

INSTITUTE FOR THEOLOGICAL ENCOUNTER WITH SCIENCE AND TECHNOLOGY

BULLETIN

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The exact date of ITEST's twenty-fifth anniversary, October 25th, 1993, was quietly celebrated in the office by Sister Marianne Postiglione, RSM and myself. It is hard to believe that the organization is that old. Although we have much to be proud of over that interval, there is, as you know, very, very much yet to be done. The Staff and the Board is dedicated to accomplishing as much as we can to that end.

In a way it is fitting that we begin the second quarter-century of ITEST with the Fall issue. With Advent only about a month away, we are reminded that our entire lives are an Advent as we await the return of the Lord Christ to us in glory. Like the Baptist, it is our task to cry out in the wilderness and to prepare the way of the Lord. Like Mary, we are to ponder our times in our hearts, so that the thoughts of many may be laid bare. It is a grand vocation, one for which the world is waiting, which the world needs desperately.

As has been reported and is mentioned again in the Announcements in this issue, the March 18-20, 1994 ITEST Workshop has the working title, "Secular Ideology versus Jewish and Christian Secularity." We understand *Secularity* as descriptive of the Jewish and Christian valuation of time and history. We live in a milieu that has to a large extent forgotten (or really never knew) of God's destiny in history, in the works of our hands. Our culture is adrift in a sea of conflicting values. Values, as we know, are little else than desires. The main issue of our time (and probably of all time) is whose values will direct the course of human history. Will it be the power elites, whoever and whatever they are, or will it be the God who was born in Bethlehem and lived among us, who still lives among us?

The answer to that question is the life of this group.

May we wish you a Blessed Christmas and a joyous, peace-filled and productive New Year? May the Lord Jesus be with us as we move a year closer to the new millennium.

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ANNOUNCEMENTS

1. The preparations for the March 18-20, 1994 workshop: *Secular Ideology versus Jewish & Christian Secularity*. are well underway. We have five confirmed essayists, Drs. Christopher Kaiser, (history of science) Richard Blackwell, (philosophy) Helen Mandeville (literature), Edmond Pellegrino, MD.(medicine) and The Honorable William Bentley Ball (law). Invitations will be sent out sometime in January, 1994. Let us know if you want an invitation sent to a colleague or friend. Send us the name and address and we will take care of it.

2. *The Science and Politics of Food* will be the topic of the October 14-16, 1994 workshop. Please note this date on your calendars. ITEST has often been "prophetic" in choosing topics for workshops and conferences. Daily horror stories of worldwide hunger make us brutally aware of the seemingly insurmountable problems associated with food production, storage, distribution and others. Bob Collier, Board member, is assembling a group of essayists, *pro* and *con* on sub-topics of food surplus, the science of food, international pricing mechanisms, production, distribution, religious ideologies, rural sociology, technology, and population.

3. Please let us know if you or any ITEST member has recently published or has received an award or recognition for your work, ministry, or notable achievement in your current profession. We would be happy to publish that notice in the bulletin.

4. Membership renewals are coming in at a pretty good rate. Thank you for your quick attention to the renewal notices. A special thank-you goes to those members who donated more than the \$35.00 yearly dues. We appreciate your generosity.

5. All dues paid members should have received our latest book, *Transfiguration: Elements of Science and Christian Faith*. We premiered the publications at the banquet during 25th Anniversary convention in Holyoke, Massachusetts. As we noted in a previous bulletin, the book includes chapters on the methods employed in various sciences, philosophy and theology. It will also contain some historical material on the growth of science and on the theology-science conflict and three chapters (representing a "single view" of

Protestant, Orthodox and Roman Catholic) on elements of the Christian faith. Special thanks are extended to the 12 authors for their generosity and willingness to share their wisdom with us. This book is unique in that it presents a collection of ideas on science/faith never before assemble in one volume. We recommend its use in college, either as a supplementary text for an interdisciplinary course in the development of ideas or for survey courses in the arts and humanities.

6. We have recently completed a large bulk mailing — (1042) addresses — to campus ministry centers, seminaries, college libraries with our "New Releases" brochure enclosed. Featured in the new brochure are: *Transfiguration: Elements of Science and Christian Faith* and *The Human Genome Project*. We should receive some orders from this mailing. We're also working on an alternate marketing and distribution plan for those volumes, especially, *Transfiguration*.

7. The topic (working title) for the Spring, 1995 meeting is: "Risk — Perceived, Assessed and Real." Details on the structure of this meeting will be reported as they develop.

