Over the years there has been an interest in whether or not ITEST ought to be more engaged in "activism." This discussion has been rather muted of late. In this issue of the *ITEST Bulletin* I have a rather lengthy article on a project ITEST will promote over the coming years. It will be a major effort aimed at the education primarily of those in Christian schools or in home school settings. We report on a serious effort for the future direction for ITEST; we ask *all of you* for help.

We must look to God for help and for the unity that is built on love. Though the love of God for humankind and for creation in general is the most important, I would put in a plea for the love that must pass between us. That is the love that might impel us to help our acquaintances who find it difficult to maintain the independence they hate to lose. One ITEST woman has lost much of her mobility because of sickness. She cannot afford to live somewhere else and she needs more help. I suggested that she contact her parish priest and perhaps he could get volunteers to help her.

As one ITEST member remarked a couple of years ago: First we retire and then we take up golf. Finally, golf is not enough to fill our lives. What do we do next? He suggested that we can volunteer to help our elderly or ill brothers and sisters, our neighbors, in the Lord. If we cannot help them physically many of us can help them by doing their shopping or banking, cutting their grass or maybe doing a little painting or carpentry. There are countless ways to help make their lives better. This is simply a suggestion that we can do much to ease their lot.

Remember the commandment -- it is a commandment -- to "love one another as I have loved you." It is not a velleity. The Lord was not just talking when he said this. There is, I believe, a sense in which this is the most important of all the commandments we have received from God -- that we are to work at loving each other as the Lord God has loved (and is loving) us. Or are we trying to serve the Lord by simply "minding our own business"? There is something to be said for such an attitude, but not a lot. We can begin by seriously encountering each other in prayer. That would be a beginning. But it is only a beginning. We must do more for each other -- but gently and with kindness. May God be with us all as we travel the road to the future.

Robert Brungs, S.J.

ANNOUNCEMENTS

1.   Just a reminder: We noted in the last issue of the bulletin that ITEST will no longer retain the 221 North Grand Boulevard address. From now on please address all mail to:

Fr. Robert Brungs, S.J.
ITEST
3601 Lindell Blvd.
St Louis, Missouri 63108

We have not moved to a new location; the Grand Blvd. address mail makes its way slowly through the St Louis University system; whereas, Lindell Blvd. mail is delivered directly to our office building.

2.   Membership renewal letters will be sent out in October for calendar year, 2005. Even though printing costs are increasing as well as Internet access costs, we will try to keep membership dues steady for the following year: $50.00 for Individual members; $25.00 for Students and $125.00 for Institutional members.

Prorating information: Since our membership system runs on the calendar year, everyone's membership "theoretically" begins on January 1. For example, if you joined at any time during the year (for instance, in July) you received all the materials sent to those who joined in January. Therefore, all memberships extend from January 1 - December 31 of the current year.

3.   This is your last chance to register for the October 15-17, 2004 workshop on Computers, Artificial Intelligence and Virtual Reality. We have a limited number of rooms at the Our Lady of the Snows Shrine. Call (314)-977-2703 or e-mail postigm@slu.edu

4.   October 14-16, 2005 workshop: *Biotechnology and Law* (tentative title) -- October 14-16, 2005. The ITEST Board considered various topics for this workshop and in the end agreed that these significant and timely issues were well worth revisiting. Because our last workshop on biotechnology and law took place 14 years ago, the Board felt that it was important to update our study of the technological advances made since then, such as *fetal and adult stem cell research, cloning, gene patenting,* and the application of principles of law relating to science and technology as they evolve in 21st century society. Ethicists and humanists working in the area of biotechnology will present arguments pro and con. We have secured all five essayists we have invited: Fr. Joseph Murphy, S.J. (Theology); Mr. David Saliwanchik, Esq. (Law), Dr. Randy Prather (Animal Research), Dr. Brendan Niemira (Agriculture) and Father (Dr.) Kevin FitzGerald, S.J. (Human Cloning and Stem Cell Research). Our Lady of the Snows in Belleville is the venue we've chosen for the weekend workshop. Contact S. Marianne Postiglione, RSM for information.

SOWING IN GOOD SOIL:
In Search of a Common Language

Hans van Drongelen
Ton Meijknecht

In this essay, two campus chaplains at Delft University of Technology with more than twenty years of experience try to justify their intuitive choices about hidden religious feelings among their students. They feel the need to do so because they want to develop a language that is not introverted but open to the many opportunities of this generation. They do not prefer to create another niche for theology but rather to develop a common language, fit to express the many layers of religious feeling and understanding of their contemporaries. Comments may be directed to Ton Meijknecht at t.meijknecht@motiv.tudelft.nl.

1) *Introduction*

So many people are on the move. They left their spiritual homes because they were unable to develop themselves in the customary places. They, their parents and ancestors had for centuries maintained places where they could feel safe enough to ask questions of ultimate concern -- questions that still occupy us on a daily basis. They used to possess a language that could express their inner life; now they have lost that language. What remains is a tacit consciousness; in fact, it is hardly a consciousness at all. To whom or where can they turn in order to explain their views, to exchange these views, to change or even more to corroborate their ideas?

Often this process is so inconspicuous that few people realize what is happening to them. It seems to have started some thirty or forty years ago. On the surface, it is extremely difficult to get a firm grasp on this process. It appears from time to time, shows its face, and then disappears. The following story is representative. We were having dinner with a young woman. It was a very good restaurant: fine food and equally excellent wine was served in a pleasant environment. One can easily feel safe in a place like that. The young woman is highly educated, has a responsible job and a long and stable relationship with her partner. She is attractive, wears her clothes elegantly and has a fine sense of humor. A promising evening so it seems! Indeed, our evening together was what we expected, except for five minutes. These five minutes are significant.

She talked about her job as an executive in a pedagogical research institute. Suddenly she opened up and said frankly: "What I hate about my job, is that I'm unable to do what I had in mind when I chose education as a study and a profession. I have lost my self in this job." Amazingly, this woman admitted that she is estranged from her soul. She has dared to look into the mirror, and not give in to the temptation to deny what she has seen. She made herself the spokeswoman of a sentiment that many of our contemporaries feel but do not find the courage to express. She is no longer content with the discrepancy between her ideals and the reality in which she is forced to live. Rather she has chosen to express this resentment.

This spiritual anxiety is part of many people's lives. Hidden or not, tacit or not, it is always there. Although spiritual anxiety is nothing new, it may be seen as commonplace in our times. More than ever it is present in the decade in which we live. We, who are able to describe any political, economic or technical problem we encounter in an apt matrix, are unable to see ourselves in the mirror. This is the modern predicament that Charles Taylor describes so well. Contemporary moral philosophy, he says, focuses "on what it is right to do rather than on what it is good to be, on defining the content of obligation rather than the nature of the good life." We suffer from the discrepancy between adequate behavior -- in which we are more than ever experts -- and the deep longing for the good life, something we all keep dreaming about.

These dreams constitute an integral part of modern life but we lack the common language to talk about them. Although we long for something that is really of value, which makes our lives worthwhile, we have no language in our culture to explain what we would really want were we allowed to cherish our dreams. This makes us

feel uncertain. In the individualized, post-traditional society we take part in, we tend to experience our anxieties and longings as personal and purely subjective. As a result, we speak about them only in the private sphere as something merely belonging to our own biography. We act as if they lack public relevance.

In the past, lived and shared traditions helped to shape a common horizon within which ultimate values could be articulated and justified. Especially, religious traditions expressed a view on reality in which facts, values and existential dilemmas were interconnected. Those traditions made it possible to embed personal choices into cosmic and ontological structures and to relate them to values which were givens and which called for obedience. This kind of situation inexorably belongs to the past. The challenge of our post-traditional time is to find new ways to express and exchange values. This implies that it is impossible simply to restore the Christian tradition as a normative spiritual horizon for the lives of people today.

We, the authors of this essay, mainly have experience with one professional group -- future engineers. Both of us have been chaplains at Delft University of Technology for more than ten years and we have experienced the reality of the spiritual poverty of our current culture and of the people living in it. In this essay we will try to describe our approach to this problem and our attempts to find a fruitful encounter with it in our pastoral practice. As chaplains we prefer to behave like participative anthropologists. This means that we do not pretend to have the solution to the problems the people of our target group are struggling with. By showing that we share their predicament, by trying to understand them and struggling along with them to find meaning in a post-traditional and functionalized life, we gain their trust. For this approach we invented the method of The Mental Dinner Party.

