



# Institute For Theological Encounter With Science and Technology

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## Opening Message

On my many forays into the major bookstores around St Louis I've been amused but not particularly surprised by the number of books prominently displayed claiming that God is a hoax. Certain to raise a Christian believer's hackles are titles like: *God: the Failed Hypothesis: How Science Shows that God Does Not Exist* by Victor J. Stenger; *The Atheist's Bible* (does that mean there is only one Atheist in the world?); *The God Delusion* by D. Dawkins; *god is not GREAT: How Religion Poisons Everything* by C. Hitchens; *The End of Faith* by Sam Harris and *Breaking the Spell: Religion As a Natural Phenomenon* by D.C. Dennett. Except for Dennett -- who in this instance targets religion directly instead of God -- each author's stated or implied premise is that God does not exist, never has and never will exist. God is only a figment of the imaginations of those poor benighted creatures (like us) who are one step away from Neanderthal Man.

If these writers don't give credence to a supreme being of some kind, then why the fascination with proving this "No-God"? If God is such a non-entity, why waste ink, paper and disk space to write about God? Methinks the authors protest too much. Could it possibly be that there is a cry deep in the human psyche or the human heart that calls out for something greater than the "me" of my life? If God does not exist why not let that myth and legend die? Yet, this "Christ-myth" has continued to grow and "prosper" for two millennia or more causing consternation in the ranks of these dispensers of earthly wisdom. Leave them to Heaven!

Turning to find the books about belief in God in those same bookstores I searched in vain for something positive on God or religion until I found, hidden in the recesses of the "upper room," a number of books relating to religion, spirituality, theology and philosophy. Among them were, *Jesus of Nazareth* by Pope Benedict XVI; *The Language of God: A Scientist Presents Evidence for Belief* by Francis S. Collins and two by John Polkinghorne: *Quantum Physics and Theology: An Unexpected Kinship* and *Belief in God in an Age of Science*, respectively. Among older "favorites" I found *Mere Christianity* by C.S. Lewis; *The Everlasting Man* by G.K. Chesterton and -- of course -- almost every version or translation of the Bible imaginable.

A quick perusal of the table of contents of this issue shows that there are many respected scientists and writers, past and present, who openly profess their belief in God while at the same time contributing to valuable research in their fields.. Mindless robots? Read the Sheahen review of Francis Collins' book, *The Language of God*; enjoy the article by Jesuit John M. Scott on "Space Age Scientists," marvel at the insight of C.S. Lewis in his reflection on science, and judge for yourself.

The 18<sup>th</sup>-19<sup>th</sup> century German poet, playwright and novelist, Johann Wolfgang Von Goethe, put it succinctly yet powerfully: "The highest happiness of man... is to have probed what is knowable and quietly to revere what is unknowable."

God still reigns, not only in the universe or "multiverses" but most intensely and most importantly in the hearts of all believers.

Acting Director: ITEST

### In This Issue...

Opening Message.....	1
Announcements.....	2
Kyoto and Population Control - Fr. Robert A. Brungs, SJ.....	3
Control - Fr. Robert A. Brungs, SJ.....	5
News .....	7
The Language of God - Reviewed by Thomas P. Sheahen.....	8
What a Visit to the Creation Museum Tells Us About Science and Religion - George G. Polak, PhD.....	10
Ruby Red Laser of Truth - Fr. John M. Scott, SJ.....	12

## Announcements

1. Rejoice again with us! We received good news from Our Sunday Visitor (OSV) Institute in August, a check for the third and final year's funding of our pilot program, *Exploring the World, Discovering God (EWDG)*, science/faith interface educational modules for Kindergarten – 4<sup>th</sup> grade. This grant brings the total contribution from Our Sunday Visitor to \$150,000. for this project.

Project Manager, Evelyn Tucker, has already conducted in-service education at several of the 9 schools chosen for the teaching of the modules -- one near San Antonio, Texas (Our Lady of Perpetual Help School) and one in the St Louis area (St Anthony's, High Ridge). We will publish an article in the winter bulletin detailing the progress of the project and the project manager's reflections on her visits to the schools. She will visit each school again during the 2007-2008 school year to observe the teachers and students in action and will prepare her evaluations and recommendations for the EWDG Advisory Council and the ITEST Board of Directors.

2. You should have received your DVD of *Faith/Science: Conflict or Confluence*, an interview with Father Robert A. Brungs, SJ. If you haven't received a DVD of the interview, please contact ITEST and let us know; we will be happy to mail a disk. Remember, this is a **DVD** (a digital video disk with audio and video). This is **not** a CD and will not work in a CD player. We still have extra copies available for \$15.95 each (postage included). Let us know if you need or want extra copies. The material could be used profitably with parish and home discussion groups. If anyone would like to have a copy of the transcript, I would be happy to provide it for the cost of mailing.

3. Some housekeeping details: Please notify us of any e-mail and street address changes. It simply adds to our cost and time to try to process mail that is marked "Undeliverable" or "Forwarding expired." We really appreciate your attention to this notice. Also, we now have voice mail on the main number 314.792.7220. When you call, you will be able to leave a message.

## In Memoriam

Most Reverend Marion F. Forst,  
(retired bishop) Olathe, Kansas, died June 2, 2007.

We also ask your prayers for ITEST members who are ill.  
May they feel the restoring hand of the Lord.

## ITEST Student Chapter at St. Gregory's University, Oklahoma

We point with pride to the active ITEST student chapter at St. Gregory's University in Shawnee, Oklahoma. Established in 1993 under the capable and energetic leadership of moderator, Sister Marcianna Kappes, CST, the students have held various



l to r: Melissa Pillow, Anna Strange, Sister Marcianna, Morgan LeBoeuf

fundraisers to benefit the local homeless shelter, battered women and children among others and have raised money for their field trips and attendance at ITEST conferences. They meet often for luncheon discussions on topics related to faith/science: embryonic and adult stem cell research, marriage and the family, ethical issues on healthcare relating to the poor, and others. Among the popular activities are the field trips to Landscapes of the Sacred including the Infant Jesus of Prague Shrine in Prague, OK, the Sacred Heart Ruins in Konowa, OK, the Jewish Synagogue, the Buddhist Temple and the Russian Orthodox Church Icons -- all in OK City.

Sister Marcianna through dedicated and untiring efforts has



l to r: Amanda Kelley, Morgan Berry,  
Luke Womack, Anna Lee

brought to fruition one of the late Father Brungs' dreams: a viable, vital group of college students concerned with the issues in the faith/science ministry and mission, willing to expend personal effort and energy to become integrated individuals while at the same time giving of themselves to the church and civic communities.