8. We received a letter from Robert Tenold, a longtime ITEST member (P.O. Box 507, Clayton, NC 27520). He asked us to print the following message in the Bulletin. "The Santa Maria Foundation was set up to produce an effective medical treatment for the serious consequences facing patients having immune deficiency diseases such as AIDS." The Foundation proposes: "To build a small manufacturing laboratory facility in Santa Maria, CA for the purpose of processing human plasma to a full spectrum Intravenous Gamma Globulin specific for the treatment of AIDS. A natural blood product never before used in this application." Tenold continues, "I need trustees to morally support the foundation and ask my brother and sister ITEST members to consider lending us the use of their name, if they have interest. . . If they could write me and volunteer to be trustees, it would go far when we are dealing with politicians in seeking funding."

"Bob Tenold, SFO, ...has a proven track record with preparations already indicated for use by the NIH in the treatment of pediatric AIDS. (Gamimmune study - January, 1992)."

SOME EXCERPTS FROM THE 25TH ANNIVERSARY CONVENTION



Brother Lawrence Bradford, OSB

Bob (Brungs) asked me many months ago if I would be willing to speak to this group about spirituality and the beauty of work. In doing so, he assumed that my being a Benedictine should qualify me to say something of significance about these two topics. I'm not sure how qualified I am but he was certainly correct in assuming that I should be able to say something. After all, one of the Benedictine mottos is *ora et labora*, or for the non-Latinists among us, pray and work. . . .

Out of this spiritual tradition of work and prayer has grown a strong sense of stewardship over created things. In the chapter titled "Qualifications of the Monastery Cellarer" - today we call him the business manager - we find the sentence, "He will regard all utensils and goods of the monastery as sacred vessels of the altar, aware that nothing is to be neglected." If you think about it a bit, this might seem a startling statement. However, he (Benedict) is saying the garden tools are to be regarded as sacred vessels of the altar. However, I believe that it reflects a profound understanding by Benedict and the monks of his time of the intimate relationship, indeed the interrelationship among creation, us as created embodied beings, and God, those three things - among creation, us as created embodied beings, and God. Monastic spirituality is rooted in this perception of the fundamental goodness of God's creation and the importance of our relationship to it. It is, therefore, no surprise that work was held in high esteem by St. Benedict.

. . . . Adam was placed in the garden to till and to keep it (Gen 2:15). In other words, he was to do work. Or we can look at the entire first creation account which describes God creative act as work

when it says, "So God blessed the seventh day and hallowed it because on it God rested from all the work He had done in creation."

Keeping in mind that work from a divine perspective can be no more than analogous to human work or vice versa, human work analogous to divine work, we can see that work in itself is not a curse but a good and apparently a necessary good. Indeed it is part of the very structure of creation viewed from the human and divine perspective.



Dr. Valerie Miké

I would like to share some thoughts on beauty, science, and spirituality in the context of my own work. Since my present work concerns an urgent topic of our national agenda, I thought that it might also be of some interest to others. My aim is to present and to point to an essential link between science, faith and beauty, and the reform of the American health care system. The connection I see, and I see it as a challenge really, affects us all as consumers of health care. My remarks can then be summarized by the suggested title of my presentation which is "Science, Faith, and Beauty: The Challenge of Modern Medicine."

My academic field is mathematics, and I have been involved in medical research for over 25 years. For the past few years, I have been focusing on ethical and value issues pertaining to uncertainty in biomedical science and technology. What I would like to do is begin with some personal comments on beauty, beauty in mathematics and its impact on my own life.

I've always loved mathematics, and I have now come to believe that this lasting attraction was of deeper significance for me related to the events of my early years. I was born in Hungary in Budapest, and my childhood memories merge into the nightmare of World War II. . . .

In mathematics I perceived a permanent order, a structure, and beauty that I couldn't find elsewhere that were in sharp contrast to the chaos and horror I had experienced.

I was fascinated with Euclidean geometry which seemed to me an expression of eternal truth, because I would learn later there was indeed this metaphysical concept of beauty dating back to the Greeks. Pythagoras in the 6th century B.C. held numbers to be the basic principle in nature and it was related to beauty. He was the first to call the world cosmos, a term that combines the notion of order with that of beauty. To him the beautiful was the real insofar as it was sustained by the mathematical laws of harmony. An eloquent praise of beauty is delivered by Socrates in Plato's dialogue symposium. Socrates argues that from the beautiful found in the natural and physical but transcending these we rise by degrees to the beauty of the spiritual order. . . .