2. *The Mental Dinner Party*

It is part of our job to talk to a lot of people, freshmen or graduate students, some of them for many years. One of our favorite questions is: why are you choosing the difficult study of technology? It requires a lot of math and a lot of hard work. Why didn't you go into something easier like business administration?

Freshmen will give a straightforward answer to this question. When they first arrive on campus, they tell us that they want to serve; they want to be different; they want to solve people's problems. There is always a slight undertone of shyness in their voices, as if they expect to be laughed at for the naivete of their answers. Nevertheless they confidently say what's on their mind.

Our university is really good at teaching the necessary skills and tools as well as suppressing this kind of naivete. Soon after their arrival, the students learn "the correct answer." They will say that they were good at math in high school; they will say that they want to earn a safe income. None of their former spontaneity remains. They have successfully adapted. It will be the same if you pose this nasty question to a forty year old engineer, engaged in his career, trying to pay his mortgage, absorbed in solving problems and using his creative potential for that purpose.

So they have learned their lessons from life. And we, too -- almost. We really would have stopped asking this silly "why" question had not retired engineers as well appeared to be concerned. Of course, their time-perspective is different. They wonder what has happened to their initial intention to be useful and to serve. It is the past they have in mind, not the future. Nevertheless, the question is the same. Why did I become an engineer in the first place?

At both ends of their professional life engineers ask this question but in the middle of their careers they apparently don't. Either this means that the "why" question is something for the unsophisticated, the very young or the very old; the middle group seems to suppress such questions.

In order to find a suitable answer to this problem we hold "Mental Dinner Parties." Imagine: In the Chaplaincy house there is a table with fourteen chairs. It is 6 o'clock. The table is laid. Students come in. Two of them have cooked a meal. We say grace and start to eat. Then we ask this same crucial question. Can you tell us why you came to Delft? Why did you choose technology as a profession? Then a conversation begins. Fourteen days later, the group returns. Two other students have cooked the meal. We begin in the same way, asking the same question.

This process continues for a long time, maybe for a year. We start with some four or five people. Some of the members think that this conversation leads nowhere. They say that they have something better to do and drop out. But others will join in. In the end the group will number about fifteen. They will have gone through quite an experience. They will have learned to trust their own feelings. More than that, they will have learned to trust the other members. They will have developed a common language in which to express and understand these feelings and to understand each other better.

At the end of this year, we change the setting. The room is no longer the intimate room at the house of the Chaplaincy. It is a big hall somewhere on campus. Many more people than those fifteen students are present; there are many more, up to one or two hundred. Our students have invited their friends, their classmates, their roommates and their sport mates.

In the center of this hall there is a table with five chairs. Two students of our group occupy two of those chairs. Another chair is for an experienced engineer, someone in the midst of his career. The fourth one is for a philosopher who is not afraid of technology. And the fifth one is for the moderator.

What remains from the initial setting is the question, that everlasting question: why do I want to become an engineer? These five people are discussing this question. Somewhere during this evening the other participants are invited to join the discussion. What was private has become public. The common language of vulnerable feelings and motives developed behind closed doors is put on trial in the public arena.

3) *Common language*

When ultimate questions of value are avoided, there is a treasure of vision to be found beneath the generally accepted surface. Just plug in and you will feel the power.

On the surface, technology is about logic and nothing more. In a way, it is easy because it all fits together. For our students the repressive character of our culture is stressed because they are imbued with that other language, the language of mathematics. Quite a few of them realize this and suffer from it, as a result.

Beneath a tough crust of well-known rejections and obvious doubts there is a strong tradition of compassion and service among engineers. For instance, why does a future architect want to redevelop ugly old flats from the sixties in Utrecht? There is little money to be spent there and no honour to be gained. While preparing for his master's degree in Architecture, one student discovered that newly arrived Muslim families have needs other than Dutch families in the sixties. Women need a free accessible separate room in Muslim culture. He is initiated into the strong tradition of architects who were engaged in satisfying people's needs. Very much to his surprise, this student found himself studying not his own concepts of beauty but the features of a backward part of the city. He learned to appreciate a tradition he always had in mind, even though he might not have been aware of it, or only partially aware of it.

Bright young people study at Delft Technological University. Our university attracts people from the best high

schools in the country. Dutch students have a lot of freedom. This freedom doesn't make life easier, as Stephen Toulmin remarked when he visited us. But well used this freedom gives students the opportunity to develop and use their potential. Society needs precisely such people, because they will be able to give reliable and well-researched answers to our questions concerning the future of our world. Because of their knowledge, our students show a remarkable sense of responsibility to the future and to future generations.

Perhaps this architecture student learned to operate in a much broader reference context, thanks to the different cultural and religious perspectives his co-students, his teachers and his future colleagues represent. Maybe he developed his communicative skills, in search for an orientation, in search for a leading orientation during his scientific and technological efforts. Certainly he has put into practice his ability to find a balance between the necessary art of instrumental and technological language and meaningful language activities from the treasure of cultural and religious resources. He is using this gift in a daring dialogue with the society in which he lives.

The interesting thing about this example is that it shows that the common language we so desperately need has many layers and many modes of expression. This student could have drawn a mere sketch of his proposed redevelopment and shown it. The future user of such a redeveloped apartment need only see it and nod to express her approval, even before a word has been uttered. They use different languages: he his pencil to draw, she her head to nod. They also move on different levels of consciousness. He moves on the paths of the often explicit and often silent practice of his profession, his teacher encouraging him with a short line or maybe just a pat on his back; this Muslim woman is living in her traditional religious practices and she perceives his respect for them. They communicate in a perfect, mutually sufficient way their needs and their dreams, their questions and their answers.

4) *Provisional characteristics of our common language*

We stand in this complicated and challenged setting as perceiving participants. Uncertainties fill our minds. Failures of the past are in conflict with the encouragement of those who join us at the Mental Dinner Parties. In order to help clarify our way of relating to this set of problems in this cultural setting, we summarize the questions that come to mind:

Are we too narrow, relating to only one professional group and too easily expanding our experience to other professional groups or to humans in general? Are we

over-optimistic, forgetting the real suffering and too cheap in comfort, a well-known weakness of the clergy?

On the other hand we have the feeling that there is some recognition of our method. From time to time we receive clear indications that ours might be a method that fits modern man who is heading towards a future he has no plans for, feeling vulnerable and insecure in a time of change and transition, frightened by the many differences he is confronted with in every day life. How do you deal with the future now that the days of the Great Narratives are over and you have to answer life's questions yourself? We (moderns) are convinced that no one can answer our questions. We have to do it ourselves despite our anxiety and our shortcomings to deal with them accurately. We cannot master these questions alone. All we can do is face them and discuss them with others who are wrestling with the same kind of questions.

This is the positive aspect of what seems very low profile, often inaccurate and inarticulate, namely, the feeling that we need each other to get some rough idea of how we can move along, as individuals.

A Holy Place

We need each other. This is the starting point of our search for a common language. To achieve this end we have created a safe haven in which young people feel safe in expressing their thoughts, their doubts and their dreams. The room in which the Mental Dinner Party takes place is not just a room. It is also a modern "holy place," in which the rituals of dialogue and understanding are conducted in a precise and evocative way. In this "holy place" a rudimentary form of community is coming to light. We are hesitant to use this notion of community, because what we are experiencing differs from the genesis of a community in the traditional sense. Our community, which is developing this common language, has a different character, more akin to modern types of virtual communities that are immanent, people plugging in whenever they want to do so.

It is our strong conviction that we (the chaplains) are actors in essential changes in culture, in which spiritual life enters new avenues. We create a setting in which we deal with students, offering them a shorter or longer moment of orientation in life -- as Jesus did. The evangelists tell us that Jesus travelled about the countryside meeting men and women, generously giving them enlightenment and guidance and sending them back to where they lived; he expected that the seed he sowed fell in good soil. Our work is of the same nature, based on faith and trust. Students will return to their faculties start their careers and become immersed in life. They

will experience the support and inspiration given by this shorter or longer period of sharing this search for a common language with us. At least, this is our hope.

