



Recently debate over research on embryonic stem cells has intensified. The media bombard us daily with coverage sometimes biased and often inaccurate. Would this research receive such coverage if it did not involve abortion and the humanity of the "embryo"? Does this emphasis reveal the final purpose of this research — eternal life in the here and now? Is that the course that future medical science will pursue? Dr. Leon Kass says:

*... there is research into the genetic switches that control the biological processes of aging. The maximum life span for each species ... is almost certainly under genetic control. In a startling recent discovery, fruit-fly geneticists have shown that mutations in a single gene produce a 50 % increase in the natural lifetime of the flies. Once the genes involved in regulating the human life cycle ... are identified, scientists predict that they will be able to increase the human maximum age well beyond its natural limit....*

*.... For truth to tell, victory over mortality is the unstated but implicit goal of modern medical science, indeed of the entire modern scientific project, to which mankind was summoned ... by Francis Bacon and René Descartes. They quite consciously trumpeted the conquest of nature for the relief of man's estate, and they founded a science whose explicit purpose was to reverse the curse laid on Adam and Eve, and especially to restore the tree of life, by means of the tree of (scientific) knowledge. With medicine's increasing successes ... every death is increasingly regarded as premature, a failure of today's medicine that future research will prevent. [These citations are taken from an article, "L'Chaim and Its Limits," reprinted in this issue.]*

Why should we die? Isn't it a man-given right to reverse the effects of original sin naturally? Science is asking: "Why believe in God? We don't, or won't, need him if and when we achieve immortality. The more we get into embryonic stem cell work and develop human cloning the less we shall need God." Will this create further social problems? Who will benefit from this research? Not Christopher Reeve, Michael J. Fox or Mary Tyler Moore! But they'll die before the "promised land" is reached. They represent the people likely able to afford a cure or to have a clone created to provide spare parts. You and I will not be able to "purchase" one. We'd bankrupt the world if everyone were eligible. These people are examples of those who will be able to exploit the progress made in this research. Thank God I won't be tempted to live forever in this life! I prefer to die in the Lord than to live in the world that "science" will provide.

*Robert Brungs, S.J.*

Page 1	DIRECTOR'S MESSAGE
Page 3	ANNOUNCEMENTS
Page 3	MEMORIAL BISHOP MARK HURLEY
Page 5	THE INFORMATION SUPERHIGHWAY Bishop Mark Hurley
Page 7	L'CHAIM AND ITS LIMITS Leon R. Kass, MD
Page 15	MORE GENES J. Cyril Hanisko
Page 17	NEW MEMBERS, ETC.

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## ANNOUNCEMENTS

1. **ITEST Web Site in the News!** Monsignor Robert Aucoin, a priest from the diocese of Ogdensburg, New York, and rector of the diocesan college seminary, recently featured the ITEST Web (<http://ITEST.slu.edu>) in his weekly column which analyzes selected Catholic sites on the Internet. The article appeared in diocesan newspapers around the country, among them, *The Providence Visitor* in Rhode Island and the *North Country Catholic*, Ogdensburg. According to Monsignor Aucoin his goal is to " ... make readers aware of what items of Catholic interest are available on the Internet." In praising the material on the ITEST web site, Aucoin notes, "None of the readings from this site could be considered [light] reading. However, those seeking something more than a superficial approach to important life issues will find a buffet of tantalizing and thought-provoking material." Finally he offers a challenge, "Some Web surfers believe that this Website is not for them because they are neither scientists nor theologians. Not so." He continues, "Catholics should be mostly concerned about the issues that determine how we live. We should be anxious about the ideas and concepts that influence how our children see life and

the world. If science is not influenced by religion (*and faith*), then it is incomplete and flawed." Monsignor Aucoin's website: <http://www.wadhams.edu/aucoin>

2 We are preparing for the October, 2002 workshop on "Neurobiology" (a working title at present). The ITEST Board continues to refine topics related to this general area, for example, health care: the meaning and management of pain, health care for the elderly, euthanasia, computers and their role in brain research, pharmaceuticals and the myriad economic issues surrounding these concerns. We welcome suggestions for essayists: research scientists particularly those with experience in the field of neurobiology, bio-chemists, micro-biologists and other scientists in the life sciences.