Fr. Bert Akers, S.J.

There are a whole series of terms dealing with what was classically the idea of the convenient, meaning it is fitting, it is just, it is proper, it belongs, and so forth. There's a whole realm of belongingness: We have Pepsi; it belongs, or whatever that beverage is. Fitting and proper: nobody wants to be proper any more, but that's a great term. Propriety originally meant something more like that: it belongs.

Quality is back in in all sorts of forms including, of course, eminently in science. Elegance is one of our most familiar terms. The mathematical formula - well, it works but it's not elegant. So that's the wholeness of things. We'll see that these are reflected in the classical transcendentals.

"It is fair," perhaps the most comfortable modern term in ethics. Kids say, "It's not fair." What they're doing is transcendently describing a vast background of philosophical wisdom that has largely been forgotten, but it's there.

"Just": The whole thrust toward justice seems relatively modern in its social justice sense. But, of course, the biblical term just - "Joseph was a just man" - biblical justice is a magnificent transcendental; it's not the cold juridical justice idea we have. It's propriety. It's everything in its proper place - with God, with fellow man, with the oxen, maid servants and man servants. Justice in the biblical sense is an enormous and helpful category.

"Honest." We don't use the term too much except in used car deals. But an honest dollar reflects the truth of the dollar, the value of the dollar.

. . . these terms point to something almost built into the human person and something we need, something that's operative in us even when we for methodological reasons pretend that we are purely objective, purely value free, and so forth, no longer particularly ... True value, et cetera.

"Square," in the old-fashioned sense, meaning solid, honest, like a square deal. It's both true and good and valuable and fitting, and so forth.



Mrs. Anneta Duveen

I'm a secular Franciscan and my children say I'm a clay pusher. Plato hated sculptors, and they're always pulling me down to size by saying, "You remember what Plato said about you." I work in many fields. I have no span of attention. This group is the one that's closest to my heart. . . .

I never think of beauty with my work. I chatted with Sr. Marianne and Danielle (Darriet) about this a few minutes ago and they were staggered. I tend to think in terms of more communication. If I'm doing a piece of sculpture, I want to get a concept across to the people that are looking at it.

So along comes "beauty" like a foreign element to me. I can't ever remember thinking I'm going to do a beautiful work. Even if I'm doing a landscape watercolor, I'm saying, "This is a great moment. I want to share it." But beauty is not there. The one time I approached it was doing a portrait of Manuela Matioli. The first minister general of the secular Franciscans, she was an elegant, gorgeous woman, very fine bone structure. I decided to do a portrait of her, and I had the worst time of my life. I didn't want to come in with that look of a mannequin and I wanted to get a real person, because she was, in the terms we know, beautiful.

I did Ella Grasso, the late governor of Connecticut; she was more my kind of woman. She wore a Prince Valiant haircut and looked like Marie Dressler for those of you who are old enough to remember her, a good, sturdy, strong woman. Her character shone. But I never think beauty.



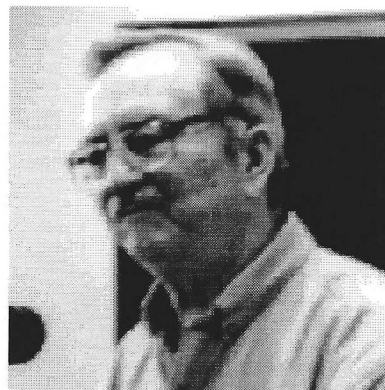
Dr. Helen Mandeville

Precision is not simply a matter of fact-word or object-subject correlation. Language can have this kind of exactness. Our verbs, for example, because

they are inflected, allow us to use verb forms and verb tenses like the past perfect or the future perfect to define exactly when in relation to the present an event has occurred or will have occurred. We use the present participle to express action in process, gerunds to turn actions into states of being or doing. English verbs aren't as finely nuanced as Greek and Latin ones but we can achieve a beautiful degree of precision.

The beauty of precision in language is not just a matter of fact-word correlation as if there were no one subjectively experiencing the fact by which we find a word. There is the precision of suggestiveness. That may sound like an oxymoron but I insist that there is a precision of suggestiveness. The expression of ambiguities of feeling about facts, the possibility of layers of meaning and feeling supposedly at odds with each other. This situation is like Impressionism in painting. The shimmery light surface of an impressionist painting is the ultimate realism in a suggestion of the play of light.

