJ July, 2005

One thing is certainly clear in the faith/science endeavor. We are living in an age that demands as much of us as it once did of the Church Fathers. They were in their time as the theologians of this age must be in their time. Briefly, the Church Fathers were mainly Bishops who had to educate their flocks both to the learning of their day – the early Church – and to the developing sense of belonging to what is considered now an international Church. Augustine, Irenaeus, Gregory of Nyssa, Gregory Nazianzen, Basil the Great and many others dealt both with an emerging culture and with an emerging Church. That is our task now – to treat the growing awareness of the creation along with the unfolding knowledge of our place in and union with God. Our education in both areas must be life-long, acute and forward looking.

Scientific knowledge has been expanding at an ever faster rate. “there are probably more scientists alive in the world now than there were in all history – or almost,” it is often said. I don’t really know a way to estimate how many scientists there were in the past or even who was considered to be a scientist. But I suppose making the statement above is fairly accurate. It is certainly true that there is an acceleration in our appreciation of the complexity of knowledge about the cosmos. From the immensity of space to the intimacy of the DNA molecule all we see is the extreme intricacy of things. We come more and more to declare the interrelatedness of all creation. If only we could grow equally swiftly in the interrelatedness of faith and science. In the minds of very many they are very separate – even incompatible – although in the real world I believe they are intimately connected.

I find it impossible to believe that things in the cosmos “just happened” willy-nilly. Things are simply too complex to have occurred by chance. It seems incredible to me that anyone could maintain that, while all things are interrelated, they occurred completely at random. It might be that a single change may have occurred in a

way that is now beyond our knowledge. We certainly can’t say why everything is the way it is. But explaining why the eye is the way it is and works the way it works is orders of magnitude less than explaining the fact that everything is part of a whole. There is only one reality in the world. Humankind is related to animals and to plants. It does not exist apart from them. The Earth is related to the Sun and the Moon and each of the stars. The earth has an effect, however small, on each star and planet in the universe and they on it. Our weather on earth is related to heat from the sun and other heavenly bodies as well as on each living thing and on the earth’s terrain – or should we say terrains? Do we even consider this interrelatedness in our science? hardly! It is simply too complex to write the requisite equations. Yet this interrelatedness exists whether we can cope with it or not.

According to the most accepted physical theory, the cosmos ought to be interrelated in its particulars because it is interrelated in its beginnings. According to the Big Bang theory everything began at the same time from the same “singularity.” That is the first and last time in the history of the universe that there was this “singularity.” It was the first and last time that cause and effect seemed to exist only “on one side of the equation” – our side. What was “before” we simply do not know, now will we ever, know. In the sense of that one singularity, everything else in the universe is “in common.” What happens to one piece, no matter how tiny, happens to all pieces. Everything that happens to you, to me, to anyone happens to all. Somehow, our science had better begin to think at least somewhat in these terms. Otherwise, in the end, science simply will be inadequate to explain any part of creation, much less the whole.

...But the interesting things, both for science and theology, is the interrelatedness of all things. This is becoming a commonplace in our speech and in our way of thinking.

Continues on page 10

Still, it has not really penetrated either science or theology. They both admit the surface truth of interrelatedness but it

What does it really mean to say that all things are related?

seems that neither has thought out its implications. What does it really mean to say that all things are related? In science it doesn't seem to mean more than a cursory study of the influence on a particle than the influence of "nearest neighbors, next nearest neighbors, etc." In theology we have not yet approached a systematic idea of why everything is related to everything else. But we do know two things. God has made the universe this way and God doesn't do things "off the top of his head."

"...before the word "scientist" was invented scientific work was still being done implicitly by "gentlemen of philosophy" and craftsmen and observers of the natural world. Even the ancients who thought that the world was flat were the "scientists" of their day, using their

powers of thought to explain the cosmos. Their methods of observing the world used the best equipment they had at their disposal – their eyes. They could see the horizon and it looked as if the world ended at some certain place or other. But that observation changed as time went on.

Their appreciation of the heavens was limited to what they saw and what they saw reminded them of the mighty heroes of myth and the ordinary items of their terrestrial experience. We really did not "see" the wonders of (the) heaven(s) until the invention of the telescope. The microscope, long before there were "scientists," began to alert us to the universe of other life forms which we came to understand as the basis of our lives. Each new technological achievement has led to further knowledge of how the universe is put together and "how it works." This is certainly a proper use of our powers of reasoning and even a tribute to our imaginations. It also comprises part of our praise of the Creator who clearly made the conformity of our minds to the real world. We serve God and praise his majesty by our science and our technology – so long as we avoid thinking of "scientific fact" and "scientific method" as the only way to truth.