3. Fr. Gus Udias, SJ, Professor of Geophysics at the University of Madrid has written a publication entitled "El Universo, La Ciencia Y Dios" (The University, Science and God). If anyone would like to review the book, please let us know and we will send you a copy. Those who would like to contact Fr. Udias directly may reach him at: [fige012@sis.ucm.es](mailto:fige012@sis.ucm.es)

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## MEMORIAL FOR BISHOP MARK HURLEY

ITEST has lost one of its long term, esteemed and productive members. Bishop Mark Hurley died on February 5, 2001 in San Francisco. He was the Bishop of Santa Rosa, California until his retirement from that appointment. He then worked for the Congregation for Education in Rome for several years, finally retiring for good. He was 81 years old.

I first met Bishop Hurley on November 6th, 1972. We were introduced to each other by Bishop Charles Helmsing of the Diocese of Kansas City/St. Joseph. Bishop Helmsing at that time was Chairman of BCEIA — the Bishops' Committee for Ecumenical and Interreligious Affairs. In Washington that year Bishop Hurley (henceforth Mark because that's the name he preferred I use) gave a talk on the affairs of BCEIA including a fairly long section on the then-contemporary science and technology. The role of industry was not lost on Mark either.

During a two day visit to Jesuit Hall in St. Louis, one of the topics of discussion was the outcome of a meeting sponsored by the BCEIA with so-called atheists

like Herbert Marcuse and several other atheists. Clearly this meeting was a disaster; the atheists spoke a lot and listened not at all. Bishop Hurley mentioned to me that the members of BCEIA were looking for some other path to fulfill their mission. Mark, by the way, was interested in science and theology. This is one of the reasons Bishop Helmsing brought us together. Then and there we decided "to slowly subvert" BCEIA to our own purposes, namely, to build an ecclesiastical entity dealing overtly with science, technology and faith.

Mark's report at the Bishops' Meeting was evidently a very good one. Sister Maurita Senglelaub, RSM, then Head of the Catholic Hospital Association, reported to me later that it was very well received by the attending Bishops. In the aftermath of his talk to the Bishops in Washington, he received a lengthy phone call from Sargent Shriver who tried to get him involved in the Kennedy Bioethics Institute in Washington. Mark was interested — he was interested in anything promoting faith and science. At the same time Bishop Hurley began working closely with Dr. André Hellegers at Georgetown University. The presentation and its



reception by the Bishops ultimately led to the establishment of the Bishops' Committee for Science, Technology and Human Values in 1975. But let's hear a few words spoken by Bishop Hurley at the April, 1973 IATEST Conference on *Biological Revolution/Theological Impact*.

*['My job? I'd say seven or eight of you this evening have said, 'Well, how do you do, Bishop. I'm delighted to meet you.' Then after about thirty or sixty seconds they said, 'By the way, what are you doing here?' I've already been called a spy for the American hierarchy, and I don't know whether implicit in that is the suggestion that maybe at such a high intellectual plane no bishop belongs. The suggestion is that he couldn't possibly walk in these Elysian Fields, on these high speculative planes, overlooking a flooded river. But nonetheless here I am.*

*My mission here is that I belong to IATEST. I have been reading the literature for about two years. One of the things that has come out in the literature, not only of IATEST, but in similar places, is the question of how do we get heard in the official church? We're talking in the Catholic Church of the National Conference of Bishops: 'Those dolts (the bishops) are not listening to anything that's being said out here in the trenches. If only they could get to the halls of academe and listen to what's really the frontier, where the action really is, perhaps we could get some action on the homefront.'*