Because English is an amalgam of many languages, it has the possibility of such suggestiveness as the original meaning of a word plays with or against the history and usage of words in English. Take the word discrimination, for example. In Latin, *discriminatio* conveys the idea of seeing distinctions, of making judgments. In English the word discrimination has a history related to aesthetic taste. We say, "He has a discriminating palate when it comes to wine;" - I'm using *he* here. As somebody once said, "when I say men, I embrace women" - "he makes subtle distinctions, discriminations in his use of words." But the word discriminate or discrimination has in the 20th century been caught up in class, race, and sexual conflicts. . . .



Dr. Anthony Gawienowski

... a comment by Professor Frank Baron who has also been related to some of the work that we've been doing (on creativity). It comes from his book, *A Creative Person in a Creative Process*. "Great original thoughts or ideas are those which are not only new to the person who thinks them but new to almost everyone. They are not only the results of a creative act but they themselves in turn create new conditions of human existence."

In 1969 Chambers and Baron studied creative scientists and creative professors to see if there's any commonality among them. Then they also had a group that were considered uncreative. Consequently, they had two pools of people whose characteristics they could study. The results they obtained were quite interesting. Chambers in his review of some of this work in '69, '70, '71 and '72 mentions that "the more creative persons, when compared with their less creative peers, usually turn out to be more self-confident, dominant, strong willed and introspective. They're self-starters. They are independent, nonconformists, relatively unconcerned with group approval of their actions and relatively uninterested in socialization. Rather it appears that creative persons have chosen not to conform to a given mold but rather to express their sensitivities and other characteristics through their creative abilities. They also appear to prefer complexity."

Finally, as it was pointed out in this study: "The need for quality or excellence is a vital ingredient in high level creativity."

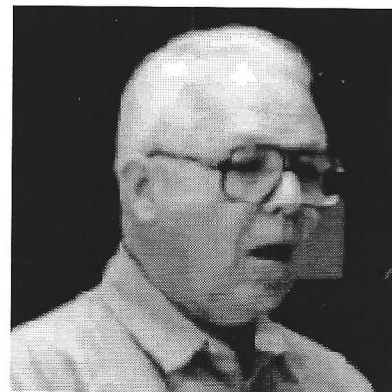


Sr. Mary Ellen Murphy, RSM

... I entered the Sisters of Mercy. In those days, you did what you were told; I was told to get a

doctorate. That was probably the biggest turn in my life. It was just about the time that Kennedy was saying we'd put a man on the moon in the decade. I am one of twelve scientists prepared by NASA - two in each field, I was one of the two chemists - for the analysis of the moon rocks. I consider that a very definite achievement in terms of the science effort with regard to the NASA program. I feel it moved civilization, humanity, to a new level because, as von Braun said, it was the greatest peacetime effort ever in the history.

Through all of this I feel that those life experiences have brought me to a greater appreciation of the physical world. But as we said yesterday, that immediately brings us to the "nonphysical" world, the mystery, the things that we do not yet know. I feel that it helps faith. This morning's reading was about Peter trying to walk on the water. In terms of research problems and effort, that's exactly what I was doing, what our group was doing. Only with God's help do we ever, "stay on the water."



Dr. Charles E. Ford

Into the '90s the national bastion of traditional private liberal arts colleges, the Association of American Colleges, assembled a team of scholars from the major disciplinary associates to issue a very interesting document called "Report from the Field: A Study of Learning and the Arts and Sciences Major." This report on the undergraduate education, of course, gave a positive report in what's happening - I'll come to this in a moment — what's happening in physics, biology, and chemistry. I was interested in their report on religion. This is a new discipline. I'd like to announce that to you this morning. "This is a new discipline and it's a fun major" - I'm quoting - "and it's a fun major to be conducted on the premises of a mod-

ern nonsectarian university. . .

In October 1990, the American Association for Higher Education issued a report, "Are We Losing our Liberal Arts Colleges?", and concluded that yes, we are. We have a new type of college - the small professional college. The liberal arts college has disappeared. I don't entirely believe that, but I certainly have seen a large number of undergraduate colleges that started as liberal arts colleges that have literally lost the liberal arts majors or concern for the liberal arts in their curriculum or in their required courses. They are in fact professional schools.

Knowing and doing science and theology on the undergraduate level is a requisite for entering the dialogue of encountering goodness, truth, and beauty. Considered a micro issue in the midst of macro malignancy affecting the American higher education, the condition of undergraduate science was viewed as disastrous by the mid 1980s. Science, however, is gradually reclaiming the attention and support that marked the post Sputnik era. Laboratories are being renovated, teaching the excitement of science as exact and beautiful is returning; the number and quality of students is increasing. . . .