Eric Seal

*Eric Seal, psychiatrist and co-founder of St Vincent's Bioethics Department at St Vincent's Hospital in Australia, was also a loyal member of ITEST for a number of years before his death in 1991. He and his wife, Joan, visited St Louis in the 1980's and toured the Arch, the Botanical Garden and other sites with Father Brungs and Sister Marianne as their guides. Although Eric was a man deeply involved in the scientific and technological world, he had the heart of a poet. A few years after he died, Joan sent Father Brungs a collection of poems, Eric's reflections on the scripture, entitled Songs of Hope, which he had penned over the years. We reprint here his poem on the Resurrection. (from **Songs of Hope: Collected Poems** by Eric Seal, The Seal Family Publishers, 1999. p. 74.)*

The Resurrection

By Sunday's early light they found the tomb
Empty. Now death had lost its sting and life
Had triumphed, as He said, despair and gloom
Yielding to hope. His rising, like a knife
Dissected light from dark, and on this morn
Christ salvaged faith, and here unfurled
The banner of salvation. In this dawn
The shadow of His cross eclipsed the world.

Henceforth His voice was heard, and He was seen
By many, sinners, skeptics, saints and others.
But scripture gives no hint, that we may glean,
Of purest joy that must have lit His mother's
Eyes, when she beheld His risen face;
For joy so pure our poor minds have no place.

- Eric Seal 1988

Bishop Barron and the New Evangelization

We are reprinting portions of Bishop Barron's address on July 4th, to the Catholic Convocation in Orlando, sponsored by the USCCB and reported by Mary Rezac of CNA/EWTN News. The first challenge, that of Scientism, interests members of ITEST since it relates to the question of faith and science directly. If you would like to read the complete address of Bishop Barron's, simply search for Bishop Barron and the New Evangelization. (Eds.)

Bishop Barron "...charted challenges and opportunities for Christian witness in a world numbed by relativism and secularism. The way we evangelize should grab the world by the shoulders and shake it out of its apathy," Bishop Robert Barron told a crowd of Catholic leaders recently. Evangelization is especially urgent as the "nones" — the number of the population who do not identify with a religion, continues to grow, he said.

Bishop Barron, auxiliary bishop of the Archdiocese of Los Angeles and well-known evangelizer for Word on Fire, addressed the crowd of Catholic bishops and leaders gathered at the Catholic Convocation in Orlando, Florida through a live video feed on July 4, the last day of the gathering. "We do have a fight on our hands, but the great saints of our Church have always loved a good fight, and we should too."

In a talk entitled "Equipping Evangelizers," the bishop with more than 15 years of evangelizing experience said that there are three main challenges and three main opportunities that Catholic evangelists face today.

The First Challenge: Scientism

The culture's embrace of "scientism," or the philosophical belief that the only valuable knowledge is scientific knowledge, is one of the great challenges that evangelists face today,

Bishop Barron said.

"Let me be clear: the Catholic Church has nothing against the sciences, the Church stands with the sciences at their best," he said. "What the Church opposes is scientism, or the reduction of all knowledge to the scientific form of knowledge."

Actually, scientism as a philosophy is self-refuting, he noted.

"Scientism is not discoverable through the scientific method. Where did you empirically verify and test through experimentation that only scientific knowledge is valuable? Scientism is a philosophical position and therefore self-refuting," he said.

But it can be challenge for evangelizers, who are speaking to the world about God.

"When we (as a culture) isolate ourselves from all references to the transcendent, we do damage to the human heart, we do damage to the human spirit," he said.

The Second challenge is the culture of "Meh" or "Whatever..." Apathy on the part of many young adults. The Third Challenge is the culture of Self-determination — "freedom defines identity.."

...The bishop then presented three opportunities for evangelization based on the three transcendentals: truth, goodness and beauty. (See full article at CNA/EWTN)

Catholicism – The New Evangelization

From Bishop Barron's Word on Fire

"The Catholic Faith is not about myths or legends, symbols or literary devices. It's about an encounter so overwhelming that you want to tell the whole world. It is an encounter with Jesus Christ. Throughout history, the call of Christ has sent people to the corners of the earth with a message of great joy, a message that has built civilizations, inspired cultures and even sent some to prisons and to their graves. "We have the same call — that's the New Evangelization.

"This new documentary series from Bishop Barron's *Word on Fire* continues the story of CATHOLICISM and explores the Church's mission and the challenges of contemporary culture. With the original CATHOLICISM series, Bishop Barron took us on a journey around the world deep into the Faith.