Traces of God

In shaping this common language we must create an open and supportive context in which we refrain from advocating a certain kind of theology, or faith, or ideology or philosophy. We will deliberately not advance our own convictions, knowing that they will be regarded as *Fremdkörper*, tainted with negative qualities such as paternalism and self-righteousness. This will lead only to biases, causing nothing but a lamentable form of communication failure. We have discovered in the common language we try to develop with students and professionals in the field of technology that there are deep religious flashes of inspiration, what we might call "Traces of God." They are hidden, concealed, misunderstood or even neglected and despised, but they are undoubtedly there, valuable treasures of humanity. We detect and reveal them, bringing them to light and transforming them into our common language, into new sources of blessing that may support future life. We incite people to make an end to their self-imposed silence and to cherish the excellence of their own resources. In this respect we could say that technology itself is an astonishing source of revelation, which should be treated with awe and respect.

A fruitful exchange of experiences

The *Common Language* we are searching for is dialogical and can be invented only through dialogue. This dialogue is neither negotiation, nor confrontation; it is rather a sensible means to exchange points of view, trying to reach a *modus vivendi*. We do not depart from a solid base of personal convictions in trying to reach other parties and receive respect and understanding. We try to find out what we have in common: our questions, our anxieties, and our experience of being on the move in a world of change, our longings and what we esteem. This is our starting point: congeniality, not differentiation.

We challenge people to cross borders, to leave their professional expertise and their convictions behind and to reach for much deeper layers of existence: the hidden treasures of cultural and religious roots that are a part of us. When these layers are reached the discussion, up to this point an exchange of professional experience and knowledge, will change to a much broader *orientation* toward life as a whole. A theme, in which professional and public status will fade. Participants will meet on a more personal level, in which differences in age, gender and position will be less important. Professional skills

and expertise are still present, of course, but they exist on another level and are deliberately brought into play only when needed.

An inspirited process

Let us be explicit about this *common language* we seek. In our view the *common language* is not a tool nor an accurate means of communication in an instrumental sense. It is not a product, a result of profound analysis and design; it is rather a dynamic process in which we invite many parties to participate. We cannot give a recipe for our approach and we can't guarantee success. We only ask participants to let go. In this way it is an approach based on spiritual ardour, not appropriate for everyone. That is why this method is elaborative. It takes much time and requires patience. A group of students has to gain trust and confidence; the professionals must be screened very carefully to see whether they are suited to accept this kind of language. They need to understand the specific character of the common language, an understanding which is developed only over a period of several meetings.

This common language is more than language in its proper meaning: it is a special sort of presence in which people are open and eager to understand each other. It demands truthfulness and respect and the willingness to explore possible models of living and working. This common language is not simply focused on a rational exercise to discover the truths in life -- it is not a philosophical method -- but is about *composing a life*, in which spiritual features and attitudes are key parts of the composition.

We stress the spiritual character of the common language we would like to develop. This "language" does not lack vigour. It may seem frail and vulnerable; it can be grim, adamant, and very demanding. As the Austrian scholar Allan Janik showed us when he intervened during a session on Creativity, seizing the roving microphone and striding up and down through the conference theatre. He fiercely gesticulated and vehemently challenged the five participants at the round table to show him creativity even though he knew they were not able to. In doing this he unveiled a fundamental aspect of creativity. That night he contributed to the development of our common language in a provocative but decisive way.

A matter of Poetry

As we indicated in the title of this section, this is all provisional. We are trying to answer the needs of people in developing a language in which they can connect their experiences of everyday life to matters of

"ultimate concern." We do not have the words. Our partners participating in this common language do not have the words either. We will have to create these words, as we do in poetry. One of the more promising responses or alternatives we have regarding the ruins and fears of Modernity is, according to the German philosopher Peter Sloterdijk, *"poiesis,"* a force that enables us to bring about, even to reveal, new forms of life. To him it is a more accurate alternative than metaphysics which is too static regarding the mobility we are part of. As we said in the opening lines: so many people are on the move. How can we answer their needs?

Our response to the needs of people in our day is this common language, or perhaps even better, the "poetry" we try to develop. This "poetry" is, at heart, similar to what the American sociologist Professor Sara Lawrence Lightfoot of Harvard University expressed at the conference, *Engineering is Magic,* we organized at the Delft University of Technology in November 2002. She tried to define the characteristics of her profession: "I'm someone who is sort of combining social sciences with the humanities. I'm very interested in good empiricism but also in literary narrative and all kinds of artistic expressions. So, symbols and metaphors and evocative experiences are very, very important to me and my work."

Conclusion

We feel representatives of our time, sharing with so many others, men and women, professionals and students, religious and agnostic people, the agonies of our days. It can make us shy, withdrawn, intimidated, silent. But this is not a creative option. We sense that there is a world to gain when we end our silence and start looking for each other, articulating and thus releasing hidden drives, creating a new and common language that will give us courage and confidence for the future.

AT THE INTERFACE:
THEOLOGY AND VIRTUAL REALITY
by Sister M. Timothy Prokes, FSE

A Reflection by Sister Marianne Postiglione, RSM

In the following article I chose not to write a review, a summary or an abstract of S. Timothy Prokes' book, "At the Interface: Theology and Virtual Reality." Rather, I reflected on those aspects I felt resonated with the ordinary person living in a world of advancing technology and trying to understand what it means to be human in the Third Christian Millennium.

As I read *At the Interface: Theology and Virtual Reality,* I imagine myself looking over the author's shoulder as she sits hunched intently over her loom skillfully weaving the variegated threads of sacrament, faith, theology, technology (virtual reality, virtual environments) into a colorful design: startling yet soothing, jarring yet calming, alarming yet reassuring those who would look deeper into what it means to be human in the Third Christian Millennium.

Leaving that image in the "virtual environment" for the time being, let us return to the work at hand.

Prokes begins her task by defining her terms. Although we all may be familiar with the term *virtual reality,* we may not be able to define it in terms of present day technological advance. Is the term an oxymoron like "jumbo shrimp" or "deafening silence"? Prokes, sets the stage by drawing from a definition of Michael Heim, "Virtual reality is an event or entity that is real in effect but not in fact."[1] (*The Metaphysics of Virtual Reality* (New York, 1993), p. 111.) Think of flight simulators or arcade game rooms where you can either destroy a world or emerge as the hottest NASCAR driver -- all without suffering battle wounds or choking on fuel exhaust.

All well and good -- Virtual Reality and Theology! But what does one have to do with the other? Does this "interface" of theology and virtual reality involve an attempt to tread on "secular" ground where the "sacred" dare not go? S. Timothy states: "From a theological perspective, I suggest that virtual reality impacts not only upon our understanding of Divine Persons, but upon an understanding of creation and what it means to be a human person created in the image and likeness of God."

Her chapter on "Virtual Reality and Real Body" prepares the ground for her discussion of "Virtual Reality and Real Presence" in the following chapter. For what is presence without a "real body"? Prokes has already

written an insightful book on the importance of the body in the life of Christian faith. In *Toward a Theology of the Body* (1996), she reflects on "the meaning of human embodiment and the created universe." In *At the Interface....* she applies the principles developed in body theology to virtual reality.

Rather than give credence to the view of the "new human" predicted, for example, by the Macy Conference of Cybernetics (1943-1954), as (an) "information-processing entity essentially similar to intelligent machines," Prokes reminds us that Jesus Christ did not come as a "packet of information" but "in the flesh"... one who experienced hunger, thirst, pain in "total self-Gift to the Father."

In the following chapters Prokes treats virtual reality and theology from various perspectives. Her lucid style makes even the more obscure theological points readily understandable to the ordinary reader. Particularly appealing to the reader who may be neither theologian nor scientist are the chapters on Virtual Reality and Real Presence (Chapter 3) and Real Food and Virtual Nourishment (Chapter 4). In the former chapter the author serves a particularly rich "feast" in her treatment of "real presence" in the Eucharist. For example, contrasted with the "artificial or simulated" avatar -- a kind of alternate body in a virtual world, where the simulated may be preferred to the real -- the Eucharist requires *presence* and *interface* in a real world.