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## Kyoto and Population Control

Father Robert A. Brungs, SJ

Reprinted from the Winter 1998 issue of the ITEST Bulletin, Volume 29, No. 1

*(Although written during the years of the Clinton administration this article and commentary strikes a familiar note today – the hidden issue, for example, of population control as a prerequisite for averting the “crisis” of global warming portrayed in Al Gore’s film, An Inconvenient Truth.)*

In the 1995 Proceedings on *Population Issues: Cairo, Copenhagen, Beijing*, Dr. Alene Gelbard, one of the essayists for this meeting, made the following remarks (page 104):

The biggest diversity within the population community is between the population control people and those who have done a lot of development assistance. Many here seem to think that everyone in the population community shares the opinion that we have to *control* population growth and to constantly keep in mind the numbers of people on a macro level – on both the international and national levels. People seem to think that all of us want to put resources into programs that will bring down that growth in women’s fertility....

Population stabilization, development and quality of life together are the goal of everyone in the population community. We did agree among ourselves on the means of achieving that goal....The current administration (Clinton administration) said it was very concerned about the environment, about the relation between population and environment....

I personally think that the situation may not be quite so equitable and even-handed as Dr. Gelbard suggested. While not disputing what Dr. Gelbard said about the population community, it seems that in the last year or so the population *control* wing has made significant inroads. The population *control* people have harnessed their wagon to the ongoing campaign against global warming. No matter what we think about global warming – whether or not it is occurring or whether

or not it is or will be as bad as forecast – we must be cognizant of some things.

First, the opponents of the Kyoto treaty have predicted steeply rising costs both for energy and the products produced by manufacturing. Allowing for exaggeration and admitting that we may have to “force” energy saving manufacturing, it can be said that energy will cost more and so too will the products manufactured for consumption. As always, the large corporations will not suffer. They will simply raise their prices. The people who rely on their products will pay the freight

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or do without. The small manufacturers may be put out of business. Anyway, the poor will suffer, the rich may hardly even notice the increase in prices and inflation.

But that is not the only result of the Kyoto treaty – maybe not even the greatest one. Certainly, Vice President Gore speaks for the administration on matters of environment and population. What is he saying these days?

At Kyoto, Vice President Gore urged more flexibility from the U.S. delegation on the “global climate treaty.” In an article in *Insight* (December 29, 1997), Donald Hodel, former Secretary of Energy and of the Interior under Reagan, remarks that the global climate treaty is better viewed as an energy-suppression treaty. I don’t intend to develop the debate on whether or we have a global-warming situation or we do not. This is not particularly the forum for such a debate.

In *The Population Explosion* (1990) Paul Ehrlich redeveloped the arguments in his 1968, *The Population Bomb*. His solutions to the problem are many: among them are such proposals as making government larger, expanding regulations, increasing foreign aid,

*Continues on page 4*

encouraging abortions, restricting family choice, doubling the price of gasoline, and so on. Obviously population *control* is a paramount objective for the Ehrlichs. The quotation most often associated with “the Ehrlich crowd” is: “The cancer of population growth must be cut out or we will breed ourselves into oblivion.”

Vice-President Gore wrote for a book-jacket blurb for “The Population Explosion: “The time for action is due, and past due. The Ehrlichs have written the prescription...” It might be well to read the prescriptions that the Ehrlichs suggest (those listed above and others).

Hodel writes:

At a White House briefing for television weather forecasters Gore, asserting that climate change was a symptom of population growth, suggested that people in poor nations could reduce emission by having fewer children. He cavalierly proposed reducing world population growth by 2 billion to 5 billion human beings during the next two decades. And calling for “the empowerment of women to participate in decisions about childbearing,” he implied that more abortions would help save the Earth.

The administration has yet to explain how its proposed program of tradable emissions permits would work, but Gore’s “family-planning” approach to emissions control suggests interesting possibilities. Since each person, through consumptive activities, generates a certain tonnage of carbon dioxide each year, the United Nations could establish equivalency rations for all “emissions sources,” including individual human beings. Many critics of the climate treaty complain that it leaves China and other developing countries off the hook. But by Gore’s logic, might not China already be in compliance? Hasn’t China amassed vast stores of emissions credits through forced sterilization, coerced abortions and the liquidation of millions of “class enemies?” Gore’s gaffe at the weather briefing – his careless admission that the climate

treaty and population control are two sides of the same agenda – exposes the hopelessly Malthusean mind-set of modern liberalism.

The only point I want to make here is the caution that there is a “natural” connection that could be made between lessening the green-house gases and population control. It’s something that we have to keep in mind. It would seem that Dr. Gelbard’s statement could lead to an overly-sanguine feeling about population.

Certainly, the Kyoto treaty can be seen as an energy-suppression treaty. Growth and development practices have relied on an increasing availability of reasonably cheap energy. That could all be changed now.

The Jewish and Christian God is not a “nature god” and our faith is not subject merely to the rhythms of natural forces. It seems to me that we are both transcendent and

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immanent. In some ways we can affect the course of nature and our ability to do so is seemingly increasing. We are not merely subject to planetary forces. We must live within them; we cannot annul them; we can indeed also affect them. We are creatures who have come to serve God in freedom and it really does us no good to resubmit ourselves to slavery to “the gods of the air,” as St. Paul says. Nor should we submit ourselves to the doomsayers who promote population control in the guise of ecological concern. They may be deeply concerned by such things as global warming (if it exists), the ozone hole (if it is not natural), resource exhaustion and so on. The answer to those concerns is not killing people, either inside or outside the womb.

I remain an optimist. God cannot be so parsimonious that he does not provide each and every one of us with the things we need to come to him. We humans can mess up the distribution part, we cannot alter the fact of his generous love.

## Control

Father Robert A. Brungs, SJ

*We reprint this speculative, thought piece, written in June, 1999, as a companion to the article on the Kyoto protocol written in 1998. Undoubtedly the question of control is present at every stage of our lives, and extends to many issues we confront daily, among them, environmental, social, economic, and technological issues. Here the author focuses on the control we exert in the scientific enterprise, particularly in human genetics: therapy and enhancement. Is the betterment or bettering of the human being in the plan of salvation won for us by Christ's death and resurrection? Is this part of being faithful to the Lord of History?*

Control over the advances in the life sciences! Control over the food supply for good or ill! Control over human procreation! (Actually this is control over reproduction because we don't speak any more about procreation!) Control over disease! Control over the environment! Control, control, control! What are we to make of all this? Good or bad? Appropriate?

