



In this issue of the Bulletin, we reprint a portion of the discussion held in the Alban Hills at Villa Cavalletti in 1972. This is presented for its historical value -- the state of the question as it was then seen. It does not seem to me to be the state of the question now. But perhaps this is simply due to my own perception which has grown over the last decade or so.

What is the role of theology in the explication and defense of the faith? Theology helps to define the questions facing the faith in any given time or place. It also has the task of presenting the truth of faith as best we can -- without altering it. Often that is not an enviable task, especially in time of great secular progress.

The Faith is beset on most fronts with a science that is meant by many of its most active promoters to be a secularizing "solvent" of the faith of Christianity. Walter Lippmann, more than seventy years ago, often referred to the "acids of modernity." The "conflict," assumed to exist by most scientists today, is one of those acids. It is not really a "conflict between science and faith." It is a clash between a scientifically-derived worldview and a faith-based view of cosmic reality. The "other side" is neither science nor scientist. It is those who extrapolate a view of all reality from scientific result. The end result of all their speculation is really a philosophy of "scientific materialism," heavily dependent on the notion that there is no true knowledge beyond that derived from science. Scientific growth or scientific "progress" is by definition definitive of nothing.

It is constantly changing as more data become available. The view of the world derived from it is said to be the way things are. Perhaps astrophysics might serve the proponents of a scientific materialism as a caution. Almost every new set of data sends the scientist back to "the drawing board." It is passing strange that some of these "scientists" believe in an infinity of unknown and unknowable universes, simply to avoid the belief in one God. Such is human gullibility.

There are many valid Christian theologies. But there is only one faith to explain. Faith is prior to theology. Theology is merely the handmaid of the beliefs of Scripture and Tradition. Theology explains the faith; the faith does not explain theology. Have a blessed Resurrection season.

*Robert Brungs, S.J.*

The ITEST Bulletin: Publisher, Robert Brungs, S.J.; Editor, S. Marianne Postiglione, RSM

ITEST Offices: Director, Robert Brungs, S.J.  
Director of Communications, S. Marianne Postiglione, RSM  
3601 Lindell Boulevard  
St. Louis, Missouri 63108 USA

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## ANNOUNCEMENTS

1. Invitations to the October 15-17, 2004 workshop on *Computers, Artificial Intelligence and Virtual Reality* have been sent to all ITEST members in the United States. To view the information on the Web, simply access our web site at <http://ITEST.slu.edu>. Click on Current Items of Interest. That will lead you to multiple pages describing various aspects of the workshop. The previous issue of the *Bulletin*, named two essayists, Sister Carla Mae Streeter, OP, professor of systematic theology at Aquinas Institute and Sister Mary Timothy Prokes, FSE, Notre Dame Graduate School in Virginia, respectively. Sister Streeter has entitled her essay, "Technology and Human Becoming: The Virtual and the Virtuous"; Sister Prokes has chosen "Real or Virtual: Theologically, Does It Matter?"

Three other essayists complete the list: Dr. Gregory Beabout, associate professor of philosophy at St Louis University, "Virtual Reality in a Computer Culture"; Dr. Ronald P. Loui, associate professor, department of Computer Science Engineering at Washington University, "Three Different Kinds of Machines We Program" and Kevin Vallier, fourth year undergraduate student, department of philosophy at Washington University, "A Brief History of Artificial Intelligence: Past, Present and Controversial Future." We urge you to make reservations quickly since space is limited. Contact S. Marianne Postiglione, RSM either by e-mail: [postigm@slu.edu](mailto:postigm@slu.edu) or call the ITEST offices at (314)-977-2703. Workshop costs are: \$200.00 for ITEST dues-paid members; \$225.00 for non-members; \$135.00 for students. We will be offering some student scholarships; let us know if you are willing to sponsor a student.

2. ITEST members of note: a) Maryknoll Sister Antonia Maria Guerrieri, in an interview carried by *The Catholic Observer*, newspaper of the Springfield, Massachusetts, Diocese - "Like the waters in her favorite poem, *The Brook*, by Alfred Lord Tennyson, Sister Antonia Maria flows in and out of rooms and down the corridors of Phelps Memorial Hospital in Sleepy Hollow (New York), visiting patients and offering spiritual comfort. At 96, the missionary nun who spent nearly all of her 69 years of religious life as a medical doctor serving the needy in China, Korea and Taiwan, shows little sign of slowing down as she walks quickly from the car that brings her twice weekly to volunteer at the hospital. 'I'm not practicing now, I'm retired,' quips Sister Antonia Maria, as she gets ready for another visit. 'I don't do medical work, I just chatter, chatter as I flow. It's been a wonderful opportunity to, as I say, take people's minds off the ceiling,' she said, during an interview with the Catholic newspaper, reciting a stanza

from *The Brook*. 'I chatter, chatter, as I flow to join the brimming river; For men may come; and men may go, But I go on forever.'"

b) Marie Sherman, ITEST Board member and teacher of chemistry at Ursuline Academy in St Louis, at a March 28th ceremony in St Francis Xavier College Church, received the 2004 Catholic Women's Award - the Sr. Thea Bowman award - Teacher. She was chosen along with eleven other recipients from a list of more than 50 nominees for this honor sponsored by the Archdiocese of St Louis Human Rights Office's Committee on Women in the Church. Marie received accolades for, "... having taught chemistry at Ursuline Academy for 36 years. During that time she has influenced hundreds of students and has imparted her real love of learning. She has also been active in the Pro-Life movement at school. She and her husband raised eight children and even before she became an educator, she was educating children in her neighborhood about the fun of science. Several of those 'students' became educators and others entered the field of science." Sister Laura, CSJ, the presenter continued, "Marie is interested in helping each student to achieve and feel good about herself and her abilities." Further, "She has mentored several winners of the Science Fair Honors division, of which some have gone on to achieve national awards." Congratulations, Marie from all your colleagues at ITEST.

3. Membership: Those who have not renewed since 2001 will be removed from the membership list. We have included third notice renewal cards in the latest mailing. Only those who are paid for calendar years 2003 and 2004 will receive a copy of the latest book of proceedings, *Globalization in the 21st Century: Christian Challenges*. Planned distribution should occur during the month of May.

4. Recently we received an inquiry from a Polish student-theologian, Eva Borowick-Dabrowska, who is completing her doctoral work at the University of Cardinal Stefan Wyszyński in Warsaw. She asked us to examine her web site with the suggestion that we might provide mutual links. After viewing the web site we felt that this would be a worthwhile venture. The title of her dissertation is *Theological Implications of the Internet as Medium and forum of Mass Communication*. She is also searching for a scholarship, preferably in the United States where she could do post-doctoral work in theology and mass communication. If anyone has suggestions about post-doctoral work, please contact her directly at: <http://www.cybertheology.freewebsites.com/> or [webmaster@angelus.pl](mailto:webmaster@angelus.pl)



## FOREWORD: from PROCEEDINGS ON GLOBALIZATION IN THE 21ST CENTURY

[The editorial board of the *ITEST Bulletin* decided it would be a good idea to give a preview of a summary of last September's Workshop on *Globalization in the 21st Century: Christian Challenges*. The book will be published within one to two months. Also, this will give a brief summary of the volume to those who are not dues-paid members and who will not be receiving it.]

On September 26-28, 2003, people from diverse backgrounds and levels of education attended the weekend Workshop on *Globalization: Christian Challenges* at Our Lady of the Snows Conference Center near Belleville, Illinois.

How does the current 21st century drive for increasingly rapid globalization challenge our Christian values? What are aspects of the contemporary scene that propel this global march toward political, legal, cultural, scientific and perhaps even religious response to essentially One-World positions and policies. What will be the Christian response to the gulf between the rich and the poor worldwide? How will we act with respect to youth, to the sovereignty of the state, the growth of the world economy, religious adherence (and the related religious fundamentalism) and a dizzying multiplication of other factors? The underlying consideration in all discussions was the Christian challenge of globalization. These as well as other questions formed the basis for discussion over the weekend. This Workshop, *Globalization: Christian Challenges*, was sponsored by the St Louis-based Institute for Theological Encounter with Science and Technology, ITEST with partial support of the Marchetti Jesuit Endowment Fund of Saint Louis University and the Our Sunday Visitor Institute.

What is the role of Christianity in globalization? Fr. Robert Brungs, SJ, director of ITEST, quipped, "It [Christianity's thrust for the global] started when the Holy Spirit drove the apostles out of the upper room on Pentecost Sunday and sent them down into the streets. Literally! It was part and parcel of the missionary thrust of the early Church." That is the beginning of the Church's involvement in globalization. Since the first Pentecost, Christianity has been a global religion. He continued: "The Church moved out into the community and within ten years or so, the disciples were bringing pagans into the faith. That's a relatively short time." The Apostles went out to all nations, immersing themselves in the local culture while spreading the universal message of love.