Even though we may don our high-tech helmets, video-stream the Sunday "television" Mass to our computers, we cannot "receive" the Eucharist via the Internet. Eucharist, like all the other sacaments, requires, among other things, bodily presence and interface -- actual contact with the sacred species itself. The author questions if perhaps the fascination with virtual reality and virtual environments may be in the long run simply an unconscious restless search for union with the Divine. She notes

> "Literally, to cross the interface between persons, divine or human, is the ultimate call of every human being. Heaven is described as seeing God "face to face." This cannot be contrived, "called up" technologically."

Why search for union through virtual reality or virtual environment when we have "The Real Thing"?

One of the meatier sections of the book (no pun intended) is the chapter on Real Food and Virtual Nourishment. Here the author becomes the teacher as well, using her own experiences to engage the "student" in the learning process. When she describes genetically

modified food, fast food or food with a high or low fat content, she brings in humor to further solidify her point. For example, her inclusion of portions of an article from *The Washington Post* on a complete "Low-Carb Thanksgiving" - or no Thanksgiving at all - points out the absurd lengths to which some Americans have gone to get as little nourishment as possible from their meals. Why overload our systems, they say, by eating "real" mashed potatoes, high in carbs, when we can eat an "ersatz" potato made from mashed cauliflower?

Turning from "virtual nourishment" to real nourishment, Prokes uses examples from the life of Jesus to emphasize how he used food to feed people both physically and spiritually. "It was in the context of food that He taught the meaning of forgiveness, the supremacy of love, and the dignity of service," she states. Recall the stories of Zaccheus, Martha and Mary, the Marriage Feast at Cana.

Jesus used each instant as a "teaching moment" to prepare his followers for the hard reality they found difficult to assimilate: "my flesh is real food and my blood is real drink." According to a study done on the Eucharist and belief, some of this incredulity exists today in an alarming percentage of Catholics who do not believe that they receive the body and blood of Christ in the Eucharist. To them, because of deficient catechesis, ignorance or unbelief, Holy Communion consists in receiving the bread and wine as a sign of fellowship perhaps or a "remembrance" of Christ's actions at the Last Supper. A virtual eating of the body and blood of Christ? Is this where virtual reality leads? S. Timothy stresses that in order to do responsible theology, we must be able to read the signs of the times. Those signs point to, among others, virtual reality. How do we "interface" the signs of the times with theology? Perhaps through the Eucharist, a touchstone of our Christian faith where Christ, the reality of our existence, "divinizes" us into union with Him - our real, not virtual, quest.

Reading this book provided me with an experience of "interfacing" with the author encouraging me to confront my own assumptions on matters of faith and everyday technology. For example, I have very little difficulty with the growth, manufacture and consumption of genetically modified food, but Sister Timothy's sensitively expressed doubts gave me some "food for thought."

Let us return to my image of the author as Master Weaver at her loom. Although she has completed her design of "interface," there is still some unfinished work to accomplish. Turning from her loom, she artfully extends these unwoven strands of thread to other theologian weavers who may accept or refuse the challenge to

weave their own design. If, as Sister Timothy states, "Perceptive reading of 'the signs of the times' is a vital aspect of responsible theologizing," 21st century theologians who neglect to consider virtual reality will be missing a vital part of "reality" in their research.

At the Interface: Theology and Virtual Reality, 2004, is published by Fenestra Books, 610 East Delano Street, Tucson, Arizona 85705. Their website is *www.fenestrabooks.com*. The price is $15.95.

ITEST TEACHING PROJECT PROPOSAL

Robert Brungs, S.J.

The Staff at ITEST has been thinking for more than a year about an educational project that can serve as the centerpiece of ITEST work for some time to come. It does not have its own name yet; maybe fleshing out what we want to accomplish can help to give it an appropriate name. Right now we are using *Exploring the World, Discovering God* as a working title. At the Gateway Arch in Saint Louis they show a movie entitled *Monument to the Dream* about how the Arch was built. This is ITEST's dream.

We'd like to begin by noting how this idea came about. We have observed over the years that scientists (Catholics and Protestants) by and large have no more than a grammar school knowledge of theology. This is not necessarily an obstacle to living their faith, but it is most unfortunate when it is a question of their defending Christian faith from "scientific" attack. Too many scientists are silent in the face of their colleagues' attacks or misrepresentations. This is one side of the faith/science issue with which we must cope.

The other side of the issue concerns the "theological community" or the community that should be promoting Christian thought. How many theologians or even educated Christians understand scientific research, scientific promises or facts? I can recall an incident from about 15 years ago when a well-known theologian declined to write an introduction to a book on faith/science issues simply because he "didn't know any science." I suspect that most people would be amazed were we to mention his name. It may be that he simply didn't want to write it, but "not knowing any science" was the excuse he used. It was not a book about scientific experiment or theory. It was more about material he probably knew very well but he was put off by the title.

I think we can simply say that many Christians in science lack knowledge about their faith and most Christians in theology are relatively ignorant of science and scientific advance. Where do they get their information about faith or about science? Newspapers? Magazines? Movies? Or perhaps they have no reliable source of information about science at all. How can they say anything of moment on issues that arise basically from science or "the philosophy of science" as seen by people like Isaac Asimov, Carl Sagan or even Daniel Dennett?

This is an intolerable state of affairs in the real world. It is particularly intolerable that educated Christians do not know science or theology. The "conflict" between science and theology feeds on the ignorance of theology by scientists and of science by theologians. Christ indeed became part of the world -- *fully* assumed human nature and become totally immersed in its consequences -- in the Incarnation. He walked the earth and took delight in it. I am convinced that he would be absolutely delighted by the findings of science, by the application of mind to matter. I have the idea that his parables and his teaching would be filled with ideas taken from the front pages of the newspapers -- about science. Both science and theology are noble tasks and the information that each gathers is relevant to the other. Both are wonderful vocations and both ought to work together to advance the faith. Think of the glories of the world in which such cooperative efforts could take place -- without polemics.

Our religious task has to be foremost in our lives. To follow Christ, to be "good" Christians requires a committed life. Science can be very much a part of that commitment. The Christian scientist can be psalmist of our times, praising the glory of the Creator in the workings of creation. The scientist, working with the theologian of today, could be the prophet of our age. I know that these thoughts are full of "might-be's", maybe even full of naivete. But it is an ideal to be accepted and worked toward. Remember, the faith, theology and science are not completed works. They are growing, even evolving. In fact, the body of Christ (including the Eucharist) is still a "work in progress." Christ has not yet come to full term. Only in the eschaton will Christ be fully the Christ.

There was a saying when I was in graduate school about 50 years ago that "old physicists do not die, they become philosophers." In some cases that is true; it is, however, truer of theoretical physicists than of experimental physicists. Much of what passes for "science" these days is really philosophy sanctified and made immune from dissent by the label "science." There is no empirical evidence I know of, for instance, that quantum vacuums exist -- we have only theoretical extrapolations that there are quantum

vacuums. But this scientific speculation has become "science" for many people when it is at best merely a possibility. Or take the notion of "multiverses." Multiverses are at best a guess about the composition of reality -- and most likely not even a good guess. This infinity of other universes, which we cannot know, even theoretically, is not a scientific surmise. At best it is merely a "philosophical" statement about the possibility that universes exist that we can't talk about because we cannot know anything about them -- even theoretically. What a way to escape talking about God the Creator.

But God is much more than just Creator. He is even more than just Redeemer. In Jesus Christ he is the Lover of the universe and most especially of the people in it. Precisely why did Christ became man in the Incarnation? He became one of us fully while he fully remained God. Again, why? He came to redeem us from slavery to Satan so that we could serve Christ in love. He became one of us so that we could become divinized in him -- still remaining fully human. Our homeland and our destiny is with Christ -- with God -- in heaven. Our relationship with the Trinity in heaven will never be complete: we will know God better and therefore love Him more; loving him more we will know Him better; knowing Him better we will love Him still more in an ascending spiral of love. And that love will not be the ethereal, gauzy type of love that we imagine it to be -- more often than not. It will be "physical" (whatever that might mean in heaven) as well as "spiritual." Now we are totally unaware of what either term may come to mean in heaven. But we will be bodied (as well an enspirited) in heaven. Perhaps St. Paul stated it as well as it can be said:

> If the soul has its own embodiment, so does the spirit have its own embodiment. The first *man*, Adam as scripture says, *became a living soul*; but the last Adam has become a life-giving spirit. That is, first the one with the soul, not the spirit, and after that, the one with the spirit. The first man, being from the earth, is earthly by nature; the second man is from heaven. As this earthly man was, so are we on earth; and as the heavenly man is, so are we in heaven. And we, who have been modelled on the earthly man, will be modelled on the heavenly man.

