



BULLETIN

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A Joyous Feast of the Resurrection!

Before attempting anything else in this issue of the *Bulletin* I would like to thank all those members who responded to my letter of last September on recruiting and goal setting. I feel certain that your suggestions and comments will enter into ITEST's thinking, planning and prayer. It is a wonderful experience, especially for us on the Staff, to feel the benefit of your concern, expertise and wisdom. Thank you all very much!

The last several ITEST Workshops have emphasized the complexity of the issues that either have demanded, or are beginning to demand, our attention. Issues like food, population and environment, being global both in their nature and in their effects have many interconnected dimensions. Clearly these three issues themselves are interconnected and demand more attention than faith/science issues with which we are familiar. As we grow into God and into the history of salvation we can expect greater complexity — and greater concern.

The context in which these questions must be faced is troublesome. As is clear to all, there is a powerful evolution of the idea that death is a suitable answer to the problems of life. Rather than looking to life in God, our culture is more and more finding excuses to promote death, either our own or that of others. This is simply intolerable to those who look to Christ as the Answer to life's problems and the Goal toward which we all strive, especially in this season of God's gift of life (and Life) to us in the Resurrection. In concluding this little message I would simply re-echo the last sentence of one of Hippolytus of Rome's Easter sermons: "And the people that were in the depths arise from the dead and announce to all the hosts of heaven: 'The thronging choir from earth is coming home'." Our life is His and we are to bring it back to Him. Happy Easter!

Robert Brungs, S.J.

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

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ANNOUNCEMENTS

1. The Proceedings of the October, 1995 workshop: *Population Issues: Cairo, Copenhagen, Beijing*, have been sent to the printer. Look for your copies in about six to eight weeks. A delay occurred because of problems with the transcripts. We have contracted with a Michigan company to print this volume.

2. ITEST is now on the information highway. You may reach ITEST at Marianne Postiglione's e-mail address: postigm@wpogate.slu.edu; for now that will be the temporary official e-mail address of ITEST. We are designing a home page for ITEST on the World Wide Web. As soon as we are operating, we will let you know. Tell us what you would like to see about ITEST on the Web; we appreciate your suggestions.

3. In July we will publish a directory of ITEST members (dues-paid as of June 30, 1996). We will include all available e-mail addresses of members in this directory. Please send (e-mail?) us your e-mail address if you have not done so.

4. Please let us hear from you with any reactions or responses to the material in this (or any other) Bulletin. E-mail us and we will save the

message for inclusion in the next bulletin. We are still receiving responses to Fr. Brungs' September letter (see p. 3); the latest group of letters appears in this Bulletin. The ITEST Board will consider these suggestions for future plans of action. Many of the suggestions are excellent and "doable"; others have been tried and found impracticable; some are not viable at this time. We thank you for brain-storming with us; the ITEST Board appreciates your efforts.

5. Books Received: *The Sacred Melody: And Man Created the Universe*. Trinh Xuan Thuan. Oxford University Press. 1995. The author looks at modern cosmology combining descriptions of the latest developments in astronomy with reflections on science's possible impact on philosophical and religious belief; *Divine Nature: A Spiritual Perspective on the Environmental Crisis*. M.A. Cremo and M. Goswami. The Bhaktivedanta Book Trust. 1995; *Embracing Earth: Catholic Approaches to Ecology*. A.J. LaChance & J.E. Carroll, (eds.), Orbis Press. 1994; *Perspectives on Technology and Culture*. Egbert Schuurman, Dordt College Press, 1995. We shall send any of these books to willing reviewers.

BOARD OF DIRECTORS ANNOUNCES SEARCH FOR ITEST DIRECTOR

The search is on for a successor to Fr. Robert Brungs, SJ, co-founder of ITEST and director since 1968. Fr. Brungs will become "chairman of the board" as soon as a new director is in place. His 27 years of "full-time" service to the organization has afforded little opportunity to write. He hopes to devote his energy to research and writing on aspects of the faith-science ministry.

Position: Director of ITEST
Requirements: PhD in Theology or Science, with an appropriate competence in the other area.
Responsibilities: Organizational development (membership, fund raising, program administration),

(1) designing workshops/conferences for college/university professors, professionals in business and industry, scientists/technologists, clergy and church leaders and college and university students in theology and the sciences — all with a view to "meaning" for the Christian living in the world; (2) lecturing on topics of science/faith/theology; (3) writing on these same topics for publication, either in-house or in journals; (4) exploring new areas of ministry or service (i.e., campus ministry).

Salary/Stipend: Very modest, but somewhat negotiable
Conditions: One to two-year internship or residency with present staff.

Contact: S. Marianne Postiglione, RSM, Dir. of Communications and member of search committee. (314)-977-2703; FAX 977-7211. Or send resumé with letter of intent.

MEMBERSHIP SURVEY

Simply to refresh your memories we are re-printing the pertinent parts of the letter of September 25, 1995 to the membership on the question of recruiting more members.

In the 1950s and 60s many priests and nuns earned doctorates in science. Many of them became involved in areas of faith/science work. This group, along with many other ITEST members, is now beginning to approach retirement age. Moreover, ITEST receives notices of death of about a dozen members a year. We can now more easily recognize that this is the baptismal task of the "laity." That recognition is certainly a gift of the Spirit.

I am writing to ask you to write to us about your ideas for recruiting younger members (current students, recent graduates or younger colleagues) for our common faith/science effort. We plan to devote the next two issues of the ITEST Bulletin (starting with the Winter, 1996 issue) to explore ideas in this area. I ask you to write a short piece (700 words or less by about Jan. 1) about your ideas - even theoretical ideas. Although we do not plan on developing some "grand strategy" to involve Christians in this exceedingly important area, we want to be able to furnish suggestions to groups like campus ministers on cultivating this area of the vineyard. I am also sending a request to our members actively involved in campus ministry work to comment on these thoughts in the Spring issue of the ITEST Bulletin.

It's not necessary to tell you about the need for collaboration between faith and science. Both partners in dialogue need each other and need the kind of bridging that organizations like ITEST provide. Moreover, this need will grow. If you have read Higher Superstitions: The Academic Left and Its Quarrels with Science, you are aware of the sense of unease in the scientific community. If you have read any of Pope John Paul II's recent articles on faith and science, you are aware of the church's need to understand the world as it really is. Our baptismal task propels us into this blessed mix simply because we love both our science and our faith.

I'd ask you to write to us about where we can engage younger scientists and theologians, how you perceive their development, how we can help educate them more deeply in the intellectual riches of their faith, what issues we ought be most deeply concerned about, and so on. We will be willing, of course, merely to summarize your thoughts, if you do not desire them published as such in the Bulletin. We need whatever wisdom you can provide us out of your background, experience and understanding of the faith. Thanks for your cooperation in this vital effort.

Augustin Udias, SJ
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Thanks for your letter asking for my comments to the problem of promoting interest for the faith/science problem. Here are a few limited comments.