I'll offer a few speculations about undergraduate instruction in theology with full confidence that this forum will set the record straight. From my two ITEST studies and episodic contact with colleagues in liberal arts colleges as well as the reading of periodic articles on the subject, I am left to conclude that the traditional requisites for faith/science encounter no longer exist. . . . The study of theology for an undergraduate has become religion or religious studies. . . .



Dr. Peter Capella

My focus is almost a case history of what I feel is the role of faith and science especially geared towards industry. I'll try to illustrate this as I go.

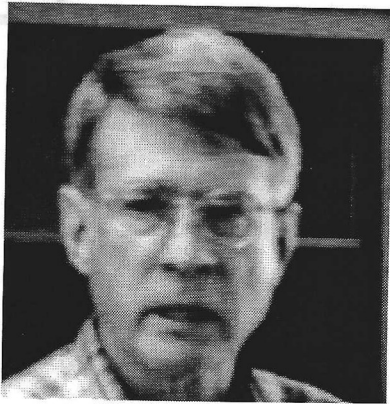
Faith, as far as a working definition goes, is obviously belief. We believe in God. . . . We read in the Letter of James, (22: 22-25): "Be doers of the word and not hearers only deluding yourselves, for if anyone is a hearer of the word and not a doer, he is like a man who looks at his own face in the mirror. He sees himself and then goes off and promptly forgets what he looked like. But the one who peers into the perfect law of freedom and perseveres and is not a hearer who forgets but a doer who acts, such a one shall be blessed in what he does." Thus, faith is belief and acting out of that belief. James says, "Faith without works is dead."

So that's the sort of theme I'm bringing to this industrial perspective on science and faith. We're looking at faith as a combination of belief in God and also work which should be geared towards an expression of that belief. This obviously is not a simple task.

Essentially, as you all are aware, industry is a private sector group. Therefore, its goal is to produce something which actually goes out into the general public in some sort of output through all the efforts that are being produced there. . . . But essentially I naively break this down into two main areas. I am in pharmaceuticals; most people can see a direct correlation (hopefully) with a benefit to humanity as one of the outcomes of that output.

I am not a perfect industrial spokesperson. I admit that there is a thing called money which is obviously a part of the equation. . . . There's also a cost to society - environmental waste, for example. That strikes very close to home. When I was growing up as a child in New Bedford, a beautiful river flowed through the city. My father played in it as a child. By my time it was totally polluted. We were warned, "Don't even go near it."

. . . . every scientist, even in academia, has to evaluate his or her own work. The truth and beauty that may come through our own work in our own hands is our responsibility. . . . We must be doers of the word.



Dr. Neyle Sollee

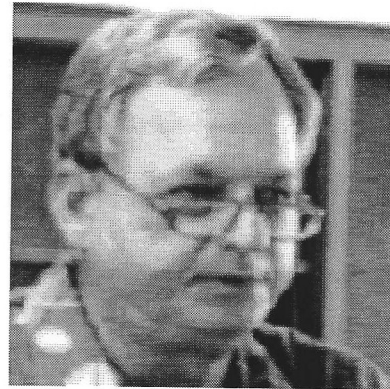
I'd like to relate three levels of beauty to an experience that I had when I was a practicing pathologist. A pathologist is a kind of doctor's doctor who doesn't see private patients but in my area we did general hospital pathology. We looked at tissues, we worked with blood specimens, and we saw some patients in consultation mostly with hematological diseases. We often did bone marrow exams. So we didn't have private patients as such.

This experience entails what we would do when we were on a frozen section routine. We would be available for the surgeon. He would call us and we would go into the operating room, putting on the necessary gowns, and we would receive tissue from the surgeon. He would ask us, "Is this benign or is it malignant?" If it was an obvious skin cancer, he would say, "Are the margins sufficient?" or "what is this?" We would take this tissue and examine it.

I found myself for some reason that I really don't remember when it happened or why I did it, always trying to touch the patients. When I would be in there, the patient would be under general anesthesia and I would for some reason touch the patient. I don't know, I think in retrospect I was in some type of bonding or contact, some closeness with him or her. It was some loving touch between this person that I would never know probably, never would probably see. They were gownned up in such a way that only the surgical area was exposed, but there was something to it. . . .

Intellectual beauty. The beauty for the mind was in the coming together of a diagnosis. What is the best diagnosis? The training of years, the thousands of patterns come together, the multitude of books flipped through trying to put together these different trained thoughts together, the intuitive.