*It so happens — I don't really know why — that out of Vatican II four commissions were drawn up: one was the Commission for Ecumenism which dealt with the relationship of baptized peoples to the Catholics of the Church of Rome; the second was the relationship of the Catholic Church to the Jewish people; third was the relation of the Church to the non-Christian religions, meaning Buddhists, Moslems, Hindus, all the major religions of the world, aside from the ones we mentioned; the fourth one is known in Rome as the Commission for the non-Believers, headed by Cardinal Koenig of Vienna, Austria.*

*At that time I was appointed Moderator by the then-chairman of the whole superstructure of this part of the National Conference, Bishop Helmsing, who is certainly well known in this area. He asked me to become the moderator of this particular fourth section in the United States. We did not like the idea of 'non-believers.' We thought the title was very poor so we changed it and have been known now for about a year and a half as the Secretariat for Human Values. We have further divided our work — we had the question of non-belief, which would look to dialogue with the communists, the humanists, the atheists, people so-labeled. That was tried; it has been tried all around the world and we found so far that the communists more than the others did not wish to*

*dialogue.*

*We thought really the cutting edge and where things are is probably not so much in that field, although we're not abandoning that field. The Jesuits had a similar commission and they held a conference in New York in May of last year (1972) with the humanists, and, I think, with very uneven results. But we felt that the real cutting edge, where the Church and ethical concerns should come together, is in the matter of science and technology. To that end I began a little survey around the country. I came here to St. Louis and met with the Board of Directors of IATEST and said, 'I'm coming to you as a reporter. I want to go back as a good reporter to the Bishops' Conference and try to alert the entire body of Bishops to what is happening in these fields. What should I talk about?' From here I went to the University of Notre Dame. Then I went also to Washington, D.C., in November where I gave a talk to the hierarchy. There these subjects were a matter of direct presentation. All I can say is that I certainly didn't give a very deep presentation, but I did point out to the assembled body of Bishops that there were these ethical problems, many of them simply screaming for solution. I pointed out for example the manufacture of nerve gas. What do we do with the nerve gas? Should we manufacture it? Once we have, what do we do with it? Because we can do something, ought we to do it?*

*I tried to show some moral imperatives that were arising. Again, I mentioned some of the things mentioned here tonight, genetic engineering, amniocentesis, the abortion question, data-banks and the invasion of privacy. I concluded: 'Look it is our conviction that the Church must be current with these things, maybe at the cutting edge. Consequently please let's promote this secretariat, let's be alert to what the academic community, the scientific community, the technocrats have to say for us, as leaders in the Catholic Church in America.'*

*I won't go into what happened except to say a couple of things: First of all, the Department of Health, Education and Welfare called up immediately and asked me to come back to a conference in January because they are facing this very problem of the invasion of privacy with data-banks. It's just unbelievable the potential for the complete dossier on each one of us. Unbelievable what is being proposed and what can be carried out! The government is worried about how we can control it, not simply mechanically — here is where the word ethics keeps coming in all the time — ethically. The second was that Sargent Shriver who was only six days from his defeat as Vice-President of the United States when you would think he'd be in Bermuda or some place, called up and said that he wants the Bishops to be aware of what's going on in the field and invited me to return to see them in the bioethics institute. I went back in January just to get*



briefed.

*Now, what am I doing here? That very thing. I want to find out, to learn. I want to be something of a scholar, if you will, or at least a learner, to be able to report accurately back through the Secretariat to the body of Bishops. Obviously the Bishops have to be selective. Obviously we have to look to what we consider to be the more crucial moral problems. The first one we picked up and are working on now is privacy. I have an appellate court justice in California who did the legal review of the invasion of privacy and I have theologians working on the moral question, the ethical question, of the invasion of privacy. We have been asked to tie in with Health, Education and Welfare again as they are trying to work out the future, particularly in the question of computers, and particularly the data-banks."]*