Awareness of the importance of science and technology in contemporary life is not always as common as one would think, especially outside the scientific community. Consequently, the importance of science for many does not create any problems for them, and, as a result, the faith/science dialogue is not felt as an acute necessity. In ecclesiastical or theological circles, there is little interest; unfortunately science is conceived as something beyond their concern. In the scien-

tific community the situation is different, but still the concern is not always deeply felt. In my experience only a very small minority of young scientists have a true interest in this problem. Even among good Christian scientists, faith and science coexist with little or no interaction. These scientists live a double life, satisfied with the complete separation of their scientific work and religious practice.

In view of this situation, the first step consists in creating a real awareness of the need of interaction between science and faith. This has to be done in a different way when we address scientists who are not aware of the importance of their faith in their scientific work and of their science in the formulation of their faith. We see this when we address non-scientists who do not see the important consequences of science to their faith and religious life. Now, comes the really

difficult question: how can we create this awareness? In the first place, we have to multiply the instances in which this problem is made public. We have to talk and write more about it; we have to indicate the mutual influences involved.

In Spain, for instance, very little is being done about this problem. Naturally enough, the one who will have to make these aspects known must simultaneously have scientific training and a deeply articulated Christian faith. I think that ideally he/she should be a scientist, not necessarily a theologian. In my experience, few theologians have a real interest in science. Many of them seem to have all the answers even before the questions have been asked. However, getting theologians interested in the scientific questions remains an important task, though a quite difficult one. My short experience living with Jesuit theology students substantiates my view that they have little interest in science. In that attitude they are similar to their teachers. Today, in the training for priesthood there is no exposure to science; this a serious handicap.

I have more hope of getting young scientists interested in the relations between science and religious faith. This involves not only the theoretical questions about scientific knowledge versus religious faith, but especially about the practical questions derived from the way science today has become an agent of power in the developed countries. Science is no longer neutral, if it ever was; it is an important factor in the unjust world we live in. How to promote science in Third World countries is an important question. To create a sensibility about an unjust distribution of scientific and technological progress is an important challenge to scientists today. Other important topics are arms development and trade, environmental aggression and the continuous demand for higher energy consumption per capita in the rich countries.

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I am encouraged by your efforts to publish suggestions for developing catechetical procedures for science/faith students. I wish I could add to your list of tried and proven methods. But we have plans:

1. We have a Lenten Retreat, one week long, focusing on prayer and career.

This year we will have ten retreat directors who are Vocation Directors working with Faculty to assist

the students in discernment. Each day will feature a College/Department, e.g. "Do Chemists Pray?" We have many expectations, among them, an awareness that Faith and Science do mix.

2. We dedicate one weekend of Liturgies to the study of a College/Department. The assigned Lectionary of that weekend determines what College is recognized. Again, we hope to bring students and faculty to understand that Faith is friend of Science. I incorporate thoughts of faculty and students as well as slides from that College. This requires some very demanding work.

I want to thank you for the work you have done and continue to do. Although I have not been able to attend any of the weekend programs, I welcome ITEST materials. ITEST is a tremendous influence and support to us on the secular campus. It is a blessing. Please continue. Gratefully!

Mr. Michael Plishka
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A Tale of Two Trains

Science and faith are like two trains running on separate tracks. Both look quite similar and they seem to be going in the same direction. Where science and faith seem to diverge is on the meaning of the trips. Those on the science train do not seem interested in where the train is going. They simply relish the experience of the journey. For them the next moment only holds the promise of more to discover. They sneer out the windows to those on the faith train and mock them for trusting in a Destination that seems to have no connection whatsoever to the wonders of the journey.

Those on the faith train have their eyes fixed on the reward and much too often pay little heed to the glorious scenery they are experiencing. When screams of elation resonate from the science train when a new discovery is hailed, those on the faith train give only mild notice for fear that somehow they will not reach their destination because of this new knowledge.

Those scientists who have a faith commitment, who see the handiwork of the Trinity in all they discover have the best of both worlds. They relish the excitement of the journey while knowing that their work is only a prelude to the Eternal Mystery that is to come in finality. They, unfortunately are straddling the two trains. To make matters worse, passengers on both

trains do not feel comfortable with these quirks of nature — the religious scientists. Thus, passengers on both trains try to push these anomalies off, and if they succeed, indeed, ne'er the trains shall meet.

Passengers on both trains who try to push *homo-scientifico-religio* off are gripped by fear. Those on the faith train seem to be intimidated by science and perhaps fear that somehow science will disprove the actuality of their destination. In essence they are afraid that science will rob life of meaning.

The scientists also have a fear though it is veiled. Science is not an end, it is a process; a series of solutions that beg more questions. A final end, or any type of dead end, is every scientist's nightmare. It is in the nature of the scientific mind to discover and keep seeking. A confrontation with an ultimate *Telos* strikes fear into the psyche of scientists. Without realizing it, they are afraid of God. In a strange twist, they too are afraid that their lives will lose meaning.

If fear is what grips them, then Love must free them. A static Love will not woo the scientific mind, only a dynamic, creating, revealing, journeying God of Love will. We, as scientists with a faith commitment, must create an environment whereby God can become incarnate in the journey of young scientists. We must, like Mary, bring Eternity into time, the unbounded we must circumscribe. All good scientists are enamored by learning and discovering. We must present younger scientists with a God who is a co-learner, a God who sat among teachers, listening and asking them questions and subsequently growing in wisdom and stature before God and humanity. (Lk 2:46-47,52) Until scientists can somehow see the Teacher as the Student, the journey itself will always be more exciting, more alluring than the omega of the journey.

How do we present a God who is a Co-Learner? To this end we should reflect shortly on the Eastern Christian doctrine of *theosis*: God becoming human so that humans can become god. (Attributed to St. Athanasius) All humans are called to deification; called to share so intimately in the life of God that the Kingdom is no longer a destination to be reached; it is a reality to be revealed. We, as scientists, are always perpetual learners. As God becomes incarnate in the sciences through us, through our *theosis*, God teaches through the learners, just as God fishes through the fish. (cf. Mk 1:17) As we reveal the Kingdom in and through our research, studies, and life, our younger colleagues will begin to see Emmanuel: God-With-Us. Perhaps then also, those on the faith train will see Science-With-Us and maybe the trains shall meet at some destination before Omega Station.

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I received your letter asking me to write a brief reflection for the *ITEST Bulletin*. I appreciate your invitation and will write something about the current situation (generation gap!?) in the Japanese context.

We are also concerned about how to recruit younger members in two groups in our country: the Association of Catholic Graduates of Japan and the Christian Scholars Fellowship. The former is not a group of scholars, but a group of university graduates. It was founded in 1967 after Vatican II. It had 800 members at its peak, but it now has only some 100+ members. We have failed in recruiting younger members. The latter is a group of university teachers (mainly Protestants). This group has some younger members but not enough.