Five essayists presented their views on globalization according to their specialties.

Dr. Robert Collier, head of the Animal Sciences Department at the University of Arizona, stressed that science, while recognizing its limitations, has much to

offer in the effort to alleviate hunger around the world. "...the globalization of agricultural research capabilities (among them genetically modified organisms) offers the world a unique opportunity to reduce poverty and improve living standards." Collier, also recounted a brief history of advances in science, noting that with the discovery of the structure of DNA, scientists learned that the movement of genes from one species to another was not just possible but a reality. He concluded that "Transgenesis ... will continue to have its biggest impact in agriculture where it already is responsible for dramatic increases in food production."

He noted that the Church as early as the Middle Ages played a large part in the early development of the scientific method. Yet today, because of the rapidity of scientific and technological advance, the Church cannot react quickly enough to give sound moral advice to those who are looking for guidance.

Collier noted that one technological issue, however, which the Church has begun to probe is genetically modified food. Pope John Paul II, in his exhortations, called for discussion among scientists and other professionals on genetically modified food, for example, noting that while some are adamantly opposed to the process, others approach it with a receptive mind. The Pope cautioned that whatever the outcome of genetic modification, the benefit should accrue to those in need.

Dr. Edward O'Boyle, an economist from the Mayo Research Institute, West Monroe, Louisiana, speaking of norms for evaluating economic globalization, approached his topic from the personalist viewpoint. He emphasized the difference between the "individual" as one who is self centered and the "person" as one who is other centered.

Making the connection to Christianity he paraphrased Pope John Paul II, who explained that the person "for others" is closer to the Divine than the individual "for himself." Traditional Christians viewing economics seek to share the abundance or even what little they have with others while respecting the human dignity of each person they serve. He concluded that free markets with appropriate and equitable norms would assist in establishing that respect for human dignity on every level.

Dr. O'Boyle, with his paper and with his interventions



in the discussion, presented an "introduction" to the vast problems of economic growth and to some of the problems (like dislocation of jobs or debt forgiveness) that globalization produces. In some respects, this was Economics 101 on a sophisticated level. In so doing he gave a very good overview of many of the challenges facing the Church in the rapid growth of efforts to globalize both the economy and, indeed, all aspects of life.

Dr. Jean-Robert Leguey-Feilleux examined the political considerations of globalization reminding the participants that globalization is a multifaceted phenomenon which may even become an ideology with both dedicated supporters and ardent opponents. He stressed the importance of the role of the United Nations in the furthering of cooperation among nations. Although he acknowledged weaknesses in the UN he also applauded the work they accomplish in agencies that are an integral part of their structure and operate under the UN budget, such as the UN Children's Fund (UNICEF), the World Food Program (WFP) the International Trade Center (ITC) and the Joint UN Program on HIV/AIDS (UNAIDS), among others.

He cautioned, however, that nationalism and the nation state will probably not wither away with the advent of globalization; yet he conceded that the "nation state has useful functions to perform." He noted that the number of states has radically increased during the years after World War II and can be expected to continue to grow. But the Christian challenge lies, he said, in addressing the need for a greater sense of responsibility for the global common good. This effort, he said aligns itself well with the Church's vision of a universal order.

Fr. Stephen Rowntree, SJ, both in his essay and in the discussion, accented the place of religious, social and economic pluralism in the development of globalization. He brought a unique perspective to the discussion, namely, the years spent in Zimbabwe as a member of a formation team preparing young men to become Jesuits. Noting that modernization or globalization poses major challenges to all religions, Rowntree chose three religious responses to the perils and possibilities of the phenomenon: 1) Fundamentalist movements which actively oppose modernization, 2) conversation or dialogue both within the denomination and outside the denomination, commonly referred to as "interreligious dialogue" and 3) consensus when that is possible, facilitating a process for a global ethic.

During the discussion following the essayists' presentations, Rowntree shared stories of the struggles of the people of Harare, Zimbabwe striving to become partners of other countries in the world in the areas of trade, manufacturing and agriculture. He urged Ameri-

cans either to reach out to developing countries in their search to survive, grow and prosper in the world market or to suffer the consequences of non-involvement — eventual isolation.

Jeffrey Jensen Arnett, the fifth essayist, focused on the role of young people in the globalization process. He defined and, indeed, created the phrase "emerging adulthood" as a period extending from the late teens to the mid-twenties and characterized by self-focused exploration of possibilities in love, work and worldviews. As a consequence, instability is also a part of this emerging adulthood. Further, Dr. Arnett concentrated on the psychological consequences of globalization highlighting identity issues. Specifically, he noted, some claim that many people worldwide now develop a "bicultural identity" that combines their local identity with an identity linked to the global culture; yet, "identity confusion" may be increasing among young people in non-Western cultures as a result of globalization and further, that some people join "self-selected" cultures in order to maintain an identity that is separate from the global culture. Arnett challenged the Catholic participants to extend themselves to members of other religious denominations thus countering the "bad press" sometimes pervading the reporting of Catholic positions on various global issues.

In the discussion Dr. Arnett stated a challenge to Catholics first, and then to all Christians at the Workshop. He mentioned that to a non-Catholic the Church seems to be extremely negative with respect to the development of science. While there was hardly any time to enter the discussion of this "challenge," a few did point out that the problem was not between Catholic faith and science but between that faith and applied science or "engineering." Nonetheless, it is a real challenge that must be met by groups like ITEST who are trying to bridge the gap between "faith" and "science." We cannot allow this attitude to become more ingrained. If it does we have lost the ideological struggle.

The input from the young college students and young adults present led the older participants to a deeper understanding of what the young seek in searching for a truly human and Christian identity. For that we are distinctively grateful. Too much was said to allow for any kind of a summary beyond what was already said. But in closing, we want to thank both the essayists and all the participants for their patience and their gracious responses. All waited patiently to be recognized and all showed real charity in their interventions.

Finally, we want again to thank the administration at Saint Louis University and the Directors of the Our



Sunday Visitor Institute for the support they showed us.  
Their generosity made this meeting possible.

Robert Brungs, SJ      Sr. Marianne Postiglione, RSM  
Director: ITEST    Director of Communications: ITEST  
April 2, 2004

*[In September, 1972, ITEST sponsored a Conference at Villa Cavaletti, Grottaferrata, Italy. Twenty-two people, involved in what came to be called the theology/science apostolate, attended. Half of those present were European and half were Americans. Half of the participants were scientists and half theologians. And just to round things out, half were Catholic and half were Protestants. These divisions were serendipitous. The meeting was not planned to be half and half. Father Pedro Arrupe, S.J., the General of the Society of Jesus, gave the following talk and engaged in a rather lengthy Question/Answer session. Most of the five-day meeting, however, was spent in smaller group discussions on 1) the state of science; 2) the state of theology; 3) the kinds of dialogue existing or hoped for by the participants. The discussion, reprinted here, represents that published for the then ITEST membership and the people involved. Since it includes the views of all the participants, it has sections that do not always represent a consensus. No one present at Cavaletti had consensus in mind. Here we are reprinting Father Arrupe's address and the section on the then state of theology. This material is reprinted here, not so much because of any great theological insight, but to show the state of the question more than thirty years ago. In other words, it is offered as much for its historical value as for its theological value. This represents a picture of what we thought the main question was at that time.]*

### ADDRESS OF VERY REVEREND PEDRO ARRUPE, S. J.

Superior General: Society of Jesus

September 15, 1972

To my great regret I was unable to welcome all of you in person on your arrival at Villa Cavalletti. I do hope, however, that your stay here has been pleasant and your deliberations fruitful. I cannot help but think of the ancient Arabian proverb: The little I have I shall share with my guests; perhaps the much they have they will share with me.

I feel honoured that you have chosen Villa Cavalletti as the venue of your conference, and I hope that the much you have to give, you will share with us who hope so much of you. When scientists of your eminence, of your diversity of disciplines and religious affiliations, come together in Rome for a science-theology encounter, I see in it an expression of confidence and a motive for hope. In effect, you are saying to us that in this biosphere of the spirit which we inhabit together, there is as great a need for a unitary system as in the physical biosphere, as grave a necessity to join forces so that we can live in harmony with our environment, if it is not to rise up to destroy us.

I cannot but congratulate you on the wisdom, foresight and courage that have brought you together. It is not difficult to envisage the obstacles you have had to encounter, that you may still have to overcome, before

your fundamental thesis is found acceptable -- I do not mean by the generality of men, but even by the majority of your colleagues. There will be those who will accept your premises but not your conclusions; those who will not even be prepared to accept your premises; and those who are too apathetic or self-concerned to exercise their minds at all on your thesis.