We will rise much more human than we were when we died. More, we will rise divinized, sharing (as a human being) in Christ's divinity. We simply know none of the details beyond "we shall know as we are known." That gives us some hint, but really we do not know exactly how we are known. So, again, we can simply say that we do not know what heaven will be like beyond the general belief that: there is a heaven and a hell; there is a personal

and a general Parousia, judgment, and a general resurrection; we will rise bodily, recognizably (even to ourselves) ourselves.

My tendency (and I presume that of some others at least) is to make ethereal all the thoughts about the life which will be the continuation of our present life. I believe we are born, never really to die -- only to exchange one phase of life for another on what we call death. I believe in an immediate resurrection of the body; otherwise we simply are annihilated. How God manages that is God's concern. I believe it happens.

But beyond that, I find myself talking generalities about *my* life in heaven. I don't generalize about my present stage of life on earth. Why do I generalize about my life in heaven -- God willing? Perhaps lack of information about heaven may be one explanation. But could it also be that heaven will be too good to be true? Might we find refuge in generalities rather than face the presumed "disappointment" when in fact heaven turns out to be better than we can possibly imagine? Is it that we do not trust our Christian imagination? Are we so uncomfortable in the presence of Christ, our absolutely rambunctious Lover, that we resort to generalities?

Do we not hear Him when he gave us a New Commandment, one that in so many ways fulfills the Ten Commandments: "Love one another as I have loved you"? We are to love each other -- all of us, no exceptions -- as Christ loves us. How does He love us? He loves us absolutely, unconditionally, thoroughly, completely, and any other adverb we can think of. We can show our love for others by spreading the word that the Lord Jesus loves them and will come to them if they can summon the faith to ask him -- and maybe even without his being asked.

To whom do we have an obligation to spread the word of Christ? To as many people as we can? And how do we do it? It would not be a good idea to give speeches to as many as we can gather to ourselves every day. At best, that would accomplish a small return on the effort invested. But we can live lives of good example. We can pray for others, including those we don't know. And we can volunteer to help those who need help. We can clothe the naked and visit the sick. We can and must educate the young, teaching them that God loves them and telling them how God loves them -- especially in His creation. We can encourage the young to learn as much as they can about creation and redemption as well. We can, in short, build in them a love of science and a love of the revealed faith.

This is a part of the process of the project we are talking about. How can we teach both the love of God and the love of this world, as seen primarily by science, at the

same time? In no way does either cancel out the other. But how can we teach both sides of the equation, as it were, kindergarten through graduate school? Certainly the needs at either end of the spectrum are extremely different.

The Educational Project

Needs

The most obvious need in such a program is something to teach and someone to teach it. These needs are not separate. In kindergarten we need, primarily, dedicated teachers who love their students, love science and love their faith. It will not be enough to have teachers who simply put in a day's work and go home. But then, how many of the latter are successful teachers, especially in the lower grades? So it is essential for us to gather dedicated teachers to help develop the educational material, to help reduce it to manageable levels and to help distribute it to any teacher or program coordinator who might join in the project.

Why start with kindergarten? Well, we have to begin somewhere and we cannot think of a better place to start. First, the younger the child, the more open she or he is to the future. Little children have not yet seriously begun to close down their imaginations. They are still radically open to science and to the faith truly and sensitively taught. They have yet by and large to close their minds and heart to either. It is not too soon to introduce them to the limitless desire for union which God has for each and every human being. It is a case of telling them how much God loves them and how much he expects of them. And the least that he expects is that they love him in return.

More than that, it is a good time to start telling them how much God has given to them. They don't need the sometimes esoteric language of "theological thought" (and probably can't understand it). They can't; and I am not at all sure that I can understand it -- and I'm a lot older than they are. But it is not too soon for them to be told the wonders of their own person. They can be given a rudimentary understanding of the wonders of the heavens, the sun, moon and stars. They can be given a simple understanding of the galaxies and nebulae. They can be introduced into the vastness of the creation and the enormous time scale that modern thought places on the universe. We can certainly talk to them about dinosaurs. In fact, they could probably tell us about them -- thanks to a purple cartoon dinosaur named Barney.

We can begin to teach about how wondrously we are made. We can begin the education process into the absolute glory of the human person. We can begin the education into their own dignity as a living human person. We can begin the task of scientific education as well as the task of

educating them into the reality of God's love for each of them -- individually, physically as well as spiritually. We can start educating them to respect and love their own body and put it in the service of the Lord. Kindergarten is not too early to begin their education in both science and faith.

Once the agenda is set in kindergarten, it would seem that it is mostly a question of refining the notions and getting more and more advanced in the understanding of the scientific knowledge imparted -- as well as the religious appreciation. We must keep stressing -- more and more as we move into the upper grades -- that science and Christian faith are not opposed. Science as such need not downplay faith in God to get its message out; Christian faith need not downplay the understanding of creation that true science gives. Neither is threatened by the other. In fact, truth be told, each can be enhanced by the other. Each is surely impoverished if the other is excluded. Neither can now be fully developed without the other.

The last statement is not merely a fervent wish for harmony. More and more I am convinced that faith and reasoned science are necessary in any approach to the real world -- the world that God made. Even philosophy (and theology) depend on a "reasonable" handling of the truth of things around us. One can create a "philosophy" of things any way one wishes. Many such philosophies have been created. Many cosmologies have been written. But are they reasonable? Do they express the truth of things? Wouldn't it be better to see the world as it is, with its future relying on both Christian faith and scientific accuracy?

It would indeed seem better not to exalt one or the other, but to rely on both -- as was done prior to the "divorce" of reason from faith at the time of the Enlightenment? The beginnings of the contemporary mindset go back in history at least to the rise of "spiritual Franciscanism" early in the fourteenth century and maybe even further back than that. It might be well to introduce some historical treatment in the educational package as well.

In the early grades both faith and science could be taught by the same person. For these grades we propose to put together a curriculum relying on both science and on an expression of the faith that stresses the profligate goodness of God in creating the world. The environmentalists have done an excellent job describing the world of nature to kindergartners and early grade school children. Some may even have done too good a job, filling young minds with what is really junk science, telling children how totally vulnerable the environment is when really it is quite resilient. But be that as it may, the environmental movement has proved beyond the shadow of a doubt how effective education can be at even the earliest levels --

even in pre-school before kindergarten.

As children "grow up" the methods of Christian faith and science begin to diverge. Science should be considered to be independent of Christian faith in its method of discovery -- Christianity in its fullest sense is a realm that is closed to science. But it is the philosophy surrounding contemporary science that causes most of the trouble we experience. First, there is the nonsensical claim that the *only* avenue to truth is the scientific method. Science itself does not make this claim; it is something totally beyond science. It is a claim made by others, by "philosophers" who trade on science's successes. Never mind its failures. They are rarely mentioned. But to say that the human mind has only one avenue to truth eliminates such things as art, music, writing, philosophy and theology. All are built at some level on faith -- faith in God's beauty. Truth be told, even science depends on this type of truth. This kind of faith is still denied by many of the "philosophers" of science, by the scientific materialists.

Even more than at the lower grades, the "conflict" between Christian faith and science must be mentioned to students. The curriculum material should show that the point of conflict between modern science and Christian faith is "how some of the results of science" are to be handled. In some areas -- especially those areas that touch on aspects of our humanity -- we experience very real, even neuralgic, problems. Sad to say that many scientists promote means that may well deny religious ends.

These are the "conflicts" that exist and need to be talked about openly. In some cases, scientists may argue well beyond their scientific evidence and competence for things that are radically opposed by Christian faith. The same may be true of theologians as well. How often we hear them speaking about things far beyond their competence, their data? There is, however, the tendency on the part of some theologians to accept what the "philosophers" tell them in an uncritical fashion. For instance some of the "rhetoric" about stem cell research could be dealt with by the simple distinction between adult stem cells and embryonic stem calls -- but isn't.