All human beings seek to control their environment. This may be the first conscious act we make. If not the

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first, it is not very far behind. From our very first cry we are trying to insert ourselves into the world – to make it notice our appearance on the scene. It seems we are born trying to manipulate the world, first our mother and father and then others, to take note of our existence and to make room for us. Growing up should be an exercise in increasing our control as we mature and at the same time taming our rampant egocentricity. Both, let it be noted, are attempts at gaining more and more control'

When things are radically out of our control we literally do not know what to do. Our coping with

trial, tribulations and/or disasters represents our effort to regain control over whatever it is that impinges on us. The scientific enterprise, whether practiced as an individual or as part of a group is essentially directed to extending personal or human control over his or her environment, over nature, over each other. It is useless not to attempt to control the world. It is vain not to attempt to technologize. It is impossible to do so. In a sense it is vain to attempt not to influence nature.

One of the rallying cries of a part of the environmental group is "not to leave footprints" in the sands of time. The earth should not notice that we were ever in it. That would be the ideal. But would it? How about the artists? The builders? Leaving no footprints is neither possible nor Christian. In fact, it is directly antithetical to Christian reality. To move through life without seeking to control it (appropriately) would be to deny our gifts and talents. It would be grace-less. It would not be historically significant. Christians must be historically significant. That does not mean that we have to be portrayed in the history books. It may mean just the opposite these days. But it does mean rather that we seek salvation in Christ Jesus; that search is historical.

What indeed does all this have to do with the genome – whether plant, animal or human? We should remember that all the work on the genome is part of our search for control. We are trying at best, to control those deleterious aspects of the world, those caused by "pests," the weather, bacterial or viral infection, old age, and so on. We want to be able to control those processes by which we get ill or die. Genome research is part of that effort. But is there more? Don't we chafe at the limitations of our existence? Wouldn't we like, at least looking forward to live another fifty or sixty or a hundred healthy years? What is we can do so genetically – or any other way? Will we as a people "go for that"? You better believe we will. How would you like to write the advertising for a healthy span of two hundred years? I don't think it would be a very hard sell.

*Continues on page 6*

But we shouldn't write off any of this effort simply because it seeks control, even control with an eye to personal, corporate, national profit. Yes, control of market forces is also something to be sought – at least by corporations. In our present world *profit* is a “good word.” In fact, culturally it may be one of the best words. In the Gospels, even, the Lord mentions profit without decrying it. In fact, he seems to praise the

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industriousness that works toward profit. Remember the parable of the talents. That is still “in force.”

But control can also have its own downside. Like all human affairs, control may be good or bad, moral or immoral, alluring or terrifying. The decision then, may come down to the matter of a judgment of “whose ox is being gored.” Is there a better criterion for judgment? I would think so. Let me essay one possible line of reasoning. It may not be adequate to the future; it may not be correct; it may even be heretical. But let's try it on for fit.

Let us presuppose that we must assume some control over nature, and, therefore, over the genome. That is “growing up” scientifically – which we must do to be faithful to the Lord. There is nothing sacred (using that word in a strict way) about nature or about things the way we find them. What consecrates them to the Lord is our proper use of the things of the earth. But what is the proper use? Is it only therapy that is proper – using them to return things to the way we think they ought to be? Eliminating diseases or things we look upon as diseases? Does it or doesn't it seem proper that we use these new technologies in reproductive (that word again) cells? Does it or doesn't it properly include the enhancement of our genetic inheritance, or what we think of as enhancement? Even to blue eyes?

Please note that the above is merely speculation. It is true that I am haunted by the thought that somehow or other our final ascent into the Kingdom is tied to

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genetics. But, again, the position is merely my own speculation. In not too many years I'll know for sure – one way or another. Here I offer it only as something we might think about. It can easily be the subject of further contemplation and even prayer.

Our judgment must finally come back to judging what control we are to exercise. It must take account of as much as possible, both the scientific/technological discovery and our faith understanding. We do know that the control we must exercise should not be confined by a nonhistorical perspective. It must look on both the creation and the human as growing entities. It must subscribe to an evolutionary – but not a Darwinian – history. It cannot be materialistic, which is essentially saying the same thing. It cannot be an individualistic one in the sense of individualism which says “I am master of all I survey.” It must be historical because salvation history is historical. It is in terms of the judgment needed to guide all this work that moral theology is needed. But it cannot rely on what is static or abstract. It has to concern itself with Christ, not “laws.” “Laws” may be stated and used, but they cannot ground an adequate morality. The only adequate ground is Christ, and He is master of surprise. It behooves us to expect surprise in the future. We would be amazed without it.

Finally, if our judgment is to be true it must be rooted in Christ. Christ is “in the beginning” and “in the end.” He is the alpha and the omega. “There is only Christ. He is everything, He is in everything.”

## KUDOS to two ITEST members who have published recently in professional publications:

**Fr. Brian Van Hove, SJ**, has three articles in the *Encyclopedia of Catholic Social Thought, Social Science and Social Policy. Vols I & II*. (The Scarecrow Press, Lanham, MD; Toronto; Plymouth, UK., 2007)

One of them is entitled, “Robert A. Brungs, SJ and ITEST.” It appears on pages 107-108 in volume I of the encyclopedia. Fr. Robert Brungs, SJ, is in good company since his name falls alphabetically between Orestes Brownson, a controversial 19<sup>th</sup> century author and convert to Catholicism and William F. Buckley, Jr, American author and journalist.

Van Hove writes of the humble beginnings of ITEST. Two people -- a chemist and a Jesuit priest -- saw the need for the church to be concerned with “the meaning of scientific and technological advance as it relates to the Christian understanding of the human person and creation.” Growing from a small group in 1968 to a sizable number in a short time, the institute emphasizes the faith/science mission especially as it relates today to the developments in the life sciences.

Fr. Brian Van Hove, SJ, earned a PhD in church history in 1999 from The Catholic University of America and is a member of the staff at the White House Retreat in St Louis.

**Sebastian Mahfood, PhD**, contributed an article to *Theological Education, Vol. 42, No. 2, 2007* entitled, “Taking Control of Your Future: Kenrick-Glennon Seminary in St. Louis, Missouri. (pp. 79-89). This particular issue focuses on Technology, Teaching and Learning: Reports from the Field. We include here excerpts from the abstract for those who might wish to read the entire article.

(Funded by a Lilly grant) “...The success of Kenrick’s initiative lies neither in its installation of hardware nor in its proliferation of software, but in its emphasis on community-wide training on the use of appropriate technologies as extensions of both the faculty and the students in the teaching and learning environment. By training the students to be producers as well as consumers of their course content, Kenrick set in motion a pedagogical shift from transmissive to transactive teaching within its curriculum and began a journey toward a more integrated formation program...”

Sebastian Mahfood is associate professor of intercultural studies at Kenrick-Glennon Seminary in St Louis, Missouri. He holds a PhD in postcolonial literature from St Louis University. Mahfood also serves as coordinator of instructional technology and coordinator of the Global Vision Initiative.