This thesis, if I understand it aright, is that mankind stands today at what Toffler calls "a great divide in human history, comparable in magnitude with that first great break in historical continuity, the shift from barbarism to civilization." (1) The future has descended upon us so rapidly, envelops us so heavily, swirls around us so dizzily, that humanity, by and large, is too much under shock to cope with it adequately. Its responses, when it responds at all, are either emotional reflexes conditioned by an obsolescent past, or ill-considered judgments premised upon a dimly conjectured future.

In his book, *The Discovery of the Amazon*, John Adams describes how in his efforts to reach the source of the river before the rains made progress impossible, he forced his native bearers to double their daily march. And then one morning, he came out to find them all squatting outside their tents, immobile, immovable. "We



have been moving too fast," they explained. "We must now wait for our souls to catch up with our bodies."

This is exactly the position in which we find ourselves today. We have been moving too fast, gradually growing unmindful of the fact that we live in a narrow-rimmed, delicately balanced climax ecosystem. We have used up our resources as though our neighbours did not matter and tomorrow would never come. We have hailed every new discovery with an almost childish pride without reckoning the effects it would have on the quality of human life.

And now, belatedly, we have discovered the truth of what Byron said: Every man kills the thing he loves. He can kill it through starvation; he can kill it through over-consumption; he can kill it through false compassion; he can kill it through benign neglect. In fact, he can even kill it with the very remedies he devises for its cure. Some of these remedies make the mind boggle while they make the spirit quake: therapeutic abortion and fertilization *in vitro*; euthanasia and cryogenics; genetic manipulation and thalidomides; heart transplants from those we are not quite sure are dead to those we are not quite sure will live.

There are not a few thinkers today, who while they bemoan the pace at which mankind is hurtling towards self-destruction, see no hope of either curtailment of pace or reversal of direction. If they be God-minded, they see in it a just retribution for man's infidelity to divine law. If they be not, they see it merely as an anticipation of a relentless law of the universe. Cosmic spaces are littered with the shreds of shattered stars. Earth is doomed in any event to mingle its debris with theirs one day. What difference will a few centuries make?

I feel sure that you are with me in believing that both views miss their mark. ITEST is no refuge for scientific determinists or theological fatalists. You are men concerned with the quality of human life, and with our stewardship of it, and sustained by the conviction that neither is beyond salvation.

The only question is: whence is that salvation to come? The very title of your association provides the answer: through a theological encounter with science and technology. And those who might object that the situation is muddled enough without bringing theology into it, I would refer to a statement at your Conference last year on *Death and Dying*:

While reviewing the controversies which have swirled - and still swirl - around the themes of the legal propriety of abortion, euthanasia, capital pun-

ishment and warfare, it became evident that the debate is a meta-legal one; what is really under scrutiny is the place of Judaeo-Christian traditional morality in a pluralistic society . . . Whether or not we would prefer to enter into such a debate, it appears that we are already involved in it, and it is fitting that we should bite the bullet and admit the question of the interrelation of Judaeo-Christian traditional morality and public justice to be one of fundamental interest to ITEST. The encounter of theology and the law is intrinsic to our society.(2)

And a little later the same insistence is placed on theology for a final answer whether in any given instance - for example, the permission or prohibition of therapeutic abortion -- the meaning of man is "really communicated and made concrete or diminished, oppressed, threatened, maligned, blasphemed."(3)

For all our advances beyond the ancient Greeks, we still have to recur to their basic philosophy of life: Man is the measure of things. But the Judaeo-Christian ethic has added one vital element to the proposition, namely, that while man may be the climax of a planetary ecosystem, the peak of a cone that spreads down to all creation below him, an inverted cone towers above him, reaching upwards to the God of all creation. He is not lord of creation, only its steward, and he has, one day, to give an account of his stewardship.

In their impressive report on the human environment, entitled *Only One Earth*, Lady Jackson and Rene Dubos quote the African consultant who suggested one effective approach to the problems that beset us today: Spell Man with a capital M. As the editors rightly observe: "In our opinion, this is not trivial stylistic advice. It symbolizes rather a conceptual problem which inevitably confronts environmentalists in all their practical discussions and decisions. Are men simply higher apes, and as such of no greater significance than other components of the natural ecosystems? Or does Man occupy a special place in nature?" (4)

I need scarcely point out to you that as soon as you attempt to answer that question, you are in the realm of theology. But I must immediately add two qualifications. The first is obvious: this is not all that theology is about. As philosophy was to Hamlet, so is theology to us; there are more things in heaven and on earth contained in it than we dream of. The second qualification is less obvious: namely that even the theology that concerns man is not just a compendium of doctrines or dogmas on this or that human act. It is a comprehensive view of human life that takes all human knowing and doing and being into account, giving these their ultimate significance and perspective.



One important consequence of such a view of theology, I am happy to say, is being increasingly recognized in the academic world today, and that is that knowledge, too, is a unitary system, transcending the barriers we have erected in the past between one discipline and another. Just as the new Math draws together Algebra and Trigonometry and Calculus, and modern Biology involves Mathematics and Physics and Chemistry, so the Science of today must include not only the natural and applied sciences, but philosophy and theology as well.

Scientists of the eminence of Einstein have repeatedly urged such an interdisciplinary approach to knowledge. Prestigious universities in Europe and America have already begun to recall theology from banishment, not just as an expression of their tolerance, but in order to provide a catalyst for all departments of knowledge.

And this is as it should be. Just as no science deserves its name if it is only a patchwork of unrelated information, so knowledge itself can be neither comprehensive nor secure, unless it has attained to a synthesis of every department of it. What is to be sought for is not just a balancing of one science against another, not just an occasional get-together of scientists of different disciplines for a pooling of knowledge, but an interdisciplinary approach to all knowledge, whereby the mind is tempered and the imagination enlarged in order to grasp the relationships of one branch of it with another.

Such an overview offers, without doubt, our greatest challenge at this moment of history. You may perhaps be interested to learn that in the Society which I am privileged to represent, and in which a great variety of sciences are zealously pursued, I consider it one of my gravest obligations today to strive for and encourage such an overview, all the disciplines conspiring "to see man steadily and see him whole" *sub specie aeternitatis*. If I be permitted to borrow from a very profound analysis made by one of our distinguished members, entitled

*A Systematic Approach to the Concept of Stewardship*, I would say that the greatest need of our times is to build an eschaton under the guidance of the divine Spirit, to strive for a concept of man, his desires and aspirations, and incorporate them in the eschatological plan of God.(5)

In the present crisis of the human spirit, I am convinced that those theologians who, with the requisite scientific background, give themselves to theological reflection on this problem, are rendering an immense service both to religion and to society. These are the saviours of the world whom Tennyson saw in his vision, their gaze fixed upon "that one far-off divine event to which all creation moves." These are the men whom that great scientist and theologian Teilhard de Chardin wanted above all to see in his own Society: men possessed of a double faith, in human research and in the search for God, and who would realize vividly and effectively in their own lives the two faiths that confront each other in the modern world, and through every recourse of technology and of theology bring the earth to the summit of its humanization. And he concluded, as I would wish to conclude, with this stirring appeal: "What is there to prevent us from plunging into the very heart of human research, into those active and critical zones, where the battle rages for the conquest of those two great citadels of Matter and of Life? To make complete believers at both centers, is that not -- however dangerous this may be -- our first mission in life?"(6)

1. *Future Shock*, Alvin Toffler, Random House, New York, p. 12.
2. *The Life and Death of the Law*, Donald J. Keefe, S.J., Death and Dying, St. Louis University, p. 67.
3. *Ibid.*, p. 68.
4. *Only One Earth*, Barbara Ward and Rene Dubos, W. W. Norton and Co., New York, p. xii.
5. "A Systematic Approach to the Concept of Stewardship," Robert A. Brungs, S.J., unpublished manuscript, pp. 7 et seq.
6. *Science et Christ, Sur la valeur religieuse de la recherche*. Teilhard de Chardin. From a speech at Versailles to his fellow Jesuits, August 20, 1947.

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## THEOLOGICAL ASPECTS

### *General Observations*

One of the first questions to be posed in a discussion of the theological aspects of the science-theology dialogue is where are we in our Christian understanding of the place of man's technological power in the world. There is at present a pervasive ambiguity about human goals

and about what constitutes real human achievement. As Christians we once thought that we pretty well knew what constituted human values. But theologians do not seem so good anymore at figuring out what the right choices are. Just take one example, the whole question of technological development. Just a few years ago there were many eloquent spokesmen who glorified technolo-



gy and the secularizing character of science-technology. Now it would be difficult to get people who would promote that anymore because they're not so sure that was the right line. Those older spokesmen would have maintained that western technological development was one of the very important consequences of Christian faith. Christianity led to technology, the argument went, and technology was demythologizing in its consequences.