But beyond dealing with the "conflicts" between the Christian faith and science, we need to strengthen both science and faith in the students we teach. It is more important to let them know that both their Christian faith and science are essential to an understanding of and love for creation and redemption. But in the case of religious faith, even a knowledge of creation and redemption is not nearly enough. Along with developing and understanding the universe and ourselves, we must look to the future, to ourselves as we will be. More, it might be possible to develop a "sixth sense" about scientific (and theological)

claims -- at least the more extravagant claims. If the same person knows both Christian "theology" and has a good grasp of scientific information, such a "sixth sense" can relatively easily develop.

Life on earth, of course, is not merely the crown of all things. In other words our life here and now is not merely a summation of our existence. Hope in our lives now may lead to hope in the life to come. We are made for life in heaven when "heaven" will be the absolute consummation of our life here and now. "Heaven" is not now and never will be divorced from "earth" and we in heaven will likewise not be divorced from earth. Earth will always be with us in some way or other and we shall glory in it. It is our home and it is one of God's great gifts to us -- so rich a planet in a seemingly empty heaven.

Hope in the "now" and the "then" is built on our love for God but, much more importantly, on God's love for us. Both of those loves, rising from God's command to "love one another as I have loved you," must include the future. Mankind cannot be defined completely in terms of the past and present. Even on the philosophical and the scientific level we will be different later, how, we really don't know. We have to leave the definition of the human open to these changes. While we may be able to say something about the human as he or she has lived and lives now, we cannot really close the definition.

The human being may, and almost certainly will, change and may change radically. Teachers of religion in schools may find it very helpful -- and it is fully Christian -- to stress the future of the human, saying all the while, that any discussion of the future is at best highly speculative. How much do we really know about anything? We don't even know, after 3000 years of speculation, the relation between mind and body. Is there really a distinction? It seems that we are now only beginning to approach the cognitive sciences in a more empirical way. Theologically, too, we have very much to learn about cognitive science as well as genetics and other sciences. At best we know only a small percentage of what is to be known both scientifically and religiously.

Again, it is to be stressed that most likely in the higher grades, the religion teacher and the science teacher will be different teachers. For the grades above, say, the fourth or fifth, it is much more likely that the teaching of science will be separated from the teaching of the Christian faith, if the latter is taught at all. We are anticipating making specially designed computer software for the scientists and the religion teachers. It would be optimal that the teachers worked in harmony, if possible, in preparing and in presenting their material. This is even truer when we reach high school and college levels.

It is certainly true of graduate school where one or other discipline will not even be taught. Then, whatever level of sophistication reached by the student and the teacher will be put to the real test. It is at that level that the difficult argumentation really takes place. It is also at that level where information should be available as near as your friendly computer on ideas about faith and science issues. The Internet is an obvious place to put prepared materials. A "dedicated" website might be set up for these features. This is especially true of scientific matters of deep Christian interest and thought. But along with the ideas of knowledge to be gained there is an even more important set of concerns -- those of love for God and thanksgiving for the gifts he has so profligately given to us both on earth and in the heavens.

ITEST'S Involvement

In essence the foregoing is what we hope to accomplish with the working out of the project we are tentatively calling *Exploring the World, Discovering God.* Beginning with our present membership, we are looking for volunteers to help us put flesh on this curricular skeleton. We need the help of the membership, and all those whom the membership knows, to put together a program and to publish material that will aid those who will be doing the actual teaching. There is a lot of excellent material we can assemble. In some cases this may require a great deal of work by many people.

There is one thing we can do immediately. We can begin research on the textbooks used in the schools of the Saint Louis Archdiocese to teach science, especially in the lower grades. We can begin to evaluate the material in the light of the faith/science work we are advocating. Also we can begin, with a lot of volunteer help, to look at the texts used to teach science in other school systems and in home schools. We need to have a good idea of what is being taught. There is no profit in adding to the teaching burden if the program being used now is also very good. If the teaching in faith and in science is already very good there will be no need to replace it with something else.

But this research will involve a great deal of work and we need volunteers to evaluate the courses being taught now in the Christian schools. All this work needs to be coordinated too. Again, until funding becomes available, this work will also have to be done by volunteers. That coordination would have to be done on the national level. This could also involve cultures other than the United States, but that is perhaps looking ahead too far. Now, we need a program on the national level.

The ITEST Staff can help with the coordination of this effort, but that is about all the present staff can manage

without an increase in size -- which we can't afford at the moment. Depending on the grants we can get, we might at some point in the future offer remuneration for your efforts. That, as I say, depends on the level of funding we ultimately receive. We need expert pedagogical help from whoever possesses that expertise, educators, administrators or the "academic laity." In short we need a great deal of insight and foresight and we will accept it from whatever quarter it may come.

We need teachers and we need scientists and good, faithful people. We know from experience that almost all ITEST people have something to contribute to this work, even if it is simply critical of the program itself. We need the remarks of the critical people as well as we need the approval of the membership. We need the experience of all the membership. It would be well to remember that all the above observations come from only one source and may well not always be appropriate or even correct. This is merely our opinion from 35 years experience. Others' experience is just as valuable -- perhaps even more valid.

Also, although it does not comprise the "meat" of this project, donations of any amount might be called the "potatoes" of the enterprise. If the only thing you can contribute is money, it would indeed be welcome. Even more welcome would be the prayers of the membership -- prayers for the eventual success of the program.

We would like to begin work on starting to put things together as soon as possible, even before we have any prospects of funding. Then, *Exploring the Universe, Discovering God* would be what it really is -- a real act of faith.

Logistics

We hope to begin with preparing learning materials Grades K through 8. The following is tentative, of course. We will try to bring together 3 groups of approximately 5 members each to talk, at first, and then to prepare the materials for the grade levels they will be handling -- here grades K through four. These teachers and "experts", when they are identified and if they volunteer (hopefully), would meet to discuss our goals and methods of procedures prior to beginning preparation of materials for the educational modules. The plan does not look to a one-size-fits-all program.

Teachers, for example, instructing students in, say, evolution would be given several different lesson outlines from which they could choose to teach. Moreover, we do not in any way envision "exams" on this material. Exams would be given by the teachers for their own goals, not ours. Evaluations of the program by the teachers, and by the

students when they reach the appropriate age, would be expected. We need the evaluations to decide on the merits of the modules themselves, not the student performance.

All this could be started if we can recruit volunteers to contribute their expertise in teaching at this particular level and their knowledge of the material at this level. So far as we know, there are not too many teachers of the lower grades who are ITEST members. But our members have wide circles of friends who might be such teachers or know people who are. They could inform these teachers and "experts" of this attempt to prepare students in the truths of faith and in the facts and concerns of science. At the moment we have very little money to spend on the earliest stages of the project. As we said earlier, we are trying to raise money for the work by writing grant requests and begging, but we have no success to report as ^Oyet. But time is going by and we really do wish to get the work underway.

It would be helpful if we could firm up the proposal so that we could present some evidence of the necessity and value of this kind of educational material. The first volunteers could assist in this preliminary work. The funding agencies are more likely to respond affirmatively if we can present them with a relatively detailed plan.

We also need a group involved in home schooling to be a part of the educational process. If any of the membership has contact with home schoolers, they could get them in touch with those planning this program. We would need five or six volunteers to help make home schooling an *essential* part of this project. After all, there are maybe a million or two children being taught at home -- many of them for Christian "religious reasons" and many because of disciplinary problems in the public schools.

There is also a very significant percentage of Christian school children being educated in public schools. It would be good if as many of them as possible be offered the opportunity of getting the instruction after school, either in the local parish or at home on the Internet. We can also think about such students as we prepare the program. Clearly, the notion that this material be presented as part of the curriculum does not apply to such students, but the material can be made available for voluntary use.

Both individuals and educational groups would be welcome to take part in this work. Even from the earliest stages of preparation of the material it is necessary to think about setting up "pilot schools" and "pilot homes or groups of homes." Again, the setting up of pilot programs must in large part be designed by those who will be active in teaching and promoting it. There will be a lot of discussion to hammer out what areas and what ideas are to be

promoted. There cannot be any dictatorial preparation of the said material. The whole enterprise has to be guided by the love of teachers for the church and their love for the students and felt concern for science and technology. Part of the early volunteer work will be the "development" of a felt need for this kind of activity both in the church and in science/technological activity. Without this vision of the future role of church and science in closer harmony, the project will be a failure.