In 1973 Bishop Hurley was appointed to membership in the Vatican Secretariat for non-Believers and I was made a consultant to the Secretariat. Franziskus Cardinal König of Vienna was Chairman of the Secretariat then. The first meeting of the Secretariat was a disappointment to me, but not to Mark. The assembled Bishops, Archbishops and Cardinals discussed many things, none of them had anything to do with science or faith. The discussion relied heavily on increasingly abstract analyses of Marxism as I recall. At one point Bishop Francisco Claver of the Philippines complained about piling definitions on definitions and arriving at nothing practical. He said that he was head of a poor diocese and he could better spend his time and money at home working with his people. But Mark was unperturbed. We spent our "free-time" in talking with the Members of the Secretariat and mentioning the dialogue between faith and science. I remember on the flight back from Rome criticizing the waste of time. Mark replied that, though we didn't get to the faith/science aspect in the formal sessions, we successfully laid the groundwork for the future — and so it eventuated.

On November 12, 1974 Bishop Hurley first mentioned to me the possibility of the establishment of the *Bishops' Committee on Science, Technology and Human Values*. It was finally approved by the "high command" (that was how Mark characterized the Executive Committee of the National Council of Catholic Bishops) at their meeting in Washington. In July, 1975 Sister Ann Neale was appointed Secretary of the Committee and on September 1, 1975 the Committee formally opened its office in Washington. The fledgling Committee had a rather stormy history, especially during the late 70s and early 80s, but it has survived and is currently thriving.

Finally, in September, 1977 we received a full exposure at the Secretariat for non-Believers in Rome. While it may seem pejorative to have non-believers linked to science and faith at the Curial level, the Secretariat was seen rather as an opportunity to pursue the faith/science agenda at the highest level of the Vatican bureaucracy. It was the only curial office then open to the discussion of science and faith. The interventions both Mark and I made were accepted. In fact, we even "made" the Fifth Synod of Bishops that was held immediately after the meeting of the Secretariat. That Synod produced an excellent paper on the participation of the scientific laity in evangelization. Unfortunately it has hardly been implemented over the years. Nonetheless it remains in print and may some day have an effect. (We have published this letter in the *Bulletin* three times during the intervening quarter of a century.)

In July, 1980 Archbishop, now Cardinal, Poupard replaced Cardinal König as head of the Secretariat for non-Believers. The last meeting we attended (our ten-year terms were coming to an ending) recessed about ten days before the Pope was shot. In 1981 Bishop Hubbard was appointed to head the Bishops' Committee on Science, Technology and Human Values. Thus ended Bishop Hurley's official direction of the Committee in Washington. On his retirement from the Bishopric of Santa Rosa, Mark served on the Vatican Congregation on Education for many years.

To this point we have been talking about Mark's activities in Washington and Rome. Now it is time to talk about the man himself. Mark was first and foremost a priest. His priestly demeanor was a part of his being. Yet for all that he was a gracious, diplomatic, non-"pious" and especially a hospitable man. In short he was a joy to be with — even on the golf course — a game that he loved. He put on no airs, clerical or otherwise. He never felt demeaned by asking for further explanation nor did he hesitate to ask for advice. In fact, he was the first to admit that there were aspects of science, technology and even theology that he didn't understand. When that happened one got ready for very penetrating questions, hopefully followed by equally penetrating answers. When Mark wrote his book (*Science and Church, Daughters of Saint Paul*, 1980) he invited me to California for two weeks to go over the galley with him. I changed a few scientific details but by far the bulk of the book was his. His ideas on the computer and privacy, dating back to the middle 1970s, were quite prophetic.

In brief, the faith/science arena has lost a great promoter and a true believer in the Faith. Mark was quite willing to bend on the "rules" but he never lost his vision of what was truly important to the Faith. On



these issues he was certainly unbending, though in a non-hostile, teaching and pastoral way. I was indeed privileged to know him and to work closely with him and I will carry his memory to the grave. I only hope that he thought the same of me.