Now, experience this Faith in action in *CATHOLICISM: The New Evangelization*.

"This 90-minute film tells us what the "New Evangelization" is and then takes us on a fascinating tour to witness examples of **new ardor, new expressions, and new methods** of evangelization in action. This multi-disc DVD set also includes 4 hours of extra features including two speeches from Bishop Barron as well as full interviews and insights on the New Evangelization with George Weigel, Ross Douthat, Brad Gregory, and Brandon Vogt." (From Word on Fire Web Site)

The DVD is subtitled in English, Spanish, Polish, and Portuguese.

Faith, Science and Culture: Diverging or Converging Realities.

We chose to reprint portions of the discussion among participants at the 2008 ITEST conference. It moves from the discussion of Intelligent Design, to a further discussion of evolutionary naturalism or Scientism, one of the points discussed by Bishop Robert Barron at the recent convocation of Catholic leaders in Orlando, sponsored by the USCCB.) (Eds.)

Postiglione (staff): Michael Behe, a respected biochemist, spoke at one of our conferences and introduced the concept of irreducible complexity in the design of the eye—indicating that it could not have come about by natural selection but must have had some element of an “intelligent agent.” Evolutionary naturalists and others disagree with him. But he is very convincing when he makes his case, and he is well respected within the academic and Intelligent Design community. How could a man like that, who has all the academic and scientific research credentials, still adhere to that viewpoint of ID which is not a science but a philosophy?

Dr. John Haught (presenter/theologian): we live in a culture where all of us are affected by the simplicity of the explanation. It seems that we have to find some level to which we can reduce everything. Behe, a good Roman Catholic and a biochemist, has been brought up in the religious world view that rightly cannot accept reductionist materialism or explanatory monism. But in my view he makes the mistake of trying to counter materialist monism by setting up another kind of explanatory monism of his own. Let me explain further.

Behe is trying to answer the question “Why is there complex design in life?” One answer is because of the physical things, the self-organizing properties of matter. Of course the Darwinians would say—this is what bothers Behe—“because of natural selection.” Behe has spent his whole career in biochemistry studying the physical aspects of complex design. Behe says that natural selection is not enough. Surely complex design has to have a more robust explanation. So couldn't we say in response to Behe as well as to his opponents: natural selection doesn't contradict Divine Wisdom and Love, which endows nature with the resourcefulness to unfold in endless diversity of form. And that does not in any way compete with the biochemist. The more we learn about the secrets of life biochemically, our esteem for theological explanations does not become diminished; rather, they can both grow together—that's my point.

It's not wrong—that's what differentiates me from the evolutionary materialists—to look for theological explanations. It's a biblical tradition that at some point we have to appeal to Divine Wisdom. I prefer to use Wisdom rather than Intelligence, which I think is too narrow a term. As the ultimate explanation of living design, ID's mistake is to locate what is really an ultimate explanation at the same level as biochemical explanation. ID is really a theological idea. It responds to the ultimate theological question “Why is there any order at all rather than none?” If you take that kind of answer and try to squeeze it into the same level where the biochemist is working (which is Behe's profession), then you conflate ideology with science and are inviting conflict eventually.

This applies just as much to Richard Dawkins as it does to Michael Behe. You could take any book of Dawkins and on the same page, he'll switch back and forth from an insightful scientific understanding of life to his evolutionary naturalism, failing to give the reader any warning that he is doing this. Most people who read his writings are not philosophically able to see what he's doing. Some naïve readers will say, “OK, well, if Darwin implies evolutionary naturalism, than I have to get rid of my theology and religion.” The other choice is to say, “I'll throw out evolution completely because it conflicts with my religion.” Neither choice is preferable, but this is a good example of the cultural war going on.

One more comment. Rather than using the word, *intelligence*, I prefer the word, *wisdom*

Zinser(clergy): You used the word “endow” recently; how does God endow?

Haught: Your question raises a point that theology should make at the very beginning. You can't do theology without using metaphor, analogy. If you try to reduce theological language to the clear and distinct ideal of understanding that goes back to Descartes and is implemented by modern science—if that is your criteria of understanding truth—then you will always be disappointed in theology. My view is that theology should never apologize for using

Continues on page 13

the fuzzy language of analogy and metaphoric symbol. That's because of the preeminence and excellence of its subject matter. If you truly believe that there is an infinite and Diving Being, then by anyone's mathematics, something finite like our own minds can't get itself around it. We can have a sense of being grasped by God, but we cannot confidently think we've ever grasped God. So we express that confidence of being grasped by God in using such language as this. "Endow" comes from the common experience all of us have of being graced by something without our deserving it. In other words, we use the word "grace" rather than endow. Never apologize for using non-scientific, symbolic, metaphorical, analogical language. If you try to get away from the language, you trivialize theology and this kind of thing happens over and over again. Theological language will always be symbolic.