A profound cultural agnosticism has swept the highly industrialized societies. It is true that there is a de-sacralizing element in Christianity, provided one is careful in defining "de-sacralization" or "secularization." It is true that Christianity has dethroned the god behind every bush, the genius of a place and that sort of thing. But to call that alone Christian secularity is to have distorted Christianity. In recent times, in our secularizing, we have been guilty of such distortion. We have ignored, or forgotten, the other essential element in Christian secularizing, namely the essentially incarnational note of sacramentalizing. In Christianity there is no god behind the bush, no naiads or dryads scurrying and flitting about. But to this we must add that history has a direction and purpose, that history is symbolic of eschatological reality and is therefore holy. The use of creation should therefore be worship. We are ultimately engaged in making the holy holier. We have been content with the demythologizing side, but not with the sacramentalizing side. This is, perhaps, one of the reasons for the profound cultural agnosticism.

One of the main scientific questions of theological importance is the problem of the impact of science on mentality, and therefore on theology. Science shows ambiguity at every level of human richness. On the one hand a true science may glorify the creation of God, but we experience more and more that the practical result is a materialistic one. If we analyze the reasons for this, it is possibly in the very method of science itself, which is a reductionistic method. The systematic has rid itself of any idea of finality. Science is causalist -- it only knows the causes behind and ignores any causes ahead. This makes an impact on mentality which leads to a materialism. This also may be a significant contribution to the cultural agnosticism mentioned before.

This materialistic agnosticism and its end-product is possibly exemplified in the present interest in the occult, drugs, esotericisms of many kinds. When a materialism is seen to fail we normally have a flight into spiritism of one kind or another, drugs, devil-worship and so on. It is an attempt to create a reality that can be lived with and a refusal to accept the reality that is. Man cannot live by material causes alone. This is often clear when some scientist is asked to make some judgment about the use of his discoveries. Use implies purpose and

every particular purpose is at least logically relatable to more inclusive purposes. In the past hundred years or so, much of the antagonism between science and theology has been structured in just these terms. The Darwinians especially try very hard to get rid of the idea of purpose in evolution. Science now is experiencing something of a cultural rebuff much in the same way theology has experienced.

In passing, it is one of the great paradoxes of evolution, when you see evolution as a play of chance and necessity, by the push of previous forces, modified by the impact of cosmic rays, and so on, without any purpose, which gave at the end, as the fruit of this evolution, man who may be defined as a purposive being, a being who acts for a purpose. The result reverses the entire process -- an evolutionary process without any purpose giving birth to a being of purpose.

In our present time, is there really such a thing as theology anymore? There is exegesis, biblical theology, a whole gamut of disciplines that have different methodologies. The practitioners concern themselves with different areas, many overlapping, but from different points of view. Much of what passes as theology now is really philosophizing, a philosophy concerned with the religious direction of life. Very often, however, philosophy has insisted on coping only with what is rationally manageable. As soon as we start philosophizing on the unexpected that enters into man's life because of sin and, on the other side, because of redemption.

By philosophy here we are speaking of a discipline when it begins with no religious premise and proceeds to a structure, whereas theology begins with faith and proceeds to an understanding of it. If it's a question of the theological problems raised by, say, the environmental issue, and if the notion of the non-manageability of human affairs is cast in terms of sin, redemption, crucifixion, resurrection, we are no longer in philosophy, since these topics can't really be discussed without having made some kind of faith commitment. Part of the problem may be that we always put so much together, for instance science and theology. The critical function of theology, if you want to put it in something of a vacuum context, is the otherness of the word of God. Our theology has become so impregnated by the so-called scientific world-view, and modern man has been so influenced by the seeping down of scientific methodological approach to reality, that theologians have been trapped into the scientific world-view. Thus the critical function of theology is crippled because it's starting within the wrong set of presuppositions.

On the other hand, good science is built on the orderliness of creation. There need not be a crippling effect



on theology. God speaks to us in physical things as well as through theological perspectives. Is the theologian by his very commitment to these basic theological insights derived from revelation, committed to a sort of "counter-culture"? The theologian, like every Christian, has a prophetic commission. There has been too much theological over-compartmentalization within the last century or two. The theological model par excellence for our times is St. Paul. Probably the last title Paul would accept would be that of theologian. Yet he was a leader because of his life-style. It may be that the distinction between pastor and theologian has been over-stressed. The theologian above all has to be a real working Christian; he has to live it. Karl Rahner used to stress the idea that the ideal sabbatical for a theologian is pastoral commitment where he gets back to real lived Christianity.

There are two things that the theologian must do simultaneously; he must specialize but do that in a social context. The theologian must develop a social vision of the human world-wide implications of what is done in a specialized way and both of these have to be done. The theologian's challenge today: to become a good exegete and at the same time be a socially conscious theologian and what he's doing must ultimately be related to man's agony and joy.

Karl Rahner was once asked what a theologian might say when asked about the morality of this or that act. He responded that the theologian has nothing to say about these specific cases. The theologian must be concerned with the totality of human behavior and its relation to God. The individual case should go to the canonist, moralist or ethicist. There should be a real distinction between ethics in its traditional form and theoretical theology which comes closer to science. The question of experimentation on human subjects, for example, has both theological and scientific implications, but it should be viewed from its social aspects.

Theologically, this social context is not to be construed as a head-counting exercise. It takes into account those who within the Christian community are responding to the voice of the Spirit. In the Old Testament there were times when only one or two isolated prophets heard the voice of the Spirit. It is, consequently, an extremely difficult task to use society as a norm, although social impact should be a prime theological concern. The good common sense of believing Christians is some kind of a determining norm of theological inquiry despite the fact that it is admittedly a difficult norm to apply.

Is theology today merely reacting to science and scientific development? Suddenly the world awakes to an environmental crisis which is at least partly the product of

our scientific and technological development. Before that, society had to face problems triggered by the rise of Marxism. Is theology constantly to react or does it have anything creative to tell the world? This distinction should not be made too sharply since reaction in the sense used need not be a negative thing. In fact it is unfairly derogatory to use "react" in that sense when dealing with what are essentially "first-of-their-kind" problems. The environmental crisis has never had to be faced on a global level before -- this is a first. To demand of theology that it should have had answers before the fact is worse than naive; it is absurd. Theologians would be of no service to the Christian community if they devoted themselves to work out solutions to all hypothetical problems and ignored the real ones.

What then is the role of theology? One theological task, certainly, is the spiritual reorientation of the Christian community and then of the human community. This is not to be accomplished through applied ethics or "thou-shalt-not" directives, but by attempting to reorient the Christian community, the scientific and world communities to the deep central values of the Gospel-message. This attempt demands a revitalized Gospel-statement to promote a conscious awareness of responsibility to society, to their fellow men and to God. What mode of the theological endeavor would accomplish this? Perhaps, the same mode that has produced results in science: serendipity.

Serendipity can be considered as a composite of "serenity" and "stupidity." Applied to the task facing the theological community, there is the serenity of knowing that grace is always present (history is not a grace-less thing) and stupidity, an acceptance of the fact of the stupidity of human sinfulness. This composite attitude should take a bit of the fear and frenzy out of the problems that presently compose science/theology dialogue. The theologian has to face these problems squarely but at the same time he has to realize that there is grace at work. There will also be stupidity, but even great solutions are worked out by simple men imperfectly.

The above represent general considerations of the role of theology in the present social context. Specific problems of some urgency also surfaced. Perhaps the most important of these for dialogue is the whole question of continuity and change in theological and doctrinal development.

#### *Change and Continuity*

When we ask, for instance, what scientific questions have theological importance we are inclined to use traditional theological models and to look immediately toward moral implications. But there is another dimension



to be faced here. There is a more profound way in which all scientific discoveries, and the existence of science itself, influence theology enormously. The fact that science is what it is and does what it does, that the breakthroughs are so significant and so rapid, all this changes the theological milieu. These situations force the theologians to ask different questions.

Is it any longer an unthinkable thought that there can be real breakthroughs in theology, substantial breakthroughs and not just slight variations in mode? Can there be "quantum leaps", if you will, in truth in theology rather than only new modes of expressing the timeless absolutes? There could be difficulty with the expression "quantum leap." Does it refer to a sudden insight or to the quantum process as it is used in physics? If to a sudden insight, then there is the need to work backward to show continuity. The physical "quantum leap" is basically a "process-less process." A quantum particle is in one state and then in another, discontinuously. Is this latter meant by the term? If so, it is difficult to see how it can be a model for Christian theological process.