*Sister Marianne Postiglione's reflection on Mark Hurley:*

I met Mark Hurley only twice but each time his warmth, quick wit and ready humor welcomed me at once into his company. He had a great gift for making

people feel comfortable immediately and according them respect. With this gift he had the ability to probe others for their ideas and opinions, often formulating his own questions from their input. As he himself said, he was a student, a learner who never felt that he "knew it all." In effect he was a truly human man — as are all great men. I too feel privileged to have known him even for a short time and I am richer for the experience. Rest in peace and glory, Mark.

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## THE INFORMATION SUPERHIGHWAY!

### Bishop Mark Hurley

***[The following article by Bishop Mark Hurley was published by ITEST as a part of Readings in Faith and Science, published in 1997. It was originally written in 1994 and the volume in which it appeared was published primarily for use in campus ministry programs on faith/science. It is re-printed here to give a hint of the depth of Bishop Hurley's interest in computers and privacy.]***

The concept is dazzling and its application seductive. The "miracles" of science and technology are once again opening up new dizzying vistas at once fascinating and seductive to the human mind.

The new area is called "cyberspace," the marvels of semi-conductors and integrated circuits, microfilms, recording discs and tapes, laptop computers, broadcasts and cables are already forming networks: city-nets in California; national and international "Internet," already exploding with data of every sort. The experts say that all of these are coalescing into one grand organism dubbed the Information Super Highway.

The question begging for answer is: who and what will be traversing that highway? When technology interfaces with the human factor, inevitably there arises the ethical component: is the new phenomenon for weal or woe, or perhaps both? Is there, for example, a right and wrong inherent in the Super Highway?

The medical profession welcomes the swift interchange of information for diagnosis and surgery in the interests of their patients; the state police powers rejoice in the tools to ferret out international spies, to locate criminal suspects, to keep track of parolees; businessmen revel in the power to make multi-million dollar purchases and sales even in the international fields without leaving their desks; telephone companies can monitor all calls and keep records of them; television can swing over the earth and radio even more so; the IRS can more easily track down income tax cheaters, and credit bureaus credit card swindlers. Is not this technology in the service of the human race? Is it not verging on Utopia?

The Information Super Highway is in reality a double-edged sword.

It can as well carry very compromising personal information from the medical records; thieves and crooks can use the electronic powers to hide crime and hide themselves, to launder money, to build a crime syndicate even as an international network; spies and traitors can the better cover their tracks; business white-collar criminals can carry on industrial espionage; citizens can more readily deceive the IRS with overseas assets controlled by computer.

Marshall McLuhan, in his famous dictum that "the medium is the message" identified the electronic "eyes": photos from space, photos through walls, sonar and radar and other surveillance devices. The "electronic ears" he pictured as snoopers on people's personal lives with wiretaps and recording devices. But perhaps even more ominously he recognized the "electronic memory" by which computers and data banks compiled records, not in stone, but potentially more lasting and quickly retrievable. The eternal memory is perhaps even more threatening than the electronic "eye" or "ear," a serious threat to human privacy, intimacy, seclusion and personal dignity in society at all levels of human sociability and social relationships.

When science and technology touch the human race, value judgments must needs be made — judgments of "right" and "wrong."

With the astonishing growth of the tools for an information super highway, there has been born concomitantly



an insatiable appetite for information-gathering, a gourmand hunger and endless craving to collect, store and retrieve data of all kinds. This appetite is increasing at an exponential rate, abetted by the prospects of the super highway. It is at once an appetite that is desultory, capricious and dangerous.

A United States Senate committee in 1969 cautioned that with computers becoming less expensive there has grown up "an army of specialists. . . , battalions of investigators and analysts who specialize in seeking out and reporting derogatory information on individuals. . . overflowing with the daily lives of people."