I hope at some time to be able to respond to your letter at some greater length.

Mr. Matthew Incera
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Here are a few ideas regarding the recruitment of younger members of the church for our common faith/science effort. I hope that it helps somewhat.

A bipolar policy created by this country and the former Soviet Union that shaped a consensus of the people in this world from an "us versus them" attitude has collapsed. We are beginning a new type policy in this world; namely, a theory of humanitarianism. This policy of humanitarianism has brought some distancing from Cold War paranoia and has promoted a greater sense of the need for strengthening ties with men and women around the world.

Young theologians and scholars should be concerned with such humanitarianism in the future. It will occupy both the policy of the church, the country, and the world. The concept of feeding another human being, or creating an advanced irrigation system in a Third World country is an idea that should be further developed in the future by ITEST.

An inherent concern with the welfare of our fellow men and women is important not only for a younger ITEST member; it is important for a Christian. This

concern for others is essential for our development into mature adults in the Catholic Church. We should look to issues that will further the welfare of others.

Alfred Kracher
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During my undergraduate chemistry work in the mid-1960s one of my lab partners was a nun, drawing a few stares from other students with her formal habit under a white lab coat. To many of us older Catholics this is the picture that comes to mind when we think of the relationship of science and religion: the priests and nuns who added a science degree to their primary vocation as part of their pastoral work. But today the number of priests and nuns is half of what it was during my college years, and the kind of teaching jobs represented by my former lab partner are more and more taken on by lay people.

Outside the church, too, the relationship between science and religion is changing rapidly. The old "warfare" mentality is giving way to a new sense of the importance of both religion and science, and an increasing number of interested, intelligent people are attracted to workshops, classes, and into bookstores that promise a dialogue between religious and scientific traditions.

This situation poses problems for the three-way encounter between personal faith and the academic areas of theology and science. There is no lack of opportunities for academic interactions between theologians and scientists, but such debates do not necessarily affect individual faith. In fact, there is a certain danger that a science-religion dialogue conducted as academic pursuit will pay too little attention to the needs of individuals. Responding to those seeking answers for their personal lives has always been more difficult than academic debate, but the changes in public attitudes towards religion and science have made it more so.

Organizations like ITEST have come into being because of specific needs. Not so long ago someone like my nun-lab partner would have been expected, especially by Catholics, to have clear and definitive answers to questions arising in the science-religion area. But to the present generation such certitude has itself become suspect. If someone asks questions today, (s)he does not want to be the passive recipient of prefabricated doctrine, but a partner in a process that explores possible answers and strives toward a goal not yet clearly perceived.

There is no scarcity of people who want to participate in such a journey, even in today's high-pressure college world. The obstacle to finding suitable venues is not lack of interest, but lack of credibility. And this is not because, as the old slogan had it, no one over thirty can be trusted, but because "credibility" means something different to this generation than it did in the past. This is a genuine misunderstanding, and one that is not easily resolved.

A different way of saying this is to describe our minds as a set of boxes that hold different concepts. For the Catholics of my youth faith and theology went into the same box, close to the very core of their personality. Science, important as it was, had to fit in next to it. Mostly that was not a problem, at least as long as the science dealt with the inanimate, like physics.

This is no longer true for anyone who has gone through contemporary secular education. Faith survives, of course, as it always does. It is the kind of thing that only fits into the box in the very center. But there is no reason why it has to share this place with traditional doctrine. More and more it is the scientific world view that we accept, not strictly on faith perhaps, but as the normative way of finding out things about ourselves and the world. And on this journey we are all together, no one can claim to have already arrived. Insofar as established denominations, and the Catholic church in particular, pretend otherwise, credibility evaporates. Faith is on the side of the fallible and critical world view of science.

Few things in history are ever entirely new. Long before credibility became confused with certainty, Christians already had a word to describe this communal journey of faith. It used to be called discernment and it is badly in need of revival today, not only for pastoral reasons, but for philosophical and social reasons as well. It means, among other things, that the Spirit will not be hurried — neither by fiat from above, nor by majority vote. To fulfill the needs of a generation genuinely interested in the relationship of science and religion means to help with the patient work that has to be done to arrive at the best answer together. So if I were asked what it would take for ITEST to be successful in the science-religion dialogue in the 21st century, my answer would be that it should become a vehicle for the discernment process in these matters.

Dr. Christopher B. Kaiser
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I am responding to your appeal of 25 September: "How do we engage younger scientists and theologians?" The question has several levels.

At one level, we are asking what we should say to young scientists and theologians. If we could plant any one idea in their heads and hearts, what would it be?

For twenty years, I have worked with aspiring theologians on a daily basis. On occasion, I have also spoken to young scientists in classes at a nearby college. At first, I thought my mission was to convey the content and methods of the two disciplines: the content and methods of science to theologians; the content and methods of theology to scientists. But increasingly I feel that a new vision is more important than content.

The vision I want to convey to both of them is that science is a human endeavor, and as such it is a good example of faith. Whether we study the great scientists of history or talk to the scientists around us today, we find people who have devoted the main part of their lives to a belief. Scientists believe that even the most intractable problems of nature can be solved. What is more, they believe that solutions can be worked out, not by angels or Laplacean intelligences, but by the products of evolution we call homo sapiens.

Many theologians would say that faith in the comprehensibility of the world is not Christian faith. To be sure, it is not the entirety of Christian faith. It does not involve an explicit awareness of sin or the work of Christ. But it does point to a profound rationality that unites the depths of the human psyche with the depths of the cosmos, and for many scientists this points to the ideas of creation and providence, perhaps even to some kind of divine illumination. While scientists may ignore the historical Jesus, they are very close to the cosmic Logos. And, what is more significant is the fact that they act on the faith that they have. That is more than can be said of many theologians!

You ask not just about visions and faith. You ask also about development and education. If articulating a vision were sufficient, the world would have been converted long ago. But, as Augustine discovered, the heart and will are harder to move than the intellect. So what is the condition of our hearts?

At present the hearts and wills of most people are totally absorbed with the demands of survival and advancement. We lack the communal support systems that gave relative security (existentially) to our ancestors. We have also lost the sense of the immediacy of the spiritual realm that impinged so dramati-

cally on the many of their lives. When I challenge scientists and engineers to consider the implications of their work, the problem is not one of hostility or denial. It is simply a lack of time. The barriers to faith today are not primarily intellectual. Most people can find God if they take the time and enjoy the support of a community. But the realities of twentieth-century life deny most of us those two conditions.

Engaging young scientists and theologians will require encouraging them to break free from the demands of publication and even the demands of Christian service enough to reestablish their sense of place: their place in the cosmos, their place in community, and their place before our Creator.

Ms Amalia M. Issa
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Thank you for the letter requesting suggestions for recruiting younger members into the faith/science realm. I am enclosing a few thoughts (*Engaging Hearts and Minds: Forming Learning Communities Among Scientists*) which I hope will be helpful in our efforts.