Zinser: You can't talk to a scientist like that who doesn't already believe it.

Haught: Well, the way in which you approach science is to show that they already do believe. Scientists *do* believe. Science cannot even get off the ground, nor can a scientist do an experiment without having tacitly surrendered to something larger than his or her own mind—to the intelligibility of the universe, the mystery of the intelligibility of the universe, the mystery of being, and above all the importance of truth. For example what would lead Dawkins to write his books on atheism? It's because (although he is not aware of it) he is implicitly believing and trusting in the importance of truth telling. And every scientist has to believe that somehow. Read Michael Polanyi's *Personal Knowledge*, and elaboration on what I'm saying now. It's true that a simple conversation with a scientist won't convince him or her of what I'm saying. First we need to have examined the tacit assumptions that underlie his or her whole work. And tacit assumptions are faith assumptions. You can't even set up a scientific experiment to prove this without already (in the very act of setting up that experiment) trusting that intelligibility and truth can be found and that your mind is of sufficient integrity that you can trust it to recognize meaning and truth. Scientists don't think about these things; but at a certain level as human beings they can be brought to think about these things.

Streeter (theologian): In your paper written for this conference, there is a very important insight. It seems that an evolutionary naturalist who is also a scientist, and who works through the pattern from "mindlessness" to human

intelligence, can be accused of the same kind of "magic" they accuse theologians of when theologians speak of God's creating the universe *ex-nihilo*, something from nothing

Haught: That's exactly right.

Streeter: Then the evolutionary naturalists get caught in exactly what they rail against.

Haught: I'm glad you picked up on that. In my book, *Is Nature Enough?* I try to make that point. It is a tremendously ironic point. If you are going to be a consistent naturalist, the last thing you want to do is bring in magic, alchemy, sorcery, and so on. But as I look at their world view, at face value it is a matter of pulling a rabbit out of a hat—which is the last thing the true blooded naturalist wants to do. This points to the incoherence of scientific-naturalism, i.e., Scientism.

Sollee (physician/scientist): What about the arrow of time? Is that a theological topic or is that something else? Some scientists talk about it, but obviously a meaningless universe somehow or other has a directionality to it. That seems to me to be somewhat problematic. If you adhere to the mindlessness, you are kind of wandering around in a no-man's land so to speak.

Haught: J.A. Wheeler, a theoretical physicist, said that time is nature's way of keeping everything from happening at once. Another pundit said that time allows for something you don't often reflect upon. But since the middle of the 20th century the greatest gift that science has given human consciousness—and most of us haven't caught up with it—is that the universe is not a state but a story.

I'm working on a book right now using the three ingredients of Darwin's recipe: the enormous amount of accident or contingency; plus the reliable, predictable, scientific laws, like gravity, natural selection; plus time. You notice that those are the ingredients of "story" (of drama) blended together in such an exquisite way in the cosmos, that if the universe were totally a matter of contingency, it would collapse into jelly at every moment. There would be no backbone, no consistency that give it dramatic character. If it were totally predictable, the same thing would be the case. Everything would be frozen once and for all, into a particular state of being. If there were no time, there would be no drama either.

In contemporary scientific thinking those three ingredi-

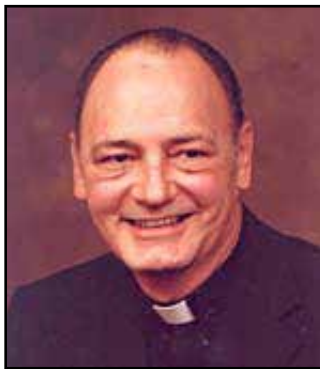
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ents have been torn asunder from one another. And there are some scientists, like Stephen Jay Gould, telling us that it is *accident* that really created evolutionary diversity and design. Dawkins, his rival in a way, disagrees and says that it's natural selection. Jacques Monod says that the world is made up of chance and necessity over there. Those terms *chance* and *necessity* are gross abstractions which take away from the concretely narrative dramatic character of the universe we inhabit. You can't really

say that the universe has a meaning to it unless somehow there is a dramatic narrative character about it because it is primarily in story, in narrative, that we pick up any sense of meaning. So there is something deeply theologically fascinating about irreversible temporality. It goes nicely with the eschatological thrust of the Bible. In fact there are some people who say it's the biblical view of time that gave us our sense of irreversible time in the first place.