## Christian Apologetics

C.S. Lewis

While we are on the subject of science, let me digress for a moment. I believe that any Christian who is qualified to write a good popular book on any science may do much more by that than by any directly apologetic work. The difficulty we are up against is this. We can make people (often) attend to the Christian point of view for half an hour or so; but the moment they have gone away from our lecture or laid down our article, they are plunged back into a world where the opposite position is taken for granted. As long as that situation exists, widespread success is simply impossible. We must attack the enemy’s line of communication. What we want is not more little books about Christianity, but more little books by Christians on other subjects – with their Christianity *latent*. You can see this most easily if you look at it the other way around. Our faith is not very likely to be shaken by any book on Hinduism. But if, whenever we read an elementary book on Geology, Botany, Politics, or Astronomy, we found that its implications were Hindu, that would shake us. It is not the books written in direct defense of materialism that make the modern man a materialist: it is the materialistic assumptions in all the other books. In the same way, it is not books on Christianity that will really trouble him. But he would be troubled if, whenever he wanted a cheap popular introduction to some science, the best work on the market was always by a Christian. The first step to the reconversion of this country (here, England) is a series, produced by Christians, which can beat the *Penguin* and the *Thinkers Library* on their own ground. Its Christianity would have to be latent, not explicit; and *of course* its science perfectly honest. Science *twisted* in the interests of apologetics would be sin and folly.

*From a lecture given to an assembly of Anglican priests and youth leaders at the Church in Wales at Carmarthen during Easter, 1945, published in The Grand Miracle by C.S. Lewis, ed. Walter Hooper, New York: Ballantine Books, 1970, pp. 66 – 67.*

## The Language of God

by Francis S. Collins

Free Press (Simon & Schuster) 2006; 283 pp.

Reviewed by Thomas P. Sheahen

A fair number of scientists who believe in God have found their way to that position via the writings of C.S. Lewis. Dr. Francis Collins, M.D., director of the Human Genome Coding Project at the National Institutes of Health, has provided us a splendid testimony of such a pathway in this eminently readable and engaging book. The book is not only autobiographical about Collins' journey into faith, but also explains very well a number of issues pertaining to DNA. Most of all, *The Language of God* gives a very clear exposition of why believing in God and being committed to science are fully compatible.

In one succinct phrase: "The God of the Bible is also the God of the genome."

Since Collins is a high level expert on DNA and its role in human development over history, it is no surprise that he fully supports the theory of evolution, and he presents very convincing arguments for its validity. What may surprise some is that Collins is a member of the Evangelical community, a branch of Christianity widely presumed to hold to a "Creationist" position. Collins shows with remarkable clarity why a believer

in God should feel comfortable with evolution, which is God's very elegant means of carrying out creation. At times in the book he speaks directly to the Evangelical community, urging them to perceive the same harmony between religion and science that he sees.

The first part of the book is autobiographical, and tells how Collins initially believed science and religion were opposed, but gradually overcame the simplistic viewpoint of polarization. Recognizing that there *is* such a thing as moral law was the key to his transition. The influence of C.S. Lewis is clearly acknowledged. Once Collins realized that faith and science could be compatible, he was in an excellent position to point out the errors in the outlook of the scientific materialists.

Drawing upon his exceptionally deep schooling in the physical sciences as well as the life sciences and DNA, in part 2 Collins lays out a very clear and well-written exposition of how the universe was created, and how life on this planet developed to its present state. The composite picture makes such good sense that the reader can readily agree with each consecutive piece. (The book title derives from DNA being called "the language of God.") The way that genes align along

**Dr. Thomas Sheahen, PhD**  
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Dr. Thomas Sheahen attended M.I.T. and received BS (1962) and PhD (1966) degrees in physics. He is a registered Professional Engineer in Maryland. His professional career in research includes time with AT&T Bell Labs, the National Bureau of Standards, U.S. Department of Energy, Argonne National Lab, and most recently National Renewable Energy Lab; he has worked in the private sector as well, and has his own independent consulting firm. His work has been primarily in energy sciences, especially about ways to use energy efficiently. Dr. Sheahen is the author of the textbook Introduction to High Temperature Superconductivity. He has also taught physics at both the college level and in high school. With Fr. Ernie Spittler, SJ, he co-taught "Issues in Religion and Science" at John Carroll University in 1999. Sheahen currently serves as Vice-Director of ITEST.

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the DNA strand provides compelling evidence for the connectedness of consecutive species, including humans.

By the halfway point of the book, it is clear that Collins perceives the *unity* of God's creative power at work. That perception brings with it a sense of awe, and a determination to find the harmony between the different ways to seek a path toward God, including both science and religion.

*Continues on page 9*



Part 3 treats a series of distorted views about God's unity of creation. In recounting the Galileo fiasco, Collins traces the problem to the fixed position about interpreting scripture that prevailed at the time; he concludes with a substantial quotation from St. Augustine warning against exactly that mistake. (Sadly, Augustine had been forgotten by the 1600s.)

Collins' treatment of atheism is particularly clear to the scientific reader, who is attentive to the allegedly "scientific" arguments for atheism promoted by Richard Dawkins and others; Collins quotes Steven

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to explain why evolution cannot be  
used to support atheism.***

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Jay Gould to explain why evolution *cannot* be used to support atheism. Creationism is an equally faulty outlook; Collins displays how it leads to a picture of God as a "great deceiver," a "cosmic trickster," and here he begs his Evangelical colleagues to forego creationism:

"...you are right to hold fast to the truths of the Bible; you are right to hold fast to the conclusion that science offers no answers to the most pressing questions of human existence; and you are right to hold fast to the certainty that the claims of atheistic materialism must be steadfastly resisted. But those battles cannot be won by attaching your position to a flawed foundation. To continue to do so offers the opportunity for the opponents of faith (and there are many) to win a long series of easy victories."

Unlike nearly every other proponent of evolution, Collins gives a fair hearing to Intelligent Design Theory. He sets aside the shrill extremists on both sides, and presents the basic propositions of ID with clarity, as well as William Dembski's very specific criterion for falsification. Collins concludes that ID is incorrect, on both scientific and theological grounds, and warns that it risks falling into the "god of the gaps" trap; but he concludes the chapter by firmly rejecting the familiar Dawkins quote about "blind pitiless indifference."

Collins then presents his own personal views on religion and science. His preference is for "Theistic Evolution," and he states its six basic premises.

However, he considers that a clumsy term, and coins the word *BioLogos* instead. The key argument that Collins makes most strongly is that there is no real conflict between religion and science, and it would be a mistake to think that acceptance of one demands rejection of the other. "[Theistic evolution] is intellectually rigorous, it provides answers to many otherwise puzzling questions, and it allows science and faith to fortify each other ..."