For science develops best when its concepts and conclusions are integrated into the broader human culture and its concerns for ultimate meaning and value. Scientists cannot, therefore, hold themselves entirely aloof from the sorts of issues dealt with by philosophers and theologians. By devoting to these issues something of the energy and care they give to their research in science, they can help realize more fully the human potentialities of their discoveries. They can also come to appreciate for themselves that these discoveries cannot be a genuine substitute for knowledge of the truly ultimate. Science can purify religion from error and superstition; religion can purify science from idolatry and false absolutes. Each can draw the other into a wider world, a world in which both can flourish.

This is the ideal to which Pope John Paul II calls us to steer our science by as Catholic Christians and as scientists. It seems to me that Fr. Brungs' request implicitly rekindles the age-old question attributed to the early Church father Tertullian: "What does Athens have to do with Jerusalem?" What does the life of the mind have to do with the life of faith, of the heart? How can the mission, the *raison d'être* of ITEST, the

integration of spirituality and intellectual life survive and flourish in our contemporary society which emphasizes, and even insists on marginalization of faith, tipping the scale instead in favour of science and particularly technological advance?

The first task it would seem is to overcome the myth that faith and reason are antithetical to one another and to lead university students (both undergraduate and graduate) to an appreciation of the reality that our Christian faith is rich, indeed steeped in intellectual tradition. Faith, far from being a substitute for thought, makes better thinking possible. There is also a need to provide students with an environment in which to explore and discover their specific lay vocation, the way that each individual is called to work for the building up of the Kingdom. It may be over-generalizing somewhat, but not too much of an exaggeration, to state that most lay faithful continue to live their lives without any sense that what they are embarked upon is a vocation — this despite the Second Vatican Council's declaration on the fundamental importance of the vocation and mission of the lay faithful. *Christifideles Laici* clearly exhorts all to "a total and ongoing formation of the lay faithful" which is ". . . not the privilege of a few, but a right and duty of all."

If we claim that truth and the pursuit of truth is the fabric of our daily lives as scientists, then I believe we need to consider seriously the formation of "learning communities" among scientists. Ideally, such communities would serve to (1) deepen the prayer life of the members, (2) to engage in discussions on science-theological issues and science-faith issues, and (3) to foster a sense of individual as well as communal vocation (particularly for non-clergy scientists to see themselves as called to be engaged in the building of the Kingdom through their science).

The key, I think, is for campus ministries to extend an invitation to students and scientists to form such a community themselves with guidance and resources provided by the campus ministry office, with the help of ITEST. One suggestion I have would be for ITEST to publish a pamphlet of guidelines and suggestions for the formation and nurturing of lay learning communities among scientists.

These communities can and should also find ways to develop the formation of their members in faith and catechesis. With the publication of the *New Catechism of the Catholic Church*, a plethora of papal encyclicals, as well as other documents, there are ample resources to assist in this formation. The key is to persuade young Christian scientists and "scientists-in-training" of the importance of "keeping up" with their spiritual

formation as well as with the scientific literature. All professionals realize that failure to attend to advancing one's knowledge in the scientific sphere is a prescription for career suicide. However, I cannot recall the last time I heard anyone make a similar claim for failure to advance one's knowledge of one's faith. I realize, of course, how difficult it is in reality to achieve such an ideal, given the demands on our time which we all have. But it is important to keep in mind that this need not be an "all or nothing" endeavour. One way that campus ministries can aid in this undertaking is to host periodic discussions on various topics.

My second suggestion would be for ITEST to "franchise," i.e. to form chapters in various cities, complete with Chapter offices, a steering Board of Directors, a Chapter Director, etc., in conjunction with the local diocese and university campus ministries. I do not know how to go about implementing this, particularly in these difficult economic times.

Thirdly, ITEST may wish to consider hosting a summer conference for graduate students and other young scientists to come together and discuss specific issues related to the "theological encounter with science and technology." Again, such an endeavour would require financial assistance, particularly since most graduate students would be unable to finance their own way.

Finally, we must never forget the need to deepen our prayer lives; to keep plugging into the Source and Author of Life. Campus ministries can aid in this by providing retreats for graduate students and science faculty aimed at discovering a spirituality for scientists.

The life of the mind tends to exclude the heart, but the vision of the heart can include the mind. We need both eyes — of the heart and mind — to see whole. We need to embark on this venture together, to continually reflect on where our science and knowledge are taking us, and keep asking to what "heights of truth" we can take them.

Dr. Alice B. Hayes
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I am sorry to be so late in responding to your request to share my thoughts on recruiting young members for ITEST. I have a few ideas, and I hope that they will be helpful.

1. ITEST is not sufficiently well known. ITEST might develop an *outreach program*. Perhaps ITEST could

hold a session, present a program, or sponsor a wine and cheese reception at national meetings of scientists, like AAAS, AIBS. The programs and publications could be more widely advertised so that people become more aware of its activities.

2. Many of the issues that call for attention are not specifically Catholic issues. ITEST might consider a more *ecumenical approach*. I remember I first learned about ITEST when I was the chairman of a science department in which I was the only Catholic, but all of the faculty, including Christians and Jews, were interested in the ethical and religious implications of scientific topics.

3. ITEST should consider establishing a *Speakers' Bureau*. If ITEST would identify outstanding speakers who could address important issues, I believe that many universities would invite the speakers to present or participate in seminars and roundtable discussions. The seminars should be intellectually challenging. They could feature interdisciplinary perspectives on scientific issues and their human impact. The presentations should understand and respect the differences between science and theology, while also understanding and respecting the interactions between faith and knowledge. Church imagery and language is not always sensitive to the scientist's view of the universe, nor does the church really make any positive outreach to scientists, so it would be helpful to have scientists of faith comment on the integration of faith and knowledge in their own lives. ITEST could develop a program and take it on the road.

4. I think the *Collegium* program at Fairfield University is an attractive model, and perhaps ITEST could get some ideas from that approach and establish a *summer program* to bring young scientists together with senior mentors to focus on the development of Christian scientists. This should not be an attempt to pull faith out of science or vice versa, but a genuine thoughtful exploration of science as a vocation in life.

I hope that some of the ideas you receive are practical and helpful. I don't think there is any difficulty in recruiting Catholics to study the sciences. At the three Catholic universities where I have worked, the majority of the undergraduate students were Catholic, and the largest number of undergraduate majors was in the sciences. Most of the students had career interests in the health sciences, usually medicine. It has also been my experience that many of our doctoral students in the sciences have been Christians. The basic interest in science is there, and we should be helping these young men and women to prepare for a life in which their faith is not something isolated from their profession.

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Here is the way I see the contribution that theologians and scientists may make to the presentation of Christian faith, both to believers and non-believers.