"Gosh, I remember seeing that 20 years ago. Now where was that?" These things were always there. Sometimes I would remember a tumor for literally 20 years. I would see one of them and I would never forget the peculiarities of somebody's particular cell pattern. . . .



Judge Thad Niemira

Let me raise your consciousness a bit. I am a law person on the lowest rung of the trial bench in St. Louis. I work for the state of Missouri. I do everything that every other judge does, including appellate judges. I write opinions and do all sorts of legal stuff but by law I also do the Judge Wapner type thing. The great bulk of what I do is really hands-on bench-type law. Very often there aren't even lawyers there. So I'm speaking from that perspective as a hands-on bench-type person. . . .

We sneak in the aesthetic as the unspoken thing in a legal opinion. It is the unsaid thing in a statute. . . . Simplicity is the elegance. It is proportion. It is the balance. Today one of the hot phrases in law is the balancing of interests. I've read that in more opinions than you can possibly believe. . . .

Aesthetic things are the hidden things, or sometimes the lack thereof, that are the true standards and criterion of rightness. I will simply urge you, whenever you deal with or hear law, to look behind the words of an opinion or a statute or an order or a rule. Look for the aesthetic dimension which is really the persuasive dimension that people sneak in but is more important perhaps than the things that are said on the surface.

One of the reasons that our legal system is in a mess and that some of our rules, such as the

abortion decision and others, are bad, if not evil, is that for one reason or another we have lost the hidden aesthetics that lead to the simple, elegant decisions. . . . We have opted for raw power or expediency; we no longer care if the law fits, is proportionate or just for the setting or an era. We have "I want mine. It's my turn, my power. . . ."



Dr. John Cross

You know the song - I think it's quite old, I remember it from childhood - "Inchworm, inchworm, measuring the marigolds. It seems to me you'd stop and see how beautiful they are." Does anyone know that?

As a visual, I'm going to pass around a picture of my nine month old granddaughter as an example of where I see beauty. That's Emily. Emily is beautiful. Perhaps as her grandfather I see more beauty there than other people will.

There are psychological studies on beauty in children. In babies we call it cuteness. What makes a baby cute? It has to do with the placement of the eyes in the head. Where do you suppose the eyes should be in the head of a baby to make the baby as cute as it can possibly be in the judgment of people who look at drawings or photographs of babies? Right smack in the middle. When most people sit down to try to draw a picture of a baby, they'd probably put the eyes higher up. But when one tests it empirically, we find out that having the eyes in the middle makes for the cutest baby.

That's sort of like the inchworm measuring the marigold. It says something about the role of beauty in the social sciences. The social sciences are self-conscious, aping the physical sciences and their success in wanting to use the powerful scien-

tific method for the discovery of truth, and wanting to apply it to a much more complex reality than the physical world. So social scientists often wind up looking ridiculous and being disliked by their colleagues in the physical science.

None of the sciences, it seems to me, have any capacity for self-criticism . . . Scientifically we get the sociology of knowledge, but we don't get the kind of reflective consciousness we need to know what we're doing and to be able to evaluate our activity. So I think we're thrown back to or upward to philosophy and theology to get a view of the role of beauty in the social sciences. . . .

. . . . scientists in general and social scientists in particular are guided by their aesthetic sense. At an implicit, unexamined level, our choice of what to study and the route that we take is very often guided more by an aesthetic reactivity than it is by any logical intellectual kind of a plan. . . .



Dr. Thomas Sheahen

When citizens act together to accomplish something, that's beauty in government. That's what government is supposed to be all about. The Declaration of Independence talks about the consent of the governed is where the legitimacy of government comes from. The real beauty in government is that citizen action taking place.

You can think of a whole bunch of things where citizens come together and act together. Some of those aren't really all that good. If a bunch of citizens in one congressional district rally around and get some pork barrel project, they can say, "Hey, great, unity. . . ." For there to be real beauty in citizen action in government, there has to be some kind of beauty in the goal itself, something

that is truly beneficial without harming other people. That's not so easy to find in government.

... was it Bismarck who said, "You must never watch how laws and sausages are made," because it's not a very pretty process?

Sr. Virginia Kampwerth asked, "What is the most beautiful thing you've ever seen?" I'm scanning the background in history and I can't really come to a conclusion of the most beautiful thing I've ever seen, but I know the most beautiful thing I've seen this week. That's those children outside playing on the equipment right out in the courtyard.