Cardinal Newman has many interesting ideas in regard to this in his work, *An Essay on the Development of Christian Doctrine*. There is a distinction between theology and doctrine that ought to be kept in mind. For example, in the Catholic tradition, it is the magisterium that is the ultimate judge of doctrine, not the theological academy. It is a fundamental issue whether or not the Church can or should revise its fundamental thought about the world. How much continuity with the past tradition is necessary and on what levels do we need it?

Cardinal Newman, in dealing with this, made statements like "In the other world there is no change, but in this world to live is to change and to have changed often is to be perfect." But he establishes seven criteria for change. Continuity is one of these. A Christian cut off from the Christian past has ceased to be a Christian. This is somewhat along the lines of Information Theory (as developed by Ernst v. Weizsacker: editor): if we get only continuity, we get a flat signal that carries no information. If we are dealing only with complete change, we get only noise and again no information. In either case there is no communication. The physical analogy applies in this situation.

There are two sorts of revelation in Christianity that have to be kept in mind, one is exegetical in part and the other is through "the Book of Nature." As science grows through its discoveries, for example the whole area of evolution, it is difficult to see clearly what is to be read in this "Book of Nature." In the 16th and 17th centuries theologians thought that the earth was the

center of the universe. This position had ultimately to be changed when the work of Copernicus and Galileo made it untenable. Cardinal Newman, in describing the type of continuity-change relationship needed, uses an analogy of organic growth. In pursuing this image he notes that quite often the thing that least looks in adult stage like it did in its earlier stages is the true expression of continued growth. The example he uses is the butterfly and the grub from which it developed. The external appearance of the true may very well look vastly different from the earlier state of the truth. That which externally bears the greatest resemblance to the earlier state may often be a false development. The development of theology and doctrine thus requires great care.

Protestantism historically has tended to accentuate the transcendence of God and the fallibility of all of our instruments for understanding him. We can index different branches of Protestantism according to the authority placed on a certain class of Christian authority, like the Bible. Putting too much dependence upon written scripture tends to lock us in and does not leave us open to the truth that comes from other sources.

There is nothing more perplexing than the whole question of evolution. This is a great leap in our understanding of the human, the way in which time has been so vastly expanded and the way in which our own evolution has been stretched out. Here is the case where science has now demonstrated powerfully enough the pertinence of the evolutionary concept and theology has to take it seriously. For one brought up in a theological tradition that took God's acts in history very seriously, this is a problem. That scriptural history goes back no more than four or five millenia. What indeed are God's acts in history prior to that time? This was not even a theological question two hundred years ago.

None of this, however, solves the problem. What kinds of continuity must we have with the past? Take the whole question of *Humanae Vitae* and the population problem. Why, for example, does the chief of the Holy See's delegation at the U.N. Conference in Stockholm have to say that the Church's position on birth control is not going to change?

There obviously is no simple answer to this, but there are some elements to an answer that might help some. First, *Humanae Vitae* more than anything else is aimed at pastoral practice regarding the individual's planning of his or her family. That pastoral stance is not accidental. It was precisely the pastoral problem that was raised and the pastoral problem that was looked to in the response. The Pope was addressing himself to the problem as it was raised four or five years ago. That problem then was at best tenuously connected with the



population issue that has become current since then. *Humanae Vitae* can hardly be considered to be an authoritative statement about problems that were not really serious issues when it was written.

A second element here is the way that doctrine develops in the Catholic church. It does not develop principally in terms of theological reflection. It develops in a somewhat more organic way and in terms of the intuitions which it believes come through the guidance of the Holy Spirit. What are most valuable in the development of Catholic doctrine, including ethical or moral positions, are the basic Catholic intuitions which depend for their expression on philosophical and theological progress. This latter is not always well equipped to carry out that task of expression. What is of prime importance in *Humanae Vitae*, far more important than the theology and as important as the conclusion, is the basic Catholic intuition behind the encyclical, the affirmation of life -- what Pope Paul called in his statement to the Stockholm Conference the *Access to Life*. That is the basic Catholic intuition that is behind the Church's whole position on family planning and abortion. Doctrine develops in the Catholic Church not so much in terms of the reflection of theologians but more principally in terms of magisterial affirmations of the Catholic intuition. What has to occur in the Catholic Church is a broadening of the doctrinal horizon so that, for example, the issues of family planning and abortion may be seen in the context of the larger picture. That may possibly look to some as if the Catholic position changed. Well, it will have changed insofar as it has developed, but it will not have gone back on its previous position.

In all of this population issue we have discovered another dimension of finitude. The Church has always honestly faced finitude in time. We know that we are not eternal in the past and that the future is limited by the eschaton without knowing at all when it will come. Now we are faced with this acute, critical feeling of finitude in space. We cannot forget that it is impossible to extrapolate out an exponential curve in a limited case. There are absolute necessities before us and we have to act. A policy of free growth is impossible in the present situation. The Church has to accept that the world population must be stabilized and that we cannot wait for several years before we begin. A basic change in theology may very well be necessary.

That may be true as far as it goes. The Catholic Church will continue to hold on to the basic Catholic intuitions of the divine will, things like the dignity of man, the right to life, the importance of the human individual and that sort of thing. That kind of intuition the Church is never going to relinquish; it is right at the foundation

of all Christianity and is particularly vital in the development of Catholic doctrine.

There are many things happening at different levels. First of all, not many scientists could speak in or even understand such a doctrinal style of speaking, and that is very important for our purposes. It is very difficult for a scientist to discuss a position when it is a position not open to any change. There is at least a conceptual problem here, if indeed not a much deeper one. There is also a question of power related to the temptation of the Church to hold on to things. What is the Church's position on the population question? There is not an authentic position on that issue. There may be a position of the Holy See, but in that regard it's necessary to make distinctions on several levels. Does this kind of analysis say anything to the scientific mentality? This is not to say that there are not important considerations beyond this kind of reason; access to life is quite important. It is no secret that the Catholic church has made a grand mess of the population issue. There is bound to be a credibility gap no matter what is said now on that issue.

There is no formulated Catholic position on the population question. There are intuitions, elements of a position, but there is no total position. It is necessary that one be formulated as soon as possible. No Catholic has ever seriously contested the development of doctrine. Development of doctrine is a key Catholic concept. The Church's positions do change, but she doesn't go back on herself. The elements of a population position that are present in the church must be integrated into a broader picture.

*(Editor's note: the proceedings of the above section on change-continuity in the context of the population question have been greatly abridged because of the length of this discussion. It is hoped that the intent of the discussants has been preserved throughout.)*

The idea of open systems in science could have an influence in the continuity-change context in theology. For instance the theory of open systems might be of help in broadening the theology of creation which in the past has been overly static and overly dependent on Aristotelean concepts. The surprise of the Gospel message, the change of man through grace, perfectibility, all the things might be more clearly elucidated through the concept of open systems. Change is inevitable and valuable, but it must be change, not discontinuity.

Beside the question of change-continuity, there was a great stress on the theological need for the development of a truly Christian anthropology.



*Christian Anthropology*

The present movement of demythologization in the line of the loss of transcendence demands the re-thinking of spiritual values. There are two ways of going about this. We can start with a Christian concern for what is human or we can start with secular data and then modify it. The problem is central but difficult to grasp except in specific areas where it looks like there is a particular threat to man's dignity or a threat of dehumanization. Everyone uses very loosely the category of what is human as a measure, but no one is very precise about it.

What concept of man should guide us in our present ecological and technological struggle? The historical approach might be valuable. There must be more Christian self-critique and self-analysis of the difference between what we have regarded as our eternal and always-valid stance as against the concept of man which has evolved through the impetus of the mercantile, industrial, technological society. There could be the basis for a lot of self-criticism by showing how rather subtly the concept of man as operational has been borrowed from certain trends in society rather than from any great Christian criterion. In our systematic effort we probably operate very much under the pressure of the social, economic or ideological system. There is a great need for the churches to begin to work out clear hypotheses about the man of the future toward whom we believe God means us to aim on the basis of what we know from revelation and what we know from the evolutionary input from science. If Christianity really is the heir of a tradition which has defined human nature as a given, it must look to a major shift.

In this regard, the writings of Loren Eiseley have been helpful conceptually because he engages in a debate with his fellow students of evolution who are convinced that man is the aggressive, hostile creature and that making weapons is the primal human act. In *The Firmament of Time* Eiseley considers the whole idea of evolution producing a creature of purpose. The thing that apparently makes man unique is that he is an open system himself and therefore can make an input into his own future. This implies choice and criteria for choice, so that we can never speak of what human nature is to be and what man is doing to make it what it is to be. The churches really ought to be saying, whatever may have been our past, that if we are to assume the Providence of God on the one hand and some amount of human responsibility on the other, we must take our own evolution in hand.