Badly needed is a more correct exposition of the often misunderstood Christian view on our place in nature, as a *part of* God's creation, not *apart from* it. This is because a common misunderstanding of the so-called Western (read : Christian) view of humans is seen as separating them from the rest of nature, radically different, in as much as only we have a soul and form *the* purpose of all creation. Such a view is often considered as arrogant, and this not only in Japan where I happen to be living.

There is thus a great need to emphasize how, without taking anything away from human greatness, this unique species must be seen and studied *within* the total creative plan of God. One must stress, for instance, how, within that plan, humans share with all creation, in diverse ways and degrees, the divine Life. As a matter of fact, the Judeo-Christian tradition, though clearly differentiating between animals and humans, is far indeed from denying all sort of kinship between them. Francis of Assisi called animals our brothers and sisters.

Particularly needed, perhaps, judging from questions received, is an explanation of the cosmic dimension of the salvation brought to us by Christ. Not only humans, it must be seen, but all animals have a place in God's redemptive design, in the final harmony and peace announced by the prophets. There is need to stress that, if redemption concerns primarily the children of Adam, this is because it is through our fault that that creation as a whole became estranged from its Creator. *He must* be healed first by whom violence and disorder were let loose on earth.

Since science tends to stress the continuity between animals and humans, it is important to explain the nature of our excellence by showing how, in the Christian worldview, intelligence and free will are meant to enable us to fulfill our mission as caretakers of creation. This is the source of duties as well as of rights. The latter involve indeed "dominion" over nature, but a conditional and limited one, subordinated to God's plan. The ultimate purpose of the plan being not our good alone, but the harmony of the whole, preserving the integrity of creation.

To make the above Christian view clear to modern people is a major task where both Christian scientists and theologians ought to join forces today for the good of the Church and of all people of good will.

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Activation of the Young, Scientific Laity Towards ITEST

Being an industrial scientist who is becoming increasingly involved in the management side of the business has given me the opportunity to gain insight into the art of recruitment. Recognition of the motivation behind the actions of both recruiter and potential employee is the key to producing a successful and lasting experience for both. I will for the moment treat active membership in ITEST in this manner and hope that others can relate to and expand upon this analogy.

As recruiters things we need to be aware of:

1. What can we offer to potential new members?
2. What should we expect from new members?
3. Are we in tune with what the competition has to offer?

1. Our offerings can be seen as:

... providing opportunities for scientists to apply their talents (thoughts, energies and prayer) toward assisting their Faith through the guidance they can provide to the Church.

... creating a network of scientists (and those interested in scientific issues) to share ideas involving morals and Faith which often escape scrutiny in our daily lives.

2. Our expectations of new members should be clearly visible:

... members should be willing to participate through meetings, reading of pertinent meeting minutes and ITEST updates as well as being authors of ideas relating to the ITEST philosophy.

... they should be willing to be transmit their ITEST experiences into their scientific careers in ways both subtle and bold.

3. The competition we face is:

... information overload, a moral apathy created by a continuous bombardment of often meaningless (or misrepresented) data through the media

... the ever-present material drummed into our heads about the Church's historically poor track record with regards to dealing with science and technological advances.

... our ever-increasing pace of life in which we do more and more through improved conveniences and processes catering to our sense of getting the most out of our every waking moment.

Our Church, as our science, is changing or rather being driven to change by modern society itself. This call to improved recruiting of young scientists and clergy is fighting a very aggressive deadline.

The details I have just described are merely "a lay of the land" from the ITEST perspective. Understanding the psyche of young Christian scientists or clergy is difficult but necessary for successful involvement. We must remember that they tend to represent an unrefined, energetic mix of thoughts and feelings about science, faith, and their own personal roles as followers of Christ. Despite the distractions young people face, a significant portion of them possess the yearning for direction in these matters. *As truly as I believe anything in this life*, I feel that the Holy Spirit fuels this yearning in us all. We must merely give these young people "the nudge" which they want (and need).

Returning to the concept of recruitment in industry: the number one source of longterm employees for most corporations is the university. For ITEST, this should be target number one. A series of mini-ITEST sessions held at several universities throughout the country is a possible mechanism. Several members could present the case for the importance of having an organization such as ITEST, alive and growing in today's world. The most enlightening part of the process should be listening to the way in which the students express their concerns and feelings about science and faith. Remember that a "nudge" is rarely given with a sledgehammer. Our invitation must be direct, yet it must not in anyway violate the Prime Directive. God's greatest gift of *freely choosing to do His Will* must prevail throughout the experience (as it also pervades the ITEST membership).

Lastly, a site on the INTERNET could also serve the purpose of tapping into these fresh perspectives without coming off as preaching an uncompromising list of "do's" and "don't's." If God works in mysterious ways, why shouldn't He be surfing the net as well?

These are my 2 cents worth on recruitment of young scientists into ITEST. Feel free to use these thoughts "as is" or perform any editing you desire to fit into your purpose. I hope that this perspective and that of

other members is helpful in the pursuit of renewed success in recruiting new members. I'd love to see ITEST continue to stimulate thoughts on interactions between science and faith into the new millennium.

ITEST FOR THE FUTURE: SCIENCE, PHILOSOPHY, THEOLOGY

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I grew up in a faithful Lutheran family, the son of a biology professor, a man of strong convictions, a Darwinian and a practicing Lutheran, and the son of a preacher's kid, a woman devoted to her father, who was himself a Lutheran Minister, a democratic socialist and an opponent of dialectical materialism and scientific reductionism. I rejected organized religion at the mature age of 9 or 10 and was a full-fledged atheist — not simply an agnostic — by the ripe old age of 14 or 15. I went to college as a scientific atheist, convinced that modern physics was the highest human wisdom, that fundamental particles moving according to the immutable laws of nature explained all that is, was and ever will be. Religion was a crutch for those too stupid or too weak to understand or to handle the harsh realities of the natural world; God was a projection of the human heart's longings and desires, arising from fear and powerlessness, a hope that not only the fittest would survive and flourish; and immortality mere wishful thinking for those too timid to stomach the thought of perishing forever into boundless empty space and endless indifferent time.

Now a Catholic priest, a professor of philosophy, and a teacher of seminarians, I maintain my fundamental scientific outlook on the world. In fact, it was my scientific curiosity, my desire to understand the world of nature, that moved me to acknowledge the existence of God, the immortality of the human soul and the action of the Holy Spirit in human history. For me, "science" — natural science — was, is and always will be the foundation of my faith, the source of my religious sentiments and the basis of my theological worldview. Grace perfects and completes nature; faith complements and rises above reason; religion affirms and raises up (or, is at least meant to raise up) all that is truly human, all that borders on the divine within us. It was my studies of Aristotle and Thomas Aquinas, or, rather, my study of nature with the aid of Aristotle's and Aquinas' insights, that opened up my narrowly mathematical and physical outlook to the reality of transcendence and immateriality, in knowledge, in causality, and in real existence. With a broader

understanding of physical reality than is generally allowed by modern mathematical science, with a more holistic view of natural substances, a more varied and complete account of physical change and causality, Aristotle arrived at the existence of the Unmoved Mover, a being (or, rather, something beyond "a being") that is completely immaterial, separate from change and motion, outside of time, infinite in power, with no need of improvement and no possibility of corruption, something which, Aquinas says, all people call "God."