Why are children so beautiful? They're innocent, they're no threat, they're harmless, happy. What was our definition of beauty earlier? That instant aesthetic response that brings joy and happiness. This is what we get when we see children playing. This makes us happy. We respond. This is beauty.



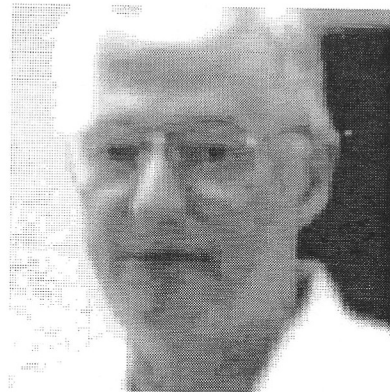
Robert J. White, MD, PhD

Frankly, I see little evidence of anything that could pass as Catholic in health care delivery. As a matter of fact, one of the most distinguished neurologists in the U. S. wrote an article published in a Catholic diocesan newspaper raising the question: "Is there any place any longer for Catholic health care ministry?". If nothing worse, shouldn't it be folded into what goes for a Christian health care delivery system.

One could raise the issue, do we really need and can we afford Catholic medical schools. Is there a reason to perpetuate in a sense the beliefs that are central to our faith into the education of a young woman/man who is to become a doctor? Well, many of you can probably set forth reasons why

that is appropriate and should continue. But in the realities of medical education and certainly from the standpoint of an outstanding secular, private, nonreligious medical school, one's attempt to locate, isolate, demonstrate Judeo-Christian teaching is a difficult matter.

A little earlier one of the speakers spoke about bioethics. Most of us would presume that this would be a convergent point for faith and science within medicine. I would remind you that bioethics is becoming an industry. Whether or not you have a nursing or a medical background, whether or not you have a theological clerical background, you can take yourself to a number of universities and get graduate degrees up through Ph.D. in bioethics. You've had no background in medicine and no background in theology. Many of you might disagree with me that, regardless of one's background, if you present yourself as a bioethicist, you should in some way bring the faith, whatever that faith is, to the equation of patient care. In reality, these people are not available to me at 2:00 in the morning when I'm operating on somebody's brain.



Vincent Krische

We're at a new day in our church today in higher education. A study at Notre Dame, funded by the Carnegie Foundation a few years back, indicates that 80 percent of our Catholic students are studying in public institutions of higher learning. This is a real opportunity for us in the church because we understand that we're involved in a very critical juncture in our day, a juncture where the crossroads of higher education and the church meet in dealing with those who will be the leaders and who are the leaders even today of our church and our society.

I find very encouraging that, at this conference and every conference where lay people are involved, they say to me, "You're where it's at." Everyone says that to me. I don't hear that at clergy conferences but I get it from the laity; that's interesting.

Some years ago Pope Paul VI issued an encyclical letter on evangelization. His letter was positive, enriching and stimulating about the person of Jesus Christ and His church and about those of us who are called to be His witnesses. I hear a lot about that letter from one perspective. He spoke about the evangelization of persons, but there's another dimension of the letter which I don't hear that much about, namely, the evangelization of the culture. It mentions our duty to influence the structures of our society with the values and the principles of the Gospel and to bring about the kingdom of God. That has been my challenge in campus ministry. How do we influence the culture because we are in that position dealing with those students who will in future days be in a decision-making position within our society.

In 1985 the bishops of the U. S. issued a pastoral letter on campus ministry. They called for two things for campus ministry as it relates to the academy. The first is that we are to see ourselves as partners with the university in helping young people achieve their highest potential. The second, we are to be in dialogue with higher education.

Most campus ministry has not taken up these two challenges, but they're really the direction for our ministry. We need to dialogue with higher education and we need to bring to that dialogue the perspective of faith which Dr. White was talking about. We need to be a partner with that institution in helping our students become what God intends them to be. . . .

I'd like to suggest that the last repository, if you will, of the beauty, whether ethical, physical, professional in whatever scope of profession we have in view, is going to be liturgical. One of the things we forget about beauty in this fallen world is that it is always veiled. The communication of beauty, consequently, has to be in the last analysis sacramental. That term covers not simply the formal sacramental worship of the church but all presentation of the truth of beauty, goodness, unity, whatever. Fr. Donald J. Keefe, S.J.



Dr. David Byers

My subject is science and church organization and what's going on. Before I get started on that, I wanted to comment a little bit on what the three previous speakers said because it seems to me in different ways they were discussing what I call the problem of engagement. The church in this country - I mean it from the Bishops on down - does not engage the world of science. It's as if we talk past each other. We have to change that or we'll get nowhere.