So, the very first thing we need are the volunteers to identify themselves and then work together on a vision of the future. Then the next part of the project is the beginning of the construction and development of materials. The preparation and distribution of the materials -- first to the pilot schools and programs -- will begin. This is somewhere in the future, but not in the too far distant future. Moreover, all the work of the volunteers will aid ITEST in developing clarity about its own vision as well. This is an extremely involved program and whatever help that could be given on the limits of the vision would, of course, be enormously helpful. It is hoped that the meeting with the sets of volunteers would help clarify the work of building the "curriculum" for the project.

Curriculum

The material generated finally by volunteers (by volunteers, at least until we can gather the money to pay a stipend) will work to prepare material for a course of study. We would hope to provide users with materials that could lead to a fuller and fuller relation with Christ and would lead to a real love of his creation. After all, the earth is our home for the foreseeable future and we should really be taking care of it.

The "curriculum" will involve the heart of the project, at least until the pilot programs and the pilot schools are set up. The planners may construct units of study consisting of perhaps three to five lessons each. The units would describe the larger topics with the "lessons" as sub-topics. For example, a unit could cover the topic of genetics with sub-topics of Mendelian inheritance, repair of genetic defects and so on -- appropriate to the grade level. Appropriate to the grade level as well would be the beginnings of Christian thought on matters of the body in the service of the Lord.

The parts of the program to be used will depend on many circumstances, including the sophistication of the students, the vision of the teacher, perhaps the wishes of the local priest or ordinary, and so forth. All ITEST is trying to accomplish is to make available material that could be used to promote the love of God and the desire to learn as much as possible about the universe we live in and about the

things around us. That would truly benefit the church and, hopefully, the scientific community. It probably wouldn't thrill the scientific materialists all about us, the ones who feel that scientific knowledge is the be-all of all human understanding.

Our goal is to present material appropriate to every age level in the educational process. This material would consist in such things as possible study guides, suggestions for further study, things designed to foster love and knowledge as well as love for knowledge.

Nor can it be stressed too strongly that this type of a faith/science approach is vitally needed. We are at the point in history where science (and the technology derived from scientific advance) is more and more touted (and even accepted) as our savior. Christians know that we have only *one* savior and that savior is Jesus Christ. We must impart to our students the notion that the guiding force of Christianity is both the overpowering love of God and as deep a knowledge of the creation in all its parts as possible. This leads to the further question of a target audience.

Target audience

It should be clear by now that the target audience for this program will be Christian grade schools and high schools. In these schools this material would not be supplemental reading but rather classroom work. The material would be, however, in the hands of the teacher -- where it ought always be. In high school, and even more in college, the audience and the manner of use will change. In high school the various scientific specialties are handled individually. The same is certainly true in the colleges.

Basically, in college and graduate school the approach would be much more voluntary on the part of professors and the students. In these venues, the presentations could more profitably become seminars or after school club or groups assembled precisely to do work in faith and science issues. We suspect that much of the impulse for such groups would come from some of the student body. We do not believe it likely that the schools or the professors -- at least most of the professors -- would be the ones to promote these get-togethers.

In college we would expect student activity to be the main promoter of such programs, not faculty or administrators. Again though, some allowance may possibly be made by the individual school. Some Christian colleges may well put on classes on faith/science issues. But remember, the primary goal of any program in faith and science is the personal and corporate love of God, of each other and then the love for and of creation.

Home schooling, as mentioned earlier, is also very important in this area. In fact, the home may well be the best venue for this type of education. These programs, when they are finally developed and fully ready for implementation could be (and maybe should be) in every Christian home. It is even possible that things like computer software or other media could be developed for the various faiths involved. But preliminarily, we will concentrate on those matters held by most faiths.

That sentence reveals one of the major problems in faith/science work. Christianity tends to show its doctrinal difficulties in public. Science by and large keeps its disputes more or less in the background. Somehow, the classroom and/or discussion material should reflect Christian unity more than Christian diversity, although disputes on doctrinal issues between Christians should not be glossed over. These things, disputes included, must be treated even-handedly during the preparation stage.

The home, once again, is the ideal place to promote a deep love for the Lord as well as a desire to know (scientifically and technologically) as much as possible about the creation which the Lord has presented to us. This would certainly be in the tradition of the Bible and of the church. On thing seems clear to us -- love for God can be fostered for each and every Christian. It is not so much a matter of doctrinal "purity" as is the intellectual arena.

In the grade schools which will use it, the material will be designed primarily as part of the normal curriculum. The material in the lower grades will be more general; in the higher grades it will grow more specific -- including more particularized instruction in the sciences. At some point, to be determined by those volunteers working on gathering materials, the sciences will have to split into things like biology, physics and chemistry. In the matter of material about God, there will come a time when more attention will have to be paid to the denominational nature of Christian faith as it exists now. What it might be like in the future is not in our power to know. Now, however, denominational (Catholic, Protestant, Evangelical, etc.) existence is simply a fact of life and the program will have to be developed to reflect it.

In the lower grades this material is seen as adding to an already established curriculum. As the student progresses up the educational ladder, more and more attention will have to be paid to the disparate aspects of science, to physics, chemistry and biology. The program, then, will be designed so that it can be used as a curricular element or as supplemental to an already established curriculum, dependent on the particular school's program or the teachers time.

At present, we are, at best, simply training students not to

be half persons -- inclined either to be scientists or to be "theologians." "Theologians" is in quotes because it really is not yet theology they hear in school. By and large it is "religious education" they receive and it may or not bear much relation with either science or reality. Perhaps some of the "science" (or appreciation of science) is probably no better. It, too, can easily be labeled as propaganda either for or against real science. Accusations of "propaganda" can be more readily made against some of the technological applications of science, the area of real conflict at times between science and faith.

This arena, then, brings us to the purpose of the program -- an appreciation of the relationship between science and faith in the Trinitarian God. We are trying with this project to make the relationship a pivotal element in the teaching of both areas. To do this well it is helpful to relate the whole problem area to another larger problem -- the problem of the relationship between continuity and change.

The question of faith and science is in reality part of the larger problem of continuity and change which is in itself one of the great philosophical conundra that was first mentioned in Greek philosophy 2500 years ago. It is the problem of how things can change and yet remain the same, of substantial identity in the midst of constant change. It is finally the problem of wholeness and changeableness.

In essence the terms of this problem were changed at the time of the Enlightenment in Europe in the seventeenth century or so. In the Enlightenment there was a divorce between faith and reason. The relationship between faith and reason had been seriously weakened by the rise of Nominalism in the Middle Ages and the Enlightenment merely provided the *coup de grace*. From the Enlightenment and its radical separation of faith and reason comes the notion that, finally, only science can answer any question at all. There is, then, no knowledge except scientific knowledge. Some people actually think that. Certainly that is the belief of scientific materialism.

We can be "half people" and believe in what is now called *scientific materialism* or we can be truly "integrated people" and use both faith and reason to solve the kind of problems and questions we face. Were we to use both faith and reason many of the problems of the age would be at least ameliorated. The problem is that many people believe that reason (read science) is enough of a tool to do the job itself.

Finally, The project we are proposing (with its educational component) is designed to promote both faith and science and the true relationship between them. We are proposing to develop (and construct) educational units from kindergarten through graduate school, recognizing the actual educational requirements along the way.

As we have said, ITEST will need a great deal of help in bringing this program to life. The environmental movement has already shown the soundness of this type of approach. Beginning with kindergarten and ending with those who go on to graduate school we can begin to prepare the way for knowledgeable people of faith and real scientists. We have no recent figures for the number of Christians active in science but we are sure that the number is quite representable. We do know that some of these people have no real idea of the meaning of their faith. We aim to begin to change that situation.

Also we have no firm numbers for non-scientific Christians but we are again comfortable with the notion that there are very many of them -- at least comparable to the society at large. We are again fairly confident that they live their conscious lives apart from the idea of scientific change (and advance?). How many say that they don't understand science and even "wear that label as a sign of merit." We hope with this project to change these attitudes. Please help us by either volunteering time (or recommending people who can help us) or maybe even giving some financial assistance. Certainly, all the members of ITEST can help in one way or another, even if only by praying for the success of this project and for the apostolate at large.