The great debate between the ecologists and the economists centers about the conception of economic man. To solve this it is necessary to get to the assumptions

because the economist is sure he knows what constitutes fundamental human motivation and is confident that in the last analysis man will always choose what will save him the most time and effort. Economists build their whole system on that and the whole modern social edifice is constructed on that economic system. Some seem to say that all morality is merely cost-benefit analysis. This theory is not objectionable except in its individualism. Social justice is quite specified in terms of cost-benefit, but it is a bipolar relational benefit, always keeping central the two sides of the benefit. If we could get our cost-benefit analysis to include the whole ecosystem so that we really take seriously our theological and moral principles the impact of what we do, say, on the bald eagle because he too is a creature of God, then we will have made a beginning.

Professor Munby at Oxford would argue that if Christians, on the basis of their Christian faith, do not want to do something, that will eventually reflect itself in the market because there will not be any demand for this kind of product, service or action. The economist would respond by saying that all he does is describe the system which is sensitive to the values of those who participate in it. The economist does not tell the participants what their values are but describes how the system actually works.

Man is always man in community, in relation with others. Should the question be: what concept of man and community, or man-in-community, should guide us in, say, the ecological struggle? It would be false to extract man from his community in dealing with such problems. This would include the non-human community as well as the human community. There is at present no suitable anthropology. We have a theological anthropology, an economic, an ecological one -- none are complete and are not integrated one with the other.

Along with the fragmentation of knowledge that has occurred in the last several centuries, the whole aspect of completeness has fallen apart. The idea of community as a part of theological anthropology has to be expanded to include again, as it once did, the nonhuman. The eighth chapter of Romans would be a good starting point. Somewhere in St. Thomas' works he deals with the question of whether or not there will be animals in heaven -- he answers affirmatively. This sense of the community of all creation was strong in the medieval mind. Contrary to the seeming opinion of many ecologists, Francis of Assisi was not a great theological radical. He was quite at home in the contemporary theological milieu.

There is not a single anthropology among all religions and cultures that is not being seriously challenged. This



is true even of the African in the bush whose tribal anthropology is failing. Man is an open system with choice. Consequently, anthropology can never be a closed system and man cannot be defined once-for-all. But the companion question must be asked: how much of a closed system is man? Man is at best an open system surrounded by natural constraints, what a physicist might call boundary-values problem.

Any Christian anthropology must be centered on man seen in the light of God, in the light of Christ. It must be an integration of the two kinds of revelation mentioned before, that of Christ in and through scripture as well as that "book of nature" which gives us information about man and creation. The entire discussion on both a Christian anthropology and the whole problem of continuity-change can perhaps be summarized by a quote from the *De Ordine Theologiae* of St. Gregory Nazianzen: "...here (in revelation) perfection is reached by additions. For the matter stands thus. The Old Testament proclaimed the Father openly, and the Son more obscurely. The New manifested the Son, and suggested the divinity of the Spirit. Now the Spirit himself dwells among us and supplies us with a clearer demonstration of himself .... you see lights breaking on us gradually, and the order of theology, which it is better for us to keep, neither proclaiming things too suddenly nor yet keeping them hidden to the end. For the former course would be unscientific, the latter atheistical." (ed. note: *Or. Theol.* 5, nn 26, 27; *Nicence and Post-Nicence Fathers* 7, 326).

*(The above discussion centered on the theological enterprise itself and some of the needs for the development of the churches' thinking in the area, for example, of change. There was also mention of and discussion on some of the dogmatic theological themes that might be useful in the more specific problem areas that have arisen from scientific discovery and technological application.)*

### *Useful Theological Themes*

#### *Lordship-Providence*

One deep theological issue, involved in the problems created by modern biology, genetics, medicine as well as in the environmental issues, is the Lordship of Christ and in its corollary, the co-lordship of man. This notion of Lordship is tightly tied with the theme of the Providence of God over the universe. This issue of Lordship-Providence is a critical one in the question of God's relation to our input into the future. It is incumbent on a Christian to have some ideas about what God means or proposes for the world. Looking back through history it seems that the Bible does present us with a new way of man's relation to God and to the forces about him,

where man becomes much more of an initiator and a collaborator in the making of the future. Biblical theologians have suggested that the Hebrew concept of covenant presupposes reciprocity of a type between man and God without God becoming merely an equal partner.

There is a place for human initiative and the making of the human future. The biblical authors proposed that man has some responsibility toward the future -- the whole prophetic outlook suggests as much. It seems to be a discovery of our own times that man has a responsibility not only for the future of his own species but also for the future of the entire ecosystem. This seems theologically relevant because it raises a new problem -- maybe not really new but in many dimensions new -- whether or not man has more power at his disposal than he knows how to manage. That raises theological questions from the other way around because now in a sense man is looking for a master. We are more frightened now of being our own lords -- and with good reason. This is a very strange way to pose theological questions; it is really secularized, liberated man now looking around nervously, say, for a purpose of God or a purpose of history that he can firmly attach to himself and to his power lest they run amok.

The real tie-in for man's collaboration: the salvation of the universe depends on a God who is man, who has entered into and stayed in human history as a man and it is really in the unique combination of the God-man that the eschaton will be built. Man is a central actor in this drama precisely through the Incarnation.

The whole notion of man's collaboration, as expressed in *dominium terrae*, was really a theological aberration as it has been elaborated in the industrialized countries in the last two centuries. The *dominium terrae* as it came to be accepted is an example of a development of theology that was false. It was an easy one to make, by just taking the word "dominion" and translating it into a cultural situation without going to the trouble to find out what it meant in the biblical context. It became an easy slogan: it is man's burden to dominate the earth.

As we build bigger and bigger machines it becomes easier and easier to exploit. It also easily leads to the further slogan that man can dominate and exploit other men, a slogan that has really been around since Cain and Abel. C. S. Lewis made a very precise statement on this: man's control over nature is really man's control over man through nature. That aspect always comes into the notion of *dominium*. This was tied very tightly to the old notion of manifest destiny and the white man's burden. The whole colonial adventure, at least in some of its manifestations, is precisely man's control



over man through availability of a more sophisticated technology.

If Christians share in the life and spirit of God they share also in the role of Providence over the creation. God is engaged in continually creating the new order of reality, the new heavens and new earth; Christians are engaged in the same work as co-creators, co-providers. God has revealed his respect for and love of non-human creation. God has shown his continual concern for all of creation and Christians must share this concern. Man's role as provider, since it is a sharing in the continual creative work of God and in his concerned Providence, implies a god-like aspect for men who share in this providence and creation. The Christian must recognize the value of the universe in itself and he must dedicate himself to the fulfilling of the divine will with respect to nature, obviously including man himself.

If man is to share in the Lordship and providence of God, then to be successful in this sharing, man must endeavor to share more fully in several aspects of the divine nature. God's Providence is infallible because God's knowledge is infinite and God's will is omnipotent. Man, to share in the work of Providence, must strive to share in the knowledge and will of God. Besides knowledge and will man will also need asceticism, liturgical forms and modes of worship, which reflect this sharing in the creative bounty of God. He will need a sense of joy and most significantly faith, hope and love.

### *Transcendence*

The Christian believes in God who becomes man without ceasing to be God. Secular theologians have helped us to see the God of covenant and God of history who delivers into man's hands a great deal of power. Man is no longer to be stupified by the so-called sacred powers of nature. There are theologians around who suggest that man is the crown of evolution and now man with a purpose must carry on evolution by what he does in science, technology, politics and so on. But this sounds much like the "watchmaker God" of the Deists who winds up the world and sets it going; man can cry out "God help me" but God has already said that he's not going to be around much anymore, man has to save himself. That's not a very powerful theology. As a Calvinist, one has to be on the lookout for ways to state the doctrine of Providence and Sovereignty of God in ways that make sense both with man's new power at hand and with the whole tradition at hand. In what sense can we affirm the transcendent active power of God in a world in which so much of the future seems to be in human rather than in divine hands?

Can we make the assertion that the future is in human hands when we see the sovereignties of nature; man plays around with his little schemes, he builds his power fables and they collapse on him and we see him destroying himself with pollution, radioactive fallout, exhaustion of resources. These are the sovereignties in nature that persist and man is quickly seen not to be the "omnipotent" being he is sometimes asserted to be. Respect for creation and the providence of God entails a respect for these sovereignties as well as for the justice that is required if we are not, even in the human biosphere, to blow ourselves apart. Often enough my colleagues in science or engineering will point out that the only way we can direct nature to our purposes is by collaborating with it. But even if man perfectly cooperates with nature, does not pollute excessively, does not practice injustice and so on, the question still remains: how can we affirm the transcendence of God in a world where man can seemingly do so much? Yet how can we, as Christians, not affirm the transcendence of God?