In his final chapter, Collins comes full circle with an example from his medical career, and gives his personal testimony about choosing Christianity. The words of C.S. Lewis are particularly influential here. The reader has gotten to know the man Francis Collins for 200+ pages, so when he speaks directly to us, his words are those of a friend. He urges each of us to find our own path, and invites us to derive guidance from his path. Collins exhorts both believers and scientists "... to call a truce in the escalating war between science and spirit."

An appendix about bioethics and morality in medicine is made more persuasive by the rapport he has established with the reader throughout the book. As medical advances occur, this will likely be revised in future editions.

This book is suitable for a very broad range of readers. The science presented is not at all difficult to follow. Collins wisely chose to avoid going into the fine details of biology and DNA. (For example, he never spells out the names of the base pairs.) The reader who is already comfortable with both science and religion will be reassured by this book.

The more important audience, however, is the questioner who enters with the fear that science may pose a threat to his/her religion. After all, the popular media is constantly casting their relationship as warfare. That reader will benefit the most from reading *The Language of God*. Collins' arguments for the compatible merging of faith and science are easy to follow and very convincing.

Francis Collins follows in the tradition of St. Augustine, who said "The book of Scripture and the book of nature were both written by the same Author, and cannot be in conflict." By standing at the very forefront of science, Collins has been able to see better than most of us that evolution is God's method of creating. His comfort level comes through very clearly, and he sends the reader onward with a new confidence that there is nothing to fear from studying God's creation.

## What a Visit to the Creation Museum Tells Us About Science and Religion

George G. Polak, PhD

I stood there gazing at a simulated wrecking ball labeled “Millions of Years.” Frozen in time, it was poised for another strike at the hapless “Community Church” whose brick wall and stained glass windows were starting to fracture. The crumbling church stood along a garbage-strewn and graffiti-covered alleyway in an exhibit of social ills labeled “Culture in Crisis,” reminiscent of Pottersville in the movie “It’s a Wonderful Life.” Viewed by itself, this exhibit might seem like a complete riddle. Viewed alongside the surrounding exhibits, however, its meaning emerged clearly.

At the Creation Museum in Petersburg, Kentucky, it’s a Young Earth, only 6,000 years in the making. Ken Ham, founder of the museum and president of the Answers in Genesis (AiG) Ministry, wants to convince museum goers of this, and of the fundamental importance of this belief. Give up a literal account of creation from Genesis, AiG argues, and you give up the authority of the scriptures. In that case, brace yourself to reap the whirlwind.

I had arrived after a 30 minute drive from suburban Cincinnati to find cars overflowing the parking lots onto the lawn, with license plates from Connecticut to Montana and many states in between. On this warm summer day, the wait for admission was one hour, made somewhat pleasant by the view of carefully landscaped gardens and waterfalls on a hillside within the museum grounds across the way, and of graceful footbridges crossing a small lake in between.

Once inside, museum goers pay an admission charge (\$20 per adult, \$10 per child) and are greeted by exhibits depicting hypothesized lush landscapes of

the early earth, where humans happily co-existed with dinosaurs, and lions with lambs. But the mood quickly darkens as they walk through a “Cave of Sorrows” and observe displays depicting the devastating consequences of Original Sin: a nature “red in tooth and claw” full of poisons and bloodshed, and humanity become murderous and cruel.

Further sequences of exhibits systematically cast doubts on the prevailing scientific view of a universe that began with the Big Bang some 14 billion years ago, and an earth that formed about 4.6 billion years ago. The reasoning goes like this: if a synthetic sapphire can be manufactured by humans in several hours, why must it take millions of years in nature? And if the Mt. St. Helens eruption could carve out canyons in a few months, why couldn’t the Great Flood have carved out the Grand Canyon in a similar period of time? Who says it took millions of years to do that?

The Great Flood, it turns out, plays a central role in Creation Science. The processes at work after the “all the fountains of the great abyss burst forth, and the floodgates of the sky were opened” (Gn 7:11) were fundamentally different from what we observe in nature today, they maintain. Therefore the museum builders made a monumental effort to portray Noah, the Ark, and the Flood, using animatronics and multiple media. A diorama even shows a juvenile dinosaur walking down a plank to board the Ark.

In terms of life on earth, Evolutionary Biology is summarily dismissed as “myth.” God created all animal kinds at once, and the diversity of species comes from genetic variety in the original pair. (A “kind” is a more fundamental classification than a “species” here.) Mainstream scientists have come to erroneous conclusions such as evolution because they follow mere human reasoning. Young Earth researchers, by contrast, follow the Word of God.

God created the earth along with galaxies and all life in six 24-hour days in the year 4004 BC, museum goers are told. The date of 4004 BC comes from Bishop

### George G. Polak, PhD

George G. Polak holds a PhD in Mathematics from Carnegie Mellon University, and is currently an associate professor in the Department of Information Systems and Operations Management at Wright State University in Dayton, Ohio. Dr. Polak is also active in the Cosmos & Creation conference group based at Loyola in Maryland.

*Continues on page 11*

Ussher's Biblical chronology, but how do we know that these days were 24 hours in length, even though this is not explicitly stated in Genesis? Ken Ham has explained in an interview with Beliefnet.com that among the several possible meanings for the word for "day" in Hebrew, the scriptural context that included ordinal numbering and references to "morning" and "evening" clearly points to a temporal day rather than to some figure of speech.

But isn't Ham engaging here in "human reasoning" himself? In reading Genesis as a science textbook, he all too easily falls into this kind of logical trap, and any serious approach to science by AiG quickly founders. More than that, though, Ham is trading poetry for text, treasures for a figurative bowl of lentil stew. Meanwhile, the poetry of scripture shines through in a brief video presentation of the creation account from Chapter 1 of Genesis, right there in one of the museum exhibits. The viewer experiences enchantment, not a recitation of facts! There is beauty in that poetry, and the beauty holds real truth. Ham should take note.

In any case, for scientists the most important exhibit may well be the attendance itself. There are big families with many children and teens, everywhere you look. It's a Young Earth indeed at the Creation Museum. The Dragon Hall Bookstore caters to home schoolers, and animatronic dinosaurs captivate their imaginations. Moreover, these kids are well-behaved (dare I even use that term?) and seem happy. I didn't see smirks, or bad attitudes on display, or brand names plastered across gym-short seats.

And then consider this interesting phenomenon: Ken Ham has made no bones about the differences between AiG and the Catholic Church.