It was Aristotle's empirically grounded and scientifically reasoned argument for the Unmoved Mover, along with Aquinas' careful and critical acceptance of that argument, that enabled me to perceive the causality of God within all the intricate workings of nature and to recognize the providential hand of God's wisdom and love throughout the whole of history. The central mysteries of our Christian faith — the Trinity, the Incarnation — do not, and, indeed, cannot, contradict our knowledge of the universe created, sustained, and moved to action and completion by the one God of faith and reason. Neither can our truly scientific understanding of nature destroy the fundamental tenets of our redemption and salvation.

What passes for faith, religion and theology in our own day (as perhaps in any other day) is sometimes no more than wishful thinking, an irrational clinging to traditional certainties in the face of modern confusion, a promotion of personal preference or a maintenance of some perceived cultural identity, whether traditional or contemporary, in our constant struggle for power and survival. Moreover, what passes for science or scientific knowledge of nature is sometimes no more than a fanciful interpretation of a rigidly narrow-minded mathematical and materialistic outlook that refuses to question its foundations and methods or to acknowledge the limits of strictly experimental and quantitative techniques of analysis. I challenge all of us who inhabit these "two cultures" to open our minds

and imaginations, to engage in a "common quest for understanding," to live and to work together for a better world, rooting ourselves in the concrete experiences of nature and history and opening ourselves to the realities that lie beyond our present horizons.

Through my own historical studies of science and philosophy, in the thought of Aristotle, Albert the Great and Aquinas, Galileo, Descartes, and Newton, Einstein, Heisenberg, and others, I have come to believe that it is possible to formulate an integrated worldview, based in natural science and incorporating philosophical and theological insights. In fact, I believe that it is truly impossible to be a philosopher or a theologian without first being a natural scientist.

An understanding of "nature" and "body" and "human being" and "change" begins with physical, chemical, biological, and psychological concepts and realities. Any philosophical or theological analysis of these realities presupposes and depends upon our initial mathematical and empirical treatments of these natural, created, and ultimately redeemed realities. However, I

believe that our empirically grounded analysis must go beyond the mathematical and mechanical to consider the whole physical reality in all of its complexity — its aims, its internal structures, its qualitative features, and its causal effectiveness and capacities for change.

I believe that some kind of philosophical analysis of natural realities, grounded in our empirical experience, can help to bridge the gap between our modern dichotomies of body and soul, matter and spirit, fact and value, science and religion, and so help us to deal more effectively with issues of life and death, sexuality, personal freedom, and social justice. Critical, historical studies of the relationships among science, philosophy, and theology are absolutely necessary, if we are to develop a broader vision of nature in our own day and if we are to arrive at an ever more critical, rigorous, and realistic assessment of the limits of philosophical and theological speculation. Perhaps we can in this way re-evaluate the apparent conflicts between science and religion and formulate for ourselves a worldview that realistically deals with the brute facts of nature and opens hopefully into a world of truly human and ultimately divine wisdom and peace and love.

WHO'S COUNTING?

A Layman Looks at Leap Year
Fr. Bert Akers, S.J.

I had already done the Lower Math myself, back at the house, with my user-friendly ballpoint; working slowly, methodically, the skills a little rusty, skills, because, after all, it's only once every four years. Let's see now: 4 goes into 19 about 4 times; put down the 16, carry the 3; 4 into 39 ...It checked out. 1996 is a Leap Year all right. It's here. And not a moment too soon either.

It borders on the incredible. Julius Caesar, then CEO of the Roman Empire, mandated a major Calendar change in 46 B.C. Pope Gregory XIII did no less for the Holy Roman Empire by defining, as it were, that what had heretofore passed for October 5th was now October 15th. That was then. But now? In this age of the nanosecond? With drivers that honk and operators who put you on hold — just like that! To live in amicable denial with a Calendar off by some 5 hours, 48 minutes, and 40 seconds a year? Then this sporadic effort to make it all better by taking on an extra day, with the cavalier explanation that, whereas, yes, well, of course, as any properly programmed child can tell you, all the other months have 30 or 31 days, save February:

"Which has twenty-eight is fine,
Till Leap Year gives it twenty-nine."

Actually the pattern is familiar enough, sloppy, efficient, the way I get my checkbook to balance. But there maybe something deeper here, something far beyond our poor power to add or subtract.

The Western soul has had this fascination with Number. Its purity. Its power. "Number is Beauty. Number is Wisdom", said Pythagoras. "Number", he said, sounding like the Vince Lombardi of his day, "Number is Everything!". Quite logically did Plato prescribe mathematics (including music) as the best training for the contemplation of the essences of things, those perfect immaterial Forms "laid away in the heavens". Descartes' reduction of material being to Quantity; Newton thinking to discover through mathematics the very mind of God. Deists admiring the great Clock-Maker, and then ever more enlightened, dispensing with His services: a perfect clockwork world in need of no further tinkering. Hume urged that any writings which contained neither number nor quantity should be consigned to the flames — in a bit of writing, it will be noted as he apparently

did not, that itself contains neither number nor quantity. Later physicists convinced that knowing exactly the position and motion of every particle, we could play the history of the universe forward or backward; even, theoretically, unringing the chime.

It is the oldest problem in Philosophy — and now, increasingly in the Sciences. It is related in its way to the problem of the One and the Many, Deduction and Induction, Idealism and Empiricism. It is at root the Critical Problem, the Epistemological Problem, It might even be expected that the "Platonist" in each of us might have a natural distaste for the multiplicity, variety, individuality, untidiness of things as we find them, It has not been an altogether pleasant experience to learn, over the centuries the stars are not perfect orbs harmonizing the music of the spheres; that our own earth, slightly thick around the middle, travels a eliptoid orbit. And wobbles. Whether or no this is a "perfect world", it is certainly not a mathematically simple world. And despite little discrepancies (like Leap Year), we continue to find the fault, not our Math but in our imperfect stars that we are, well, irregular.

It is the glory and limitation of our kind of intelligence that it knows by abstraction. And because Mathematics is a most trusted tool of the most empirical, experimental, "hard" sciences (and progressively that the Social, Behavioural, and "wannabe" sciences) we can easily see that mathematics is a language, a logic, an abstract symbol-system deal with abstractions; that its power, purity, predictability, its exactness certitude — and appeal — derives largely from leaving out all that wondrous variety, uniqueness, incalitrance, that "individuated matter" of the philosophers, all that explains (or rather, can't explain), why no two snowflakes are identical, nor twins, nor two feet on one twin, nor the two halves of the one twin's face.