The most powerful recent statement of this problem continues to be Orwell's *1984*. This is one of the most depressing books around and it's much more depressing in 1972 than it could have been in 1948 because so many of the powers the state has over the individual that Orwell somehow foretold are already in the grasp of and use of the state. The picking out of the date 1984 technologically looks almost right on target. The book ends in the complete success of the state over the person who tried to resist and to maintain a certain integrity.

With that collapse the state becomes the functional transcendent. In a way this theological question grows out of a kind of similar situation since the integrity of the human person, as this integrity is developed in Christian tradition, depends on the access of the person and of social organizations to an appeal to the transcendent power that rules our world rather than to any immanent power like the state. This whole idea of the access of the person to the transcendent poses the question in terms of a particular human value that is seen in the idea of the person as having a certain sacredness and a respect above and beyond social usefulness.

An issue of the scientific impact on society seems to be the effort to set up a cost-benefit analysis of human worth. There was an article in *Science* perhaps ten or twelve months ago on the cost-benefit analysis of the value of a human who is in terminal illness or who is approaching senility, or so on. At the point where the cost to society cuts across the individual's benefit to society, is that individual to be eliminated? This is an impact that is not completely due to the technology but is a not unexpected product of a technological society.



On the other hand, some segments of our society are saying just the opposite, namely, when a society ceases to be responsive to the individual, the society should be eliminated. The partial truth in both these statements is only salvageable if somehow the center of the system is neither the person nor the society, but something or someone external to both who establishes the meaning of both. There is a strong suspicion that transcendence is always hidden, is masked in terms of the human situation in which love and responsibility are expressed in terms of justice but that this is the way by which we are led to believe in a transcendent God. We do not affirm God's transcendence in terms of some metaphysical assertions, but primarily in the giving and receiving of love and justice which happen in history.

Perhaps we could start the other way around and consider transcendence in terms of human failure. For this it would be necessary to re-do the Christian concept of sin. There seem to be, in relation to the technological situation, at least two interpretations of sin: one is a humanistic interpretation that implies that technology corrupted man and if man could just get free of technology he would probably be innocent. This is an essentially Rousseauian view that seems echoed now in people like [Theodore] Roszak. The other view would be that man's pride, his achievement and his determination to use this achievement causes him to sin and brings him into judgment.

Youth seems to find it impossible to accept the second statement and yet finds it so easy to accept the first. The young generation cannot accept this idea of sin or their participation in it. This is perhaps one of the reasons why they are so superficial in their understanding of present problems. They are quite sure that they can invent for themselves and with their own power a new society which uses technology in a much more creative way. There seems to be a direct connection between the acceptance of the failure of a man and his awareness of his dependence upon one who does not share in that failure. Perhaps our dilemma right now is that man finds himself too transcendent to be immanent and too immanent to be transcendent. We share in God's transcendence but only as immanent creatures.

Perhaps the basic problem in this area is that of human greed, a refusal to communicate. Greed is a willingness to communicate in only one direction, namely, that all this is for me. Such an individual sees himself as the center of all things. It is a perversion of C. S. Lewis' dance of the cosmos, wherein a grain of dust in the asteroid belt or a human on earth can truly say "I am the center of the universe." But this can be said only in the sense of the inter-relatedness and the intercommunicability of all things. When the individual sets himself up

as the isolated center of reality he has sinned. Perhaps this inter-relatedness is one way to approach the whole question of transcendence. There is a web of reality into which God has made himself an integral part in the Incarnation. Anything that destroys that web, that tears that fabric, is a negation of transcendence.

There has been a tendency in science to forget the web and to pursue the isolated idea regardless of conclusions, relationships or consequences. Can transcendence be defined as the power and ability to communicate? If, working from revelation, we take the Trinity as the prime analogate of "person" we can come to a definition as the root of communicability. The Trinitarian Persons are perfect communication. Man is "semi-transcendent," if you will, because he can partially communicate. If we define transcendence in terms of some kind of communications model, then man's role in the universe, as one who can at least partially communicate himself, is the sharing of himself with nature, with other men and with God. This is related to the notion of love and to the notion of sin. Sin is the failure to love, the refusal to share.

In terms of the affirmation of the transcendent, it might be possible to get further by following the very strong tradition that the transcendent was revealed by Christ in his life, death and resurrection and in the eucharistic mystery. We should not first work from a philosophic concept into which we then try to fit Christ. It seems that we are better off in this question of the transcendent to begin with the Christian mystery in the eucharist and in the Christian community where the sharing of life from Christ is really happening, rather than beginning with a philosophical concept of the transcendent. This is also closely related to the theological tradition in which divine providence is not conceived of in terms of God's management of the world in some nice, neat way. Providence is seen rather in the present situations in which we are called by God to make a response.

This idea of beginning the discussion of transcendence with Christ, rather than with some philosophical concepts, leads to the consideration of the next major theological theme, namely, incarnational theology.

#### *Incarnational Theology*

It has been suggested that a basic theological theme for a Christian is the whole notion of the Lordship of Christ and of man's co-lordship, co-creatorship. This raises the whole problem of the place of nature, of man, of holiness, of the sacramentality of the universe. All these themes are dependent on incarnational theology insofar as Christ, as God, became man and remains



man and will judge the world as man. God is now deeply, pervasively and irrevocably immanent in creation and creation in its present state, with God immanent within it, is a sign of the future glory to which we are building and is, therefore, sacramental. Thus nature itself is holy and worthy of respect in itself because of its destiny in God.

In the first chapter of both Ephesians and Colossians Paul ends up mentioning the Church, the cosmos and the Body of Christ as identical realities in the final state of things. Thus creation is directed to its full expression in the Body of Christ. To speak of the form of Christ is to speak of the form of the servant, of the one who gave himself in service and ultimately in complete self-sacrifice. If this is the criterion by which we judge our scientific and technological experiments, it focusses on the human consequences of what we do.

The continuing incarnation, exemplified in the risen and ascended Christ, is obviously related to eschatological reality. The eschaton has already begun with the life, death and resurrection of Christ and continues forward toward its definitive state, made definitive with the second coming of Christ. Little can be said directly about the passage from the "now" state to the "then" state of eschatological reality. Perhaps an analogy with baptism would be helpful.

In baptism the continuity of the person continues through a remarkable change. The baptized individual becomes a son of God without losing his own personal identity. The universe, in the teaching of the *vetusta orthodoxia* (the old orthodoxy), will become divinized without ceasing to be itself. The ultimate divinization of all things will be an effect of the second coming of Christ. This notion of the divinization of creation can serve as the focus for all the problems rising from science, from genetics, to the environment, to the predictable use of psychoactive drugs, and so on -- all these things concern the role of man as the co-sovereign of the universe with, in and through Christ. All these questions touch on sacramentality, incarnation, and so on; they all eventuate in some kind of eschatology.

Part of eschatological mystery is that God has not seen fit to clue us in on his ultimate purpose beyond some rather general revelational stances that we as Christians would adopt. God has not given us a blueprint how to build the new heaven and the new earth. We have been told only that there is a new reality being built and that we fit into the building of it. It all seems so vague, so mysterious, so difficult for the pragmatic mind to accept. But to remain with the analogy of the blueprint: perhaps we have the edges of the page. The Judaeo-Christian revelation stresses the defense of the op-

pressed; perhaps that may be one of the "edges of the page" that will contain the finally revealed blueprint of the new heaven and the new earth. There is the notion of the holiness, the sanctifiability and divinizability, of creation, of man; that could be another edge. Within these "constraints" man and God fill in the rest of the plan of God. This is only an analogy and, perhaps, it is not appropriate.

In this connection, to ask for the blueprint now would be, so to speak, to abandon our own responsibility. Here we are to shape the blueprint both out of what we know about the edges and out of the situation in which we find ourselves at any given time and place, and we have to proceed step by step. The blueprint then becomes a collaboration between God and man in his exercise of his free historicity.

All this sounds strange. It seems that one of the theological mis-directions made in the west, at least, over the last several hundred years has been a non-incarnational eschatology. The eschatological implications of divine immanence have been forgotten in the west since around the time of the Black Death. There has been a heavy emphasis on the transcendence of God in terms of the "Last Day", with little emphasis on what the immanence of Christ in creation, the pervading presence of Christ in creation, means in terms of the "Last Day." This is an area that could use a great deal of systematic theological research.

#### *Moral Considerations*

In the scientific-technological context, one of the operating questions is: what difference does it make to believe in God as you approach some of these research situations? For instance, can any single human value be trusted as the guide for scientific research? Two scientific criteria were given to research: experimental feasibility and the chance of breaking the paradigm. Social justice should be added. No one of these values is necessarily supreme, precisely because God is supreme. If we worship God rather than knowledge, then we are open to being the servants of more values than just knowledge itself.