As with the Wrecking Ball exhibit, what seems to be a riddle when viewed in isolation makes sense when viewed within its environment and context. The young professionals seem to see Ken Ham in the same light as someone who fights to keep nativity scenes in the public squares at Christmas, even though they don't accept his literal interpretation of scripture. As for the overflowing familial attendance, I am not the first to observe that, while the Bible is not a science textbook,

science cannot replace a single book in the Bible nor

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***I am not the first to observe that, while the Bible is not a science textbook, science cannot replace a single book in the Bible nor displace a single Judeo-Christian tradition.***

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displace a single Judeo-Christian tradition. Looking for life's answers in science can no doubt be a much bigger mistake than looking for scientific answers in Genesis. For this past Father's Day, for example, an anthropologist co-authored an article in Time Magazine fatuously suggesting that human fathers measure themselves against a standard of fatherhood provided by "our primate kin," the titi monkey, and dismissed the nuclear family as a "politicized notion."

Much worse still is the loathsome child-hating ideology of the "bioethicist" Peter Singer. A chaired professor at Princeton, which was once home to Einstein, Singer is a "non-speciesist" who thinks humans are no more important than chipmunks or cockroaches. In his book Practical Ethics, he wrote that "The wrongness of killing a being cannot depend on its species" and "The only difference between killing a normal infant and a defective one is the attitude of the parents." More recently he has championed what he calls the "Darwinian Left," that is, a left wing adaptation of social Darwinism.

The bottom line is that Institutional Science as we know it will not survive by keeping such bad company. It is losing the hearts and minds of people, and some day society may perceive Institutional Science as a mortal threat and pull the plug. (Engineering will be spared for practical purposes.) Chesterton might have said that Institutional Science will only survive to the extent that it comes to friendly terms with mainstream Christianity, and specifically, with the Catholic Church.

The Church, after all, was a nurturing mother to the system of universities that fostered the study of Science. Now the Church must watch and hope for the return of her prodigal son.

## Ruby Red Laser of Truth

Fr. John M. Scott, SJ

*Among the many books, and various printed material Father Brungs collected or amassed over his tenure at ITEST until his death in May, 2006, is a little gem of a pamphlet, **Space Age Scientists Speak Out on Religion** written in 1970 by Father John M. Scott, SJ of the Wisconsin Province of Jesuits. Turning the flyleaf, while deciding whether it was a keeper or not, I noticed that the author had autographed the book with best wishes and sent it himself to Father Brungs in 1997. A bit more research revealed that Scott, now in his nineties, resides at the infirmary of Saint Camillus in Wauwatosa, Wisconsin. During his active life, he taught at Creighton University and has written prolifically on science and religion.*

In his short introduction to this slim 62 page volume, Scott explains that his inspiration arose from his study of the lives and writings of the great scientists and space explorers of our time who evinced "... an unwavering, constantly strengthened conviction that religion and science are not incompatible but that they belong together."

"Many people today," he writes, "seem to assume that mystery is to be encountered only in things of faith, while the world around them is an open book." "Rather," he continues, "people would find the mysteries of faith easier to accept if only they would stop to realize that in our everyday world untold mysteries swirl around us on all sides."

The publisher notes, "...this booklet stresses the need to acknowledge a loving Creator behind all the mysterious, marvelous creation. Science and religion (in the words of Dr. Charles Townes) 'both represent man's efforts to understand his universe...As we understand more in each realm, the two must grow together.'"

*Innumerable sci/tech advances and discoveries have been made in science and technology since Scott wrote this book, but the editors found a remarkable "timeliness" in the various chapters. We are printing with permission from the Franciscan Publishers in Pulaski, Wisconsin the first chapter entitled, "Ruby Red Laser of Truth." You may read this with a 21<sup>st</sup> century digitally oriented mind yet understand it with a 20<sup>th</sup> century analogically oriented heart.*

### Ruby Red Laser of Truth

My pulse pounded with excitement like royal Watusi drums. I was standing in a darkened room in a research lab. In front of me a long glass tube glowed like a pink neon sign.

A scientist pressed the firing button. A small, dazzling beam of brilliant red radiation leaped across the room like a pistol shot to hit a piece of steel the thickness of a quarter.

Sparks leaped from the steel like tiny Roman candles lancing the midnight of a 4<sup>th</sup> of July. The ruby red laser had pierced the steel with a blast of light.

The laser is more than a concentrated beam of light that can zap a hole in a piece of steel. Bell Labs suggests that the laser may be significant in more areas of science and technology than any other advance of the 20<sup>th</sup> century.

The laser has already been used to weld detached retinas inside the human eye, without surgery. In Cincinnati, Dr. Leon Goldman experimented with the laser to burn away certain tumors and blemishes from the skin.

The first laser beam to leap from earth to moon was ruby red. In early 1968, the bright blue-green beam from an argon laser punched a hole in the night sky over Kitt Peak observatory, Arizona, and raced out to the moon, 250,000 miles distant. Five feet in diameter as it left the

*Continues on page 13*

telescope, the beam had spread out to a diameter of about three miles when it hit the moon – very little considering the distance.

Some experts predict that the laser's most important contribution will be in the field of communications. One laser beam, vibrating a billion times faster than ordinary radio waves, could carry all the radio, TV and telephone messages of the world simultaneously. In just a fraction of a second, for example, one laser beam could transmit the entire text of the Encyclopedia Britannica. (*Almost unbelievable at the time, eds.*)

One enthusiastic expert even goes so far as to predict that within the next 35 years you will be watching TV programs carried on your own personal laser beam – and using it for your telephone and telegraph messages. Even your daily newspaper will be printed out on your home receiver straight from a far-away source. All this will be possible because these narrow light beams have a communication-carrying capacity millions of times greater than that of any communication system today. (1970)

### *The Light Fantastic*

Laser is called the light fantastic which may create our next billion-dollar industry.

No less interesting is the story behind the man who is responsible for the laser, and his remarks on the relation of science and religion.

It may seem strange, but the idea that led eventually to the laser came to Dr. Charles H. Townes several years ago while he was sitting on a park bench admiring some azaleas in Washington, D.C. His original idea was based on radio waves instead of light waves. Although many people told Dr. Townes the idea wouldn't work, he and his associates built a device based on his new principle.