I've noted over the years with the Bishops Committee on Science and Human Values - the perspective from which I'm speaking today - that the Bishops tend to become passive listeners in a dialogue situation. The scientists will talk and the Bishops will listen. When it's time for the bishops to respond, they don't. It seems to me that this is the same difficulty that we discover on different levels whether it's students or people in the medical profession or, indeed, what Tom Sheahan was saying about Operation Rescue and the other anti-abortion/pro-life movements in the country. Catholic values are not being proclaimed publicly on the personal and in some cases even on the public level. Too often Catholic positions on issues are on political issues and become politicized and, therefore, become irrelevant. If the church speaks out on a political issue, if it can be identified with either the Republicans or the Democrats, it's no longer Catholic. It's political. . . .

I think that bioengineering is going to make the church engage science. It's inescapable. Either we engage with genetic engineering or we might as well fold up the tent because that technology is exploding. It's an accelerating explosion if one can even use such a phrase. . . .

There's a vast universe of things which science

cannot deal with and yet in our culture . . . there's been some unpleasantness in the past between Protestants and Catholics on the priesthood of all believers. Now, I think, both of us are having trouble with the priesthood of all scientists. There's a tendency, if a scientist speaks, to say, "Oh, that's interesting," and take notes. A religious leader speaks and there's a tendency to yawn because of - it really is an absurd faith - that what the scientist has to say is based on some objectivity which the religious speaker entirely lacks.



Mr. Robert Morris

This is a reflection on the importance of teamwork as a vital component in the notion of *beauty*.

I've been both surprised and disappointed this week. With few exceptions the only mention of people as the embodiment of beauty has been in passing or as a personal aside. Tom Sheahan's presentation focused on people working together to change government, but he could offer only three major examples of that from the recent 20th century. Father Staudenmaier described the work of engineering teams in the early days at Ford. Sister Mary Ellen Murphy alluded to a team working on moon rocks. However, Peter Capella gave an industrial view that seemed to be more of an individual scientist's view. This may not be surprising since he is at the beginning of his industrial technology career and still working as an analytical chemist which retains much of the focus of an individual contributor. As I've thought about this, I guess it is natural to slide past such human beauty when you discuss beauty from the standpoint of art, science and theology all of which are such personal individual opportunities to create beauty. However, in the practice of industrial technology it is the teamwork of people that is the

really beautiful component of the creative activity.

Perhaps a lifetime of practicing industrial technology on such mundane products as food, detergents, gasoline and paper has forced me to look beyond the produce of our technical efforts for examples of beauty. I've usually found it in the teams of people brought together to solve problems or develop products. These teams often came from diverse personal, technical and pedagogical backgrounds. They were often highly competitive with one another in daily life and activities outside of the problem assignment. . . . However, from Monday to Friday they worked together - hard and generous work - to reach the assigned goal in the minimum time by the most expeditious path. They were not always perfect either as individuals or a team in their pursuit of the goal, but they were persistent and their teamwork was beautiful.

Two aspects of industrial teamwork stand out as being different from individual scientific effort. First is the commitment to meet arbitrary time goals often imposed by persons outside the team. Second is that these teams always produce a team leader who may or may not be the leader named by the company management. It is the time pressure which forces the team to subjugate individuality to the corporate need to achieve a goal. It is this subjugation of the individual which in turn produces the natural team leader who is breaking the fruitful ground in the work. It is this leader who usually can be seen as the person who allows the team to get the job done economically, a key factor to the success of industrial technology.

An important lesson needs to be learned from this use of teamwork in industrial technology. Teams do work more effectively in a pragmatic sense than individuals. Their solutions in and of themselves may not be as beautiful as the work of creative individuals, but they are utilitarian and often very simple both of which are valuable components of beauty. We have many problems to solve in our world! My experience would lead me to believe that the encouragement of teamwork in many aspects of life would lead to better more effective solutions to our problems. More importantly they would probably be achieved more promptly than they will be achieved by individuals. When we look back we'll recognize that these team solutions are beautiful in their own rights as solutions. At least as beautiful as any result they produce. ITEST ought to focus on this encouragement of teamwork in science/technology and theology.

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IN MEMORIAM

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We ask each of you to pray for W. Jim and his family. We also ask your prayers for our sick members. May W. Jim rest in peace; may those who are ill feel the restoring hand of our Lord.

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