CARING FOR THE ENVIRONMENT: IT BEGINS WITH EACH OF US
Dan Bennett

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The twentieth anniversary of Earth Day was heralded by an almost unprecedented response from the media, politicians, veteran environmentalists and other grandstanders, but the most important impact may have been on the many people who have heard of the many issues, and only now have decided to get involved.

Many of the problems we face have developed since the

Industrial Revolution, and it is the factories and power plants that frequently are singled out as the root of most problems. But human culture has always been in a dynamic, yet precarious, balance with nature. The early hunter and gathering tribes were forced to migrate in order to avoid long term degradation of their environment. The wandering herd, on which their livelihood was based, would move on as their food supply diminished and the humans would follow. Each member of the tribe followed established routines that prevented depletion of the herds, produced little waste, and kept them all in a natural cycle that could replenish itself as the herds and tribes moved on. As the early civilizations found stability through agriculture, other human industries developed such as mining and metallurgy, medicine and pharmacology, building and architecture and environmental challenges increased. Many of the earliest civilizations did not meet those challenges. Poor sanitation or the lack of soil or water conservation forced many cultures to move on, leaving the problems behind. The hunters and gatherers had learned that there were ways to adapt with nature to assure a stable life-style. The challenge to our everchanging industrial society is for each of us to do the same.

Archaeologists studying ancient cultures find a wealth of information at each dig. Ancient American Indian skeletons are found adjacent to ancient campfires, stone-working fossils and garbage. These people lived and died and dumped all in the same area. Environmental complications were not obvious since they would move on allowing decomposition and other biological activity to occur in their absence. Early town dwellers lived in essentially the same way. Horticultural tools and pottery showing the imprint of many kernels of grain identify the earliest agricultural regions. But as the human population in the isolated centers of civilization grew, the problems became more obvious. The lack of adequate sewage disposal was a major contributor to the ravages of epidemics in Middle Age Europe. It wasn't until 1842 that disease was linked to environmental conditions, and even then garbage and sewage disposal in some major cities consisted of piling the refuse in the streets. In 1894, Harper's Weekly reported that "the garbage problem is the one question of sanitation that is uppermost in the minds of local authorities." Yet, open garbage dumps in America persisted into the 1960's. Even though city dwellers learned to remove sewage and garbage from their city limits, they were slow to realize the environmental impact outside of their boundaries.

The City of St. Louis found the Mississippi River a convenient outlet for sewage wastes, but for centuries ignored the environmental impact downstream. Primary treatment of sewage removed solids from the discharge, but millions of gallons of water saturated with waste were still dumped, promoting pathological organisms and disrupting ecological cycles downstream. The city is only now completing a secondary treatment facility that will remove 90-95 percent of the total sewage being discharged.

Early mistakes were made in garbage disposal, as well. St. Louis used wetlands for disposal of much of its garbage for years. Now there is an extensive area along the river bank, north of downtown, where groundwater movement parallel to the river is transporting a host of contaminants underneath the fill. This area is especially complex, since historical mismanagement of hazardous materials has contributed significant physical and chemical properties to the groundwater. Designating a responsible party to clean up that contamination is often difficult, since it is questionable if a waste was disposed of in place, or has migrated from an upcurrent facility, or was dumped with municipal garbage years before. St. Louis is not alone in facing such a conundrum. The EPA has identified a National Priority List under the Superfund and over 40 percent of those sites are former landfills. This is understandable, since it was not until 1965 that the Solid Waste Disposal Act (SWDA) provided guidelines for operating landfills and 1970 that the Resource Conservation and Recovery Act (RCRA) identified hazardous wastes and required alternative means for their disposal. Even so, landfills continue to receive hazardous materials. Many people overlook the fact that hazardous wastes are residues from hazardous materials, which frequently are included in consumer products. When unused products are disposed of they add their hazardous characteristics to the landfill, chemically reacting with other wastes to produce a toxic "soup" that migrates through the landfill as leachate. Factories that produce less than 100 kilograms (220 lbs) of hazardous wastes per month are unregulated by RCRA, and may not dispose of their wastes in a responsible manner. Also, more than 1200 regulated generators have been identified in the St. Louis area, with only four (4) state inspectors to evaluate the safety of their operations. Complaints of disposal of hazardous wastes into the trash, sewers and environment come in a never ending stream into the St. Louis office.

The EPA and other regulatory agencies are aware of the exemptions, missed details and loopholes that exist and are providing a constant deluge of new regulations intended to fill the gaps. But the new regulations often contain new contradictions and loopholes that serve to confuse waste generators and even overburden the regulatory agencies themselves. Currently, Missouri officials are considering legislation to support "waste minimization" that will provide industry with procedures and

technology intended to reduce or even eliminate some hazardous and solid wastes.

The actions of government, industry and environmentalists have shadowed human activity throughout history and have drastically accelerated in the last twenty years, but we still cannot come to terms with the problems. Where should be the focus of responsibility? On industry, who wastes too much? On government, who reacts too little? Or on each of us, who as consumers or constituents the others are only trying to serve? There is no industry whose intent is to create hazardous waste or to degrade the environment. But in supplying consumers wants and needs, impact on natural resources and the environment is inevitable. Government response to environmental problems is often short-lived or misguided, and requires sustained involvement to produce results. The enormous public response to the recent Earth Day is a very good beginning, but no substantial results will be seen unless we all realize that it is only a beginning.

Public awareness is always the foundation of industrial and government actions. But that foundation is too often based on fear. When public opinion drives government into action, it is often in relation to a disaster, and the bureaucrats and politicians make a well-publicized, and often excessive, response. More knowledge on the part of the public may help to decrease the number of disasters and more effectively direct the regulatory response. The continuing education of the public or of the consumer may pursue two lines: communication with knowledgeable individuals and development of technical expertise. The first is more important, at least in the short-term. Those concerned about an environmental issue can broaden their perspective by writing, calling or visiting public officials, industry representatives, citizen-action groups, or educators. Since each individual source probably has a unique angle that is not immediately apparent, look for other sources of information. Books and magazine articles may give a general background that can help to interpret or substantiate the individual's contacts.

Now, it's not as though every newspaper headline should lead to personal investigative reporting, but each phone call will broaden one's understanding of the complexities of environmental issues. Some contacts will seem more communicative or down to earth than others. These people will usually be willing to offer specific references to broaden your technical capacity.

It does not take a degree in chemistry to understand most environmental issues. However, most Americans do not understand the chemistry described on a box of laundry detergent. The dearth of students in the sciences has been described as a prime reason for America's flagging industrial output; but that lack of knowledge is perhaps the major stumbling block in society's pursuit of environmental solutions. Adults may not want to pursue organic chemistry as continuing education, but environmental studies can serve to enliven the hard sciences for youngsters. Having more people who are aware of chemistry and biology is crucial to understanding the challenges that will inevitably confront us in the future.

While awareness is the foundation of solving environmental issues and education is the framework, there is much more that individuals must do to have an impact on environmental issues. The key phrase is to "get involved." The St. Louis area has many local issues that will require public input to resolve. The city itself sends almost all of its trash into Illinois for disposal. With disposal costs always climbing, how can the city plan to insure continued disposal? The airport frequently makes headlines with the complicated disposal of radioactive waste there, and a major environmental cleanup at Weldon Springs in St. Charles County continuously provides issues that impact on the public. A recurring response to all of these issues is that the public would prefer the processing, storage or disposal of the variety of wastes to occur somewhere else. But where? Continued long term involvement of an educated public is essential to the political and technical issues involved. This will also involve state wide, national and international cooperation. Acid rain, destruction of the ozone layer, global deforestation, and the greenhouse effect will have an impact that does not recognize national boundaries or local regulation. American consumer habits are a large part of all of these issues, and there will be no decisive action without changes in individual life-styles and American governmental leadership. Recommendations from industry or bureaucratic experts will never have the impact of an informed citizenship.

Humankind has always been dependent on its relationship with the environment, and has always been dependent on how we interact culturally to define that relationship. In order to deal with future challenges we must learn what each must do to correct the mistakes of the past. Unlike the fallen civilizations of the past, we can no longer walk away from the challenges.