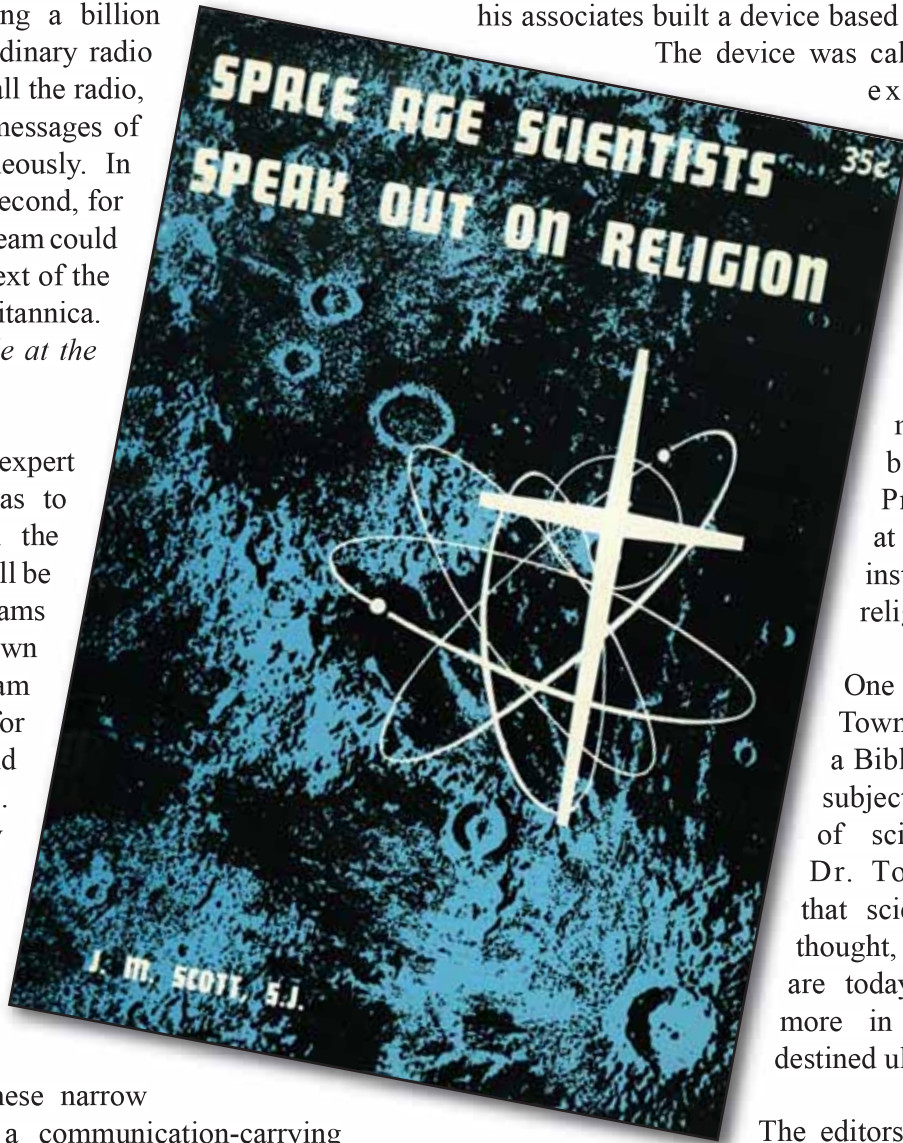
The device was called a maser. Further experiments led to substituting light waves for radio waves, and the laser was built.

Dr. Charles H. Townes (born, 1915) is an active church member. Besides being Provost and Professor of Physics at MIT, he finds time to instruct young people in religion.

One Sunday morning Dr. Townes was talking with a Bible class on radio. The subject was the relationship of science and religion. Dr. Townes was urging that scientific and religious thought, far from conflicting, are today finding more and more in common, and are destined ultimately to merge.

The editors of *Think* magazine, published by IBM, were so intrigued by Dr. Townes's ideas, they asked him to develop his thoughts into an article. He was rewriting his article when word came from Stockholm (1964) that he had been awarded a Nobel Prize for his work in developing the maser.

Dr. Townes's article, "The Convergence of Science and Religion," appeared in the March-April 1966 issue of *Think*. The article is so important so powerful, so timely,



*Continues on page 14*

that I wrote to the editor of *Think* for permission to quote from its superb thoughts. It is with sincere gratitude, therefore, I acknowledge my thanks both to the editor of *Think* and to Dr. Townes.

### ***Both Very Similar***

“To me,” says Dr. Townes, “science and religion are both universal and basically very similar. In fact, to make the argument clear, I should like to adopt the rather extreme point of view that their differences are largely superficial, and that the two become almost indistinguishable if we look at the real nature of each.”

Dr. Townes then goes on to show how the attitude of science has changed from 19<sup>th</sup> century materialism to today when “faith is necessary to men of both science and religion.”

The following is a most interesting observation by Dr. Townes: “If we compare how great scientific ideas arrive, they look remarkably like religious revelation viewed in a non-mystical way. Scientific knowledge, in the popular mind, comes by logical deductions, or by the accumulation of data which is analyzed by established methods in order to draw generalizations called laws. But such a description of scientific discovery is a travesty on the real thing. Most of the important discoveries come about very differently, and are much more closely akin to revelation. The great scientific discoveries, the real leaps, do not usually come from the so-called ‘scientific method’ but by revelations which are just as real.”

Here, now, are words of Charles Townes that ring like a bugle: “Finally, if science and religion are so broadly similar, and not arbitrarily limited in their domain, they should at some time clearly converge.

“I believe this confluence is inevitable. As we understand more in each realm, the two must grow together.” The goal of science,” says Dr. Townes, “is to discover the order in the universe and to understand through it the things we sense around us, and even man himself. This order we express as scientific principles or laws, striving to state them in the simplest and yet most inclusive ways.”

What, then, is the goal of religion? According to Dr. Townes, it is “an understanding (and hence acceptance) of the PURPOSE, and MEANING of our universe, and how WE FIT INTO IT.” In short – science shows that there is ORDER in the universe. Religion shows that there is PURPOSE. There is a God behind it all.

“Understanding the ORDER in the universe,” says Charles Townes, “and understanding the PURPOSE in the universe are not identical, but they are also not very far apart. It is interesting that the Japanese word for physics is *butsuri*, which translated means simply “the reasons for things. Thus we readily and inevitably link closely together the NATURE and the PURPOSE of our universe.”

### ***Fundamental Experiences***

The concluding words of Dr. Townes deserve to be written in bronze, “We must use our best wisdom and instincts, the evidence of history and wisdom of the ages, the experience and revelations of our friends, saints and heroes in order to get as close as possible to truth and meaning. Furthermore, we must be willing to live and act on our conclusions.”

Michael Faraday is credited with being the greatest experimental scientist who ever lived. Faraday looked upon his pursuit of science as essentially a search for God. “These,” he once said of the physical laws, “are the glimmerings we have of the second causes by which the one Great Cause works his wonders and governs the earth. The book of nature, which we have read is written by the finger of God. He has set His testimony (like a rainbow) in the Heavens.”

### ***The Discovery of God***

Father Teilhard de Chardin, an outstanding scientist in the field of paleontology, said this about science: “Perhaps we shall end by perceiving that the great object unconsciously pursued by science is nothing else than the discovery of God.”

Nobel Prize winner Arthur Compton told the students of Cornell University that science now has much to

*Continues on page 15*

say about God. "Science," said Compton, "can have no quarrel with a religion which postulates a God to whom men are His children."