To oversimplify: to believe in God as the one Lord of life and creation is to be delivered from the captivity to any one single human value. Richard Niebuhr has spelled that out quite eloquently in an article called *The Center of Values*. What difference does it make to believe in God as you approach some of these research situations? The above suggests that it does make a difference. If one goes on further to talk about the Providence of God, assuming that we know something of what God is doing in the world, that suggests that one



can fit his human actions including science to something related to the problem. For example, take the third criterion, that of social justice and the question of how any research helps those the least of my brothers, namely, the weak and easily oppressed people of the world.

It is not enough, however, to say that there is need for the social control of research. Such control can ignore social justice just as much as uncontrolled research. The society that shows no concern for justice is as bad as the researcher who shows no concern, but now multiplied out to the degree of power available. The only kind of social control that is valid, in terms of the question of the difference made by belief, would be one that reflects the Gospel message of the salvation of the oppressed, one that furthered God's action to liberate the oppressed. Let us specify this by thinking out loud about *in vitro* embryological control.

At the present time that question probably has to be approached from both sides, and then carefully. It is difficult to justify even in therapeutic use (not considering the aspect of social planning based on this technique) and also difficult to just write it off as unjustifiable. Take the case of a woman with a tubal blockage who very badly wants her own child. Due to a pathological condition she cannot have one. She could adopt a child as one answer to the problem. But for the sake of argument say that she and her husband have their heart set on their own child. *In vitro* embryology, when developed, would permit this. The end is laudable enough, but what about the means? Right now it is the only means on the horizon; this, of course, does not necessarily justify it. There are definitely real problems. The physical material to be handled is extraordinarily delicate. It would be easy to do genetic damage to either the egg, the sperm or the blastocyst in this process. What happens to the accidents produced. Are the blastocysts to be squashed then and there? That would be the obvious secularist answer. But is this material that deserves respect because it is both unique and holy? One important criterion that may help define the limits of the problem on how to proceed in a moral fashion is the kind of respect we give to our mistakes.

But doesn't nature abort about half the fetuses conceived? Why shouldn't we follow nature's way of getting rid of monsters? Why should we preserve defective embryos anymore carefully than nature does? Could it be incumbent on us to care for them since we assumed a burden over and above the "natural" when we began this type of procedure? What kind of burden does man assume in terms of the consequences of his actions? Just on the pragmatic level, would not the necessity of the care and feeding of monsters make us very much

more careful in how we try to redirect nature?

We can in theory do all sorts of things, but there must be some limits on our behavior; otherwise what is going to prevent us as a group of scientists, say, from reaching the point where we destroy our own profession by unprofessional behavior? The doctors who did experimentation in the Nazi death camps illustrate what is meant here. It could be that a seriously defective blastocyst re-implanted in the womb would be aborted spontaneously anyway. But man has to be very careful of how he begins to "imitate" nature. Paul Ramsey may well be right when he says the answer to this problem is to heal the pathology and not to invent new modes of fertilization. In that same spirit one could say that, when man tampers with nature to that extent, he must endeavor to be more human than nature. In this regard it is interesting to read Andre Dumas' talk that was given in Stockholm at the ecumenical service sponsored by the World Council of Churches. We have some needed improvements to make on nature, but that must not keep us from picking and choosing carefully. The whole environmental mess is proof enough of that.

The consequences of our practices must be measured by what is good for our common life, not what is good for all of us but what is good for all common social life. This measure for our common life should be defined by all of us. There must somehow be the possibility for the participation of all to define that measure. This should include all mankind, including those who will be determined to some extent by what we do, say, in genetics or toward the solution of the environmental problem.

What is being discussed is really the programming of the human race to some extent or other. In some of these problems to do nothing may be a greater problem than to do something. Doing nothing in these cases is really doing something. In a sense you are doing something by preserving a life that is genetically unfit. Who is going to decide? There's certainly a chance here of chromosomal racism. This drive for "genetic purity" is going to fall most heavily on those on whom these things always fall most heavily, on those least able to defend themselves, namely, the poor. The theological dimension here, one which is more often ignored, is the Judaeo-Christian mandate to protect and defend the *anawim*, those most easily oppressed.

The whole question of genetics is confused at this point. For instance, take the presence of cosmic radiation on earth, the presence of thoriated sands, say, in the Amazon basin, the use of medical x-rays, all these things in an essentially haphazard fashion affect and effect human genetic composition. The question is: is it more in conformity with God's will that the genetic composition of the human race occur from random forces (as we look



at them) or occur from the creative power of man? Is it according to the will of God that we do this with creative human ability? Is the mind of man just another natural force to affect genetic composition? Is this whole moral dimension approachable from the question whether it is the will of God that man use his native creativity to improve -- note that "improve" will require a great deal of definition, serious thought, and not sentimental meanderings -- humanity genetically? Not the least important question here is what constitutes improvement. There are other problems besides.

There are other more general moral dimensions of the theology-science problem set that need research. For instance there is the distinction between an "individualistic ethic" and a "statistical ethic," or perhaps "collective

ethic" would be a better descriptive term. The social doctrine of the church, for example, until *Pacem in Terris* at any rate, had dealt either with individual cases or the sum of individual cases (e.g., the notion of a "just wage" as compared to the current notion of "social justice"). What is needed is a closer look at the underlying causes, the social factors and the conceptual frameworks that lead to situations of social injustice. The question here is not one of a science-theology dialogue, but rather of society-theology, society-science and vice-versa. (*This area of questioning was merely broached, not discussed at any depth: editor's note*).

The discussion of the scientific and theological aspects of the modern situation was preparatory to the consideration of the state of and problems of the science-theology dialogue.

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## NEW MEMBERS

**BARTUSH**, Stephen; 690 N. FM 373; Muenster, Texas, 76252; U.S.A.; Student; St Gregory's University; E-MAIL [stephenbartush@hotmail.com](mailto:stephenbartush@hotmail.com).

**BIERNATZKI, SJ**, Brother William; 3601 Lindell Blvd; St Louis, Missouri, 63108; U.S.A.; Jesuit Brother and Book Editor; Communication Research Trends; (314)-977-2676; E-MAIL [wbiernatzki@jesuitswisprov.org](mailto:wbiernatzki@jesuitswisprov.org).

**EIBEN**, Stephen; 2338 W. Lupine; Phoenix, Arizona, 85029; U.S.A.; Student of theology/psychology; St. Gregory's University; Politics, Economics; (602)-371-1869; E-MAIL [stepheneiben@hotmail.com](mailto:stepheneiben@hotmail.com).

**HACKETT**, Shannon; 8034 S. Irrington Avenue; Tulsa, Oklahoma, 74136; U.S.A.; Student; St Gregory's University; ; (918)-488-1547; E-MAIL [shhackett@stgregorys.edu](mailto:shhackett@stgregorys.edu).

**KERR**, Colonel Nelson; 704 Richmond Road; Williamsburg, Virginia, 23185-3542; U.S.A.

**KOHLSTEDT**, Kevin; 1637 Illinois; Lawrence, Kansas, 66044; U.S.A.; Student; University of Kansas; Natural Sciences; (785)-979-6212; E-MAIL [bbraum@ku.edu](mailto:bbraum@ku.edu).

**MELLOR**, Dawn; 1529 Oxford Drive; Altus, Oklahoma, 73521; U.S.A.; Student; St Gregory's University; Theology; (580)-480-1015; E-MAIL [damellor@stgregorys.edu](mailto:damellor@stgregorys.edu).

**MILLER**, Most Rev. J. Michael; Congregation for Catholic Education; Vatican City, Vatican, 00120; (Europe); Secretary; Congregation; Education, Seminaries and Institutes; ; 06/67011.

**MURRAY, PhD**, Michael; P.O. BOX 1543; Lawrence, Kansas, 66044; U.S.A.; Professor of Nuclear Physics; University of Kansas; Arms control, social responsibility of scientists; (785)-864-3949; E-MAIL [mjmmurray@ku.edu](mailto:mjmmurray@ku.edu).

**REIS, PhD**, Signo Tadeu; 1515 N. Bishop, Apt. 5-A; Rolla, Missouri, 65401; U.S.A.; Visiting Professor; University of Missouri - Rolla; Science & Technology; E-MAIL [reis@umr.edu](mailto:reis@umr.edu).

**SOUKUP, SJ**, Paul; Santa Clara University, 500 El Camino Real; Santa Clara, California, 95053; U.S.A.; Jesuit Professor and Editor; Communication Research Trends; E-MAIL [psoukup@calprov.org](mailto:psoukup@calprov.org).