At this same conference celebrating the 40th anniversary of ITEST, Sister Virginia Kampwerth, PHJC, PhD, ITEST board member and friend, paid a tribute to our founder, Father Robert Brungs, SJ who entered eternal life in May, 2006

Fr. Brungs, SJ, was a priest, a scholar, or, as some have called him "a genius." When I think of him I am reminded of a quote from the famous German Writer, Goethe, "First and last, what is demanded of genius is love of truth." I first met Fr. Brungs while I was working on my doctorate at St. Louis University. One evening I attended a lecture he gave on faith and science sponsored by the Campus Ministry department at the university. His talk about the unity of living systems filled me with many questions. I was so intrigued by his description and explanation of the topic that I bought the cassette tape thinking I could learn more by listening to the tape several times.



This intellectual curiosity to probe more deeply the unanswered questions is pretty much the tie that kept us bound over the years until his death. Fr. Brungs served on my doctoral dissertation committee as I worked to explain the role of Catholic higher education in the public forum where decisions would be made about advances in science and technology.

Fr. Brungs' absolute faith in God as the Way, the Truth and the Life was certainly a mantra for his life. It continues to be one for my own life. Through our years of friendship I sensed that this quote by an anonymous author applied very well to him: "Everything is a once-in-a-lifetime experience."

Fr. Brungs had a great love of classical music, particularly Beethoven and Dvorak, evident in the many cassette tapes he played in his office. These symphonies served as a

backdrop for the discussions of the various chapters of my doctoral dissertation. They represented the larger view of the universe that continues to be revealed in our daily lives.

On quite rare occasions Fr. Brungs would enjoy the outdoors. I knew he went fishing with his friend on Wednesday, his proclaimed "day off." Having been raised as a farmer's daughter, fishing was something I just didn't understand. Yet, after years of

discussions—of trying to learn more about scientific and technological discoveries that he referred to in his thinking and praying, - I began to realize how the quietness of fishing would both focus and relax his mind which always seemed to be in "overdrive."

Extending ITEST to Catholic grade schools was a dream that a few of us discussed and planned several years before his death. It is with great joy that the project called Exploring the World, Discovering God became a reality. Now there are educational modules interfacing science and religion for grades Kindergarten through Grade 4.

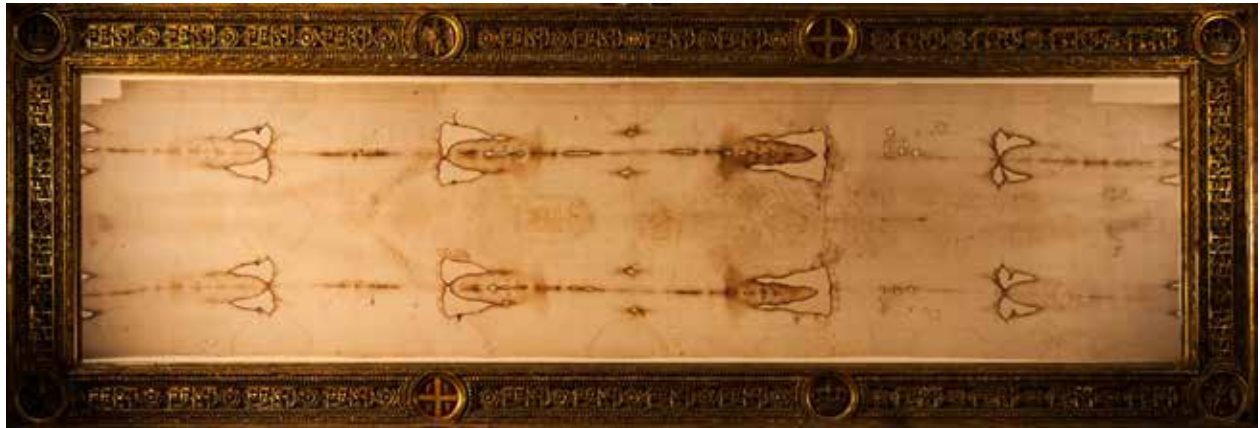
There are many quotes I could cite from Fr. Brungs, but the one I chose for this celebration is very meaningful. "Creation is the thread that binds us to God and God to us. We can't start too early to teach children that God loves them and to let them know that God's creation is the only tool at God's disposal to interrelate with us." [And], "What an adventure we have been given. So much did God love us, indeed, that God felt he must enter into his creation to bring us to union with him."

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