That great American physicist, Robert A. Millikan, was cited by *Time* magazine for his piety. Millikan said that "Science has made a great contribution to religion, for the recent discoveries of physicists have taught us a wholesome lesson in humility, wonder and joy in the face of the yet incomprehensible universe."

Another outstanding scientist cited by *Time* magazine for his religious outlook was Sir Arthur Stanley Eddington, who said, "Materialism and determinism, those household gods of nineteenth-century science, which believed that the world could be explained in mechanical or biological conceptions as a well-run machine, each cog of which moved in relation to other cogs, must be discarded by modern science."

### ***The Story of Creation***

One of the most outstanding astronomers of the world, Sir James Jeans, declared: "The whole story of creation can be told with perfect accuracy and completeness in six words: 'God said: "Let there be Light."'"

Holding top rank among scientists of our times is Leo Szilard. In fact, he was chosen to serve as a symbol of modern science, its curiosity and its morality. Szilard was co-inventor with the late Enrico Fermi of a chain-reaction for releasing atomic energy, and has investigated the deepest mysteries in at least half a dozen fields. His imagination proved so prolific he has been called the Jules Verne of science. When asked, "What value do ethics have for a scientist?" Leo Szilard replied, "A scientist must have certain qualities to be creative and the moral qualities are very important."

### ***For those who love the Lord***

In a radio broadcast to the nation, Dr. George S. Sperti, Director of the Institutum Divi Thomae, founded some years ago by the late Archbishop of Cincinnati, pointed out that many of the most capable scientists in our free world believe firmly in God, and welcome the opportunity to express their belief publicly.

In the December, 1967 issue of *Physics Today*, Dr. Martin P. Jaggi reminds us that "Bernhard Riemann ranks among the most important mathematicians and theoretical physicists of the 19<sup>th</sup> century. Although he died at the age of 39, he managed to devote 17 years of his life to the visionary concepts of his work. His areas of interest were varied, and today we know that Riemann anticipated a large part of the research in mathematics and physics of our century." He was a deeply religious scientist whose motto was, "All things serve for the best for those who love the Lord."

### ***The Dead Body and the Living Brain***

"For five hours the brain lived and thought, completely separated from the body. Then, with a single motion, the doctor cut off the blood supply, and Libby was dead. This may be the most extraordinary true story that you have ever read." With these words as an introduction, Oriana Fallaci began a most unusual story in *Look* magazine for November 28, 1967.

Libby was a monkey whose brain was removed from her body "...in order to demonstrate that her brain could live isolated from her body and that, so isolated, it could still think." "A hundred times before, the experiment had ended in failure, and though Professor White became the first man in the entire history of medicine to succeed, the undertaking still bordered on science fiction."

Professor Robert White (*long-time member of ITEST and now retired from medical practice*) directs the Department of Neurosurgery of the Brain Research Laboratories at Cleveland metropolitan General Hospital. The walls of his office are covered with documents that tell of his various appointments since his graduation from Harvard Medical School: the Peter Bent Brigham Hospital, Boston; the Mayo Clinic, Rochester; Western Reserve University, Cleveland, where he now teaches.

### ***"The More I Study the Human Body, the More I Tend Toward the Religious Concept."***

The above sentence was the big headline running across the top of the last page of the article in which Professor White says, "One of the reasons for religion, one of the proofs of God, is the complexity of the biological

*Continues on page 16*

structure. Why does the liver look like it does? Why those couple of lungs? Why is the brain as it is, two identical portions? Some say, well, if you study, you are going to find out that it's all evolutionary, etc. But I am afraid that it is not that simple, and the more I study the human body, the more I reinforce my knowledge of the nervous concept, the more I tend toward the religious concept."

### *Oh God, Thy Sea Is So Great*

A few short years ago I was delighted to learn that one of my former science students graduated with honors at Annapolis Naval Academy, and was assigned as an officer on a nuclear-powered submarine. A few months later I received a letter from Lt. R. Vopelak in which he said, "Our present propulsion plant has now gone 50,000 miles without refueling. Our atmosphere control equipment keeps the air we breathe pure. Only our endurance is the limiting factor as to the length of our operations. Our 16 nuclear-tipped missiles can hit a target 1,500 miles away. I am quite impressed by it all. And yet, any officer's pride in his ship is tempered by the words of caution Admiral Rickover gives to each new commanding officer of a nuclear submarine, "Oh God, Thy sea is so great, and my ship so small."

### *Ideas from God*

Banesh Hoffmann, professor of mathematics at Queens College of the City University of New York, says of Albert Einstein, "He was one of the greatest scientists the world has ever know. I first met Albert Einstein in 1935 at the famous Institute for Advanced Study in Princeton, New Jersey. Although Einstein felt no need for religious ritual and belonged to no formal religious group, he was the most deeply religious man I have known. He once said to me, 'Ideas come from God,' and one could hear the capital "GOD" in the reverence with which he pronounced the word." In his article, "The Convergence of Science and Religion," Charles H. Townes reminds us that according to Einstein, "The world which God has constructed may be very intricate and difficult for us to understand, but it is not arbitrary and illogical."

### *The Most Beautiful Thing*

According to Hoffmann, Einstein had an "extraordinary feeling for beauty." Listen now, as Einstein describes how beauty can lead to God.

The most beautiful thing we can experience is the mysterious. It is the source of all true art and science. He to whom this emotion is a stranger, who can no longer pause to wonder and stand rapt in awe, is as good as dead; his eyes are closed. This insight into the mystery of life has also given rise to religion. To know that what is impenetrable to us really exists, manifesting itself as the HIGHEST WISDOM and THE MOST RADIANT BEAUTY which our dull faculties can comprehend only in their most primitive forms -- this knowledge, this feeling, is at the center of true religiousness."

### *Wonder – The Basis of Worship*

It is interesting to note that the words of Albert Einstein are echoed in a book by Father Bernard Basset, SJ: "In my childhood, perhaps in yours, God was a real and vibrant person, ever present, speaking to me from many a burning bush. If wonder, as Carlyle thought, is indeed the basis of worship, then it is easy to grasp why children pray. As we grow older, the sense of wonder shrivels and God turns into a concept, readily accepted but far less urgent than the chores and pleasures of the current week.

"The Puzzle lies, for me, in this, that some great men of the past were able to retain their vision because they preserved the sense of wonder throughout their lives. Thus, Francis of Assisi came close to God through animals and nature; Thomas More found God in the colours of a peacock feather. Teresa of Avila was absorbed in silk worms, Francis de Sales with bees. Augustine saw the approach of God through light and food and flowers and the sun. Many another great poet and philosopher has sought and found the same dimension that men have lost. Without this added dimension, religion itself seems deadly, as cold as the two stone tablets of the Law."

Lord Kelvin, one of the outstanding scientists of the world, made this dramatic statement: "If you think strongly enough, you will be forced by science to believe in God."