And like many a misguided love disappointment bred of false expectation can lead to rather weird (compensatory?) behaviour. Some of which we see in lofty places. "Probability" (really the abstraction of an abstraction) a fine mathematical tool for handling limited samplings of stuff we don't know more about, becomes a Theory, a Law, a Philosophy of Randomness. An infinity (byneigh) of interacting infinitesimals (the butterfly wing that triggers a glacial age), that

makes life a living hell for your favorite Weatherman, becomes "Chaos" — not a humble description of our heroic little efforts to plot the wheeling systems (or the curve of Judy's nose, for that matter) — but a Metaphysic, the ultimate law of Reality. Chaos is come again, and its sorry message is: There is no Law, no Causality, no Rhyme or Reason; no Science, therefore, and of course, no Math.

It's all the academicians needed. The last bastion of objectivism fallen. "Just as we've been saying", they say (and they seem to have little else to say): All is construct, conditioning, temperament, mindset, lenses, perspective. All is time-and culture-conditioned. All is relative. There is nothing "out there." There is no "truth" in any traditional sense. There is only, finally and at long last, the great and noble task of Deconstruction, the ultimate agnosticism. Maybe Leap Year is there to remind us that if numbers don't lie, they don't tell the whole truth either.

By this time I'm standing on a rocky jetty by the Inlet, facing East, with nothing out there but the uniform blackness of Night and Ocean, and the first faint lightening of the pre-dawn sky. I wait and watch. Until the clouds behind me take on tints too subtle to name, and the firmament above separates from the waters below, and the land from the sea. And suddenly a spark, a flare, and a fiery wall of serrated cloud ignites across the horizon. And the barest tip of the sun peaks over the rim. As it has, lo, these five billion years of days, in extravagant, solitary, throwaway splendor.

"Right on time", calls the lone fisherman as he always does; checking the sun's arrival with his Timex, like an oldtime dispatcher. But this morning I think to draw him into the Dialog.

"Isn't that sort of putting the cart before the horse?", I shouted.

He cupped his hand to his ear above the yellow slicker. I tried again. He shook his head.

"The clock before the cock..." I shouted as loud as I could. But it was lost in the swirl and bubble of the moon-loving high tide. I am assured by the tables in *Fisherman's Friend* that the tides themselves apparently have to meet a very demanding schedule.

TOWARD A POST-MODERN PARADIGM AND THE COLLABORATION OF SCIENCE AND RELIGION

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[The following is the conclusion to a paper of the above name, written in 1992 by Ms Poto. In the paper Ms Poto looks at the "moral problems of modernity. . . . I would say that the morality or immorality of a culture does not arise in a vacuum, but is a reflection of its ethos. . . . The culture of modernity is that which developed after the separation of modern science from religion in the scientific revolutions of the sixteenth and seventeenth centuries."]

. . . . would not a collaboration of modern science with the Judaeo-Christian religion somehow seem to hold a solution for recovering our sense of morality? Much of interdisciplinary scholarship already tends toward collaborative convergence. But in some instances philosophy may take the place of religion, so that basic concerns remain implicit such as in the philosophy of T.S. Kuhn — while the work of someone like Holmes Rolston III is more on the cutting edge of philosophy, science and religion. On the other hand, in theologians such as Hans Küng and Bernard Lonergan the concern may be more explicit: in one a critical focus on both science and religion, in the other on the cognitional activity in the human subject. While these four scholars may be the main support in this study, others form a nuanced periphery. . . .

[Ms Poto then discusses Kuhn's notion of paradigm and notes the historical development within the Christian paradigm of the Middle Ages. She remarks: "The fact that such an alienation (of science from religion) occurred seems to indicate an intellectual failure on the part of the church. Yet in the face of an epochal broad-scale temporal upheaval, the authentic faith of believers carried the global Christian paradigm resolutely as the accrued deposit of faith in Christ and Scripture, even if henceforth there would be a diversity of interpretation from Christian exemplars (Augustine, Aquinas, Luther) in the new Protestant paradigm." She then deals with Lonergan's method. Her paper concludes as follows.]

In context here we have focused briefly on the transitional phenomenon between two historical macroparadigms in Western culture, i.e., the medieval paradigm rooted in religion and the modern paradigm rooted in science. We've lamented the divorce between religion and science, claiming it to be the root cause of the modern moral crisis. But also we've hailed the beginning of a collaboration between religion and

science in a new relationship of trust and openness to the insights and discoveries of each to the other in the interest of the human family. It's a new and higher collaboration. It will be not simply a collaboration of theologians and scientists, but basically a human cooperation with God in solving the human problem of evil. (Bernard Lonergan, *Insight: A Study of Human Understanding*, New York: Philosophical Library, 1958. Harper & Rowe, Publishers, 1978, p.721). Our historical-cultural horizon is expanding. Henceforth it is to include not only casual connections but values and meanings as well.

If horizons are the sweep of our interests and of our knowledge, and are the fertile source of further knowledge and care (Lonergan, *Method in Theology*, Minneapolis: The Sebring Press, 1972, p. 237) what does the just posited transitional phenomenon between paradigms suggest in terms of metaphor? In my opinion, it suggests a medieval paradigm in the mode of a vertical horizon, a modern paradigm in the mode of a horizontal horizon, and a post-modern paradigm effectively combining what is good in each of these two paradigmatic horizons. Gaining a new cultural dimensionality in the rise of moral self-consciousness, responsibility, commitment, integration, the post-modern paradigm may be envisioned in the mode of a cruciform horizon. In faith, hope and love — every minus a potential plus. But is such development possible?

I would suggest that Lonergan's transcendental method seems to offer a possibility for such development. It offers a key to unified science. In harmony with all developments — whether in natural science, human science, dogma or theology — it is the human mind itself which affects the developments.

Through self-knowledge and self-appropriation that result from making explicit the basic normative pattern of the recurrent and related operations of human cognitional process, it becomes possible to envisage a future; a future in which all workers in all fields can find in transcendental method common norms,

foundations, systematics, and common critical, dialectical, and heuristic procedures. (Ibid., p. 24)

In the ongoing discovery of mind, science seems to have proceeded from common sense, to theory, to interiority — and now seems poised on the threshold of transcendence. (Ibid., 83-85) When in pursuit of the truth, whatever the discipline, only self-transcendence can free the ego from some personally nurtured fraction or splinter of knowledge as if it was the whole. To thus free the ego, one way, albeit arduous, is transcendental method. In it one may discover the possibility of self-giving in love [Ibid., p 241. *Self-giving in love means religious conversion to a total being in love as the efficacious ground of all transcendence whether in pursuit of truth, or in the realization of human values, or in the orientation man adopts to the universe, its ground and its goal.*] such that one's fraction or splinter of knowledge becomes part of the warp or weft of the whole.

I would consider cognitional theory the infrastructure

and transcendental method the superstructure of a post-modern paradigm, — a paradigm which represents an entire constellation of beliefs, values, and techniques which can be shared by the members of any given community orientated toward the human good.

If my search for a post-modern paradigm has sent me on a brief journey into history as dialectic, it has taught me the value of history. On that I would agree with Carl Becker (Ibid., p. 245. *Quoting from Charlotte Smith, Carl Becker: On the History and the Climate of Opinion. [Ithaca, N.Y.: Cornell, 1956], p.117*) when he wrote:

The value of history is ... not scientific but moral: by liberating the mind, by deepening the sympathies, by fortifying the will, it enables us to control not society, but ourselves — a much more important thing; it prepares us to live more humanely in the present, and to meet rather than to foretell the future.

This tree, wide as the heavens itself, has grown up into heaven from the earth. It is an immortal growth and towers twixt heaven and earth. It is the fulcrum of all things and the place where they are at rest. It is the foundation of the round world, the center of the cosmos. In it all the diversities in our human nature are formed into a unity. It is held together by invisible nails of the spirit so that it may not break loose from the divine. It touches the highest summits of heaven and makes the earth firm beneath its foot, and it grasps the middle region between them with its immeasurable arms. . . .

This description of the cross of Christ, which carries a striking parallel to the figure used by Ms Poto, was written by Hippolytus of Rome (early third century).

FOREWORD TO PROCEEDINGS OF ITEST WORKSHOP ON POPULATION

More than 20 years have elapsed since ITEST sponsored a Workshop/Conference on Population Issues. As the essayists themselves noted during this Workshop, the state of the question has changed significantly during those 20 years. About the time of the United Nations Conference in Bucharest in 1974, the population issue was seen as primarily one of numbers: how many human beings are there? where are they? what can be done first to slow population growth and then reverse it? Now, as these Proceedings will show, the emphasis is on various aspects of development, especially the "empowerment of women."

The ITEST Board of Directors several years ago, looking at major questions of global import, decided to hold three meetings in sequence: *The Science and Politics of Food*, *Population Issues* and *Christianity and the Environmental Ethos*. It is clear from these present discussions that these several sets of issues intersect. In

the Workshop on Food, the urgency to grow more food more efficiently became clearer as the participants discussed the family farm versus corporate farming and the use of transgenic techniques to produce plants with greater yield and more disease-resistant qualities. In this meeting "population momentum" is clearly presented as part of our current reality and the need to provide for more guests at the table of life formed a sub-set of background concerns. In our next meeting on environmental presuppositions both food and population growth will play a significant role. Through all three conferences runs a very important sub-text: human activity, human innovation and human creativity.

In all three areas (food, population and environment) several words and phrases are used that are at best ambivalent. Among these are: *sustainability*, *stewardship*, *biodiversity*, *rights*, *God's will*. Unfortunately, they are

words whose meaning we intuit, but which we cannot clearly define without limiting the meaning unduly. What perhaps is essential to understand is that each of these words represents a "moving target." What is "sustainable" today may not be sustainable next year or a decade from now. "Stewardship" to some means not making any changes; to others it means making significant changes. Some, like myself, much prefer the word "artisanship," which implies the "work of human hands." "Environment" itself, and even biodiversity, means many things to many people. In a discussion of population issues, it is essential that we define or at least clearly describe what *we* mean by various words. Otherwise, we end up talking at cross-purposes and can quickly begin to worry about things that do not belong to the world-as-it-is.

It was inevitable that, at an ITEST meeting on population, one of the major concerns was the "family." There was discussion of the differences between the "traditional (extended) family" and the "nuclear family." There was also a long deliberation on the religious meaning of the family. Unavoidably, the conversation turned to Pope Paul VI's encyclical *Humanae Vitae* and the Catholic position on contraception and on natural family planning. Unfortunately, all too often the Church's position on population is seen to be completely contained in the phrase "open to fertility." These proceedings, if read completely, should put that notion to rest. There is a clear need for Christians to ponder, in the light of God's will for us, issues of sexuality, sexual activity and marriage. Like some of the scientific issues mentioned above, we are working with "moving (evolving) targets."

The sense of this meeting is that questions of population are extremely complex, touching numbers, social organization, resource production and consumption (including, most definitely, energy), education (especially of women), political life, the role of national and international agencies and, most pointedly, the sense of human potential and destiny. The mixing of all these ingredients rapidly becomes overwhelming. What can an individual do? It was suggested toward the end of the workshop that we should "think globally and act locally."

That sounds good. But how do we do even that? Act locally! How? Doing what? Our priority, both religiously and socially, would seem to be an understanding of the situation — in its complexity. Certainly, the international conferences over time will help in that through dialogue we can sharpen our comprehension of the issues involved. Perhaps, most importantly, we can come over time to understand that, more than issues or questions or approaches, we are talking about real people with real problems, real expectations and

real goals. In short, while theories are good and maybe even true, the lives of people are more significant.

The quality of life became almost a theme throughout significant parts of the workshop. What is a "quality of life"? Who determines what quality of life people should have? A national or international bureaucracy? The churches? Scientists? Economists? Environmentalists? The people themselves? Can people be coerced into a "quality of life"? Where does human freedom enter the equation? Is it better to work from the "top down" with its suggestion of elitism and bureaucracy? Is it better to work from the "bottom up" with its implication of individualism and undue autonomy? What is proper balance of individual and community? Is there really such a thing as "the common good"?

Dr. David Byers suggested that, while consensus would be an agreeable outcome of dialogue, the primary goal should be wisdom. Over and above the purely scientific and secular data set, the Christian working from Revelation, tradition and the lives of Christians, must try to discover the more profound working of God's will. What God wants of us in any particular circumstance or in any particular age is not an automatic working out of some proposition or other. From our limited point of view, God's will may also be a "moving target." What was clearly God's will in the third or fourth or ten or fifteenth centuries is not necessarily His will for us now. While not contradictory to those, His present will is to be found in our religious wrestling with changed situations and different problem sets. Again, an added complication! Nonetheless, Christians can still maintain some certitudes in faith. God created the world in Christ. It was redeemed in the body and blood of Christ. The covenant in that body and blood is still offered to all people and peoples. The primary responsibility for the destiny of creation still resides in the Father through Christ Jesus. St. Paul said in Colossians all that needs be said in this regard: "There is only Christ; He is everything; He is in everything."

Those who want "Ten Easy Ways To Handle The Population Problem" need not read this book. It is clear from this workshop that the primary task facing us is understanding the issues in their complexity. Further, we realize that these problems (issues) will never be "solved" in the way that a mathematical or scientific problem is "solved." Over time we might be able to "resolve" some aspects of the situation, but the problem itself is as vast as humanity itself — and as complex. Our task is to work at it as best we can. Our task is to strive for the wisdom needed to understand it in its complexity and to work toward a "resolution" in a way compatible with our dignity as free and responsible people and peoples.

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Evolution; eugenic implications of HGP

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