The federal government has at least 27 agencies hungry for computer data, much of it personal and private. When originally passed, the law forbade the owners of the Social Security numbers, namely, the Health and Human Services Agency, from giving them to anyone else. When the census bureau in 1970 asked for the SS numbers as cross-reference, Congress refused. But the protections fell: the IRS demands and gets the numbers with each income tax report. S.I.N., the single identifying number, has become requisite not only for government purposes at all levels but in banking, school entrance, credit, and even sales. Over 700 life insurance companies rely on a central data bank in Boston. Womb to tomb personal and business history retrievable on demand has become an expanding reality and somewhat taken for granted in spite of the early warnings.

Writing some fifteen years ago, law professor Arthur Miller warned that "all these trends must be looked at as a unit because their confluence represents a terrifying spectre." Is not the Information Super Highway by definition that confluence? And who will control it?

The bottom line can be summed up in the Latin cliché: *Quis custodit custodem?* Who will guard the guardian? Who will watch the watcher? There are three areas of government control.

The physical protections range from control of the areas and personnel who have access. Even at the highest level the Commerce Department shares one-half access to certain data with the Treasury Department the other half, meaning a double check, much like the keys to the launching of atomic weapons. Besides the external safeguards, there are also internal ones.

The computer is a many-splendored animal and in its technology there can be programmed various codes for scrambling, for the distribution of data after a given time, for audit trails. In a word there can be a program "to forget" as well as to remember, built in. Such physical security is a first step because security measures

can always be broken if the pay-off warrants the trouble.

The electronic revolution inevitably has forced a reassessment of the legal climate on privacy. The judiciary, the legislatures and the executive branch of government must cooperate. Courts customarily are slow to act; legislatures are not much better; regulatory agencies act but often without reverence for the spiritual and moral nature of people who wish to be secure in their private and corporate lives.

"The right to know" and "freedom of information" must be measured against "the right to be left alone," that some data "are none of the government's business." Private persons, families, as well as groups of people, unions and corporations have a deep abiding interest in not having some information communicated to others without their knowledge or contrary to their will. Such information may be detrimental, may cause pain or discomfort.

"By its very nature the privilege [against self-incrimination] is an intimate and personal one. It respects the inner sanctum of individual feeling and thought, and proscribes state-intrusion . . . [affirming] the right of each individual to a private enclave where he may lead a private life." (US Supreme Court, January 9, 1973.)

The right to privacy is not absolute nor even semi-absolute but it is fundamental.

When all is said and done, there still remains the moral climate in which the judicial, legislative, executive and administrative branches of government, as well as private enterprise, live, breathe and have their being. A moral climate is fundamental to solving the ethical challenges of the Super Highway.

Pope Pius XII in 1958 warned that "just as it is illicit to appropriate another's goods, to make an attempt on his bodily integrity without his consent, so it is not permissible to enter into his inner domain against his will." Thus there exists a natural secrecy from the nature of the human person and of society itself protecting individuals and groups from harm or reasonable displeasure. But it should be added that moral theologians too have not produced a comprehensive treatment of privacy particularly in view of the electronic revolutions, much less the explosion of information-gathering and the temptations thereunto attached.

As was well-stated in 394—US, 564, *Stanley vs Georgia*, the right to be left alone, to reasonable privacy is an aspect of the spiritual nature of man:



"The Makers of our Constitution undertook to secure conditions favorable to the pursuit of happiness. They recognized the significance of man's spiritual nature, of his feelings, of his intellect. . . They conferred, as against the government, the right to be let alone — the most comprehensive of rights and the right most valued by civilized man."

The Information Super-Highway promises great benefits and poses equally serious threats. Science is being asked to build in its own controls; the legislative and the judiciary to vindicate the human rights involved; and the Church to update its moral theology in light of the advent of the "Highway" to foster a moral climate which will respect the dignity of the human person. This is true of the individual, a member of a social group, a corporation or other voluntary body or a citizen.

There are many other aspects of this issue to be discussed, not the least of which is the "Clipper chip" the government would now like to see in every computer.

#### REFERENCES:

Brungs, Robert. "Catholic Universities and Problems Arising from Technological Advance." in *Ethical Problems of the Technological Society*. Paris: Cedux, 1981.

Hurley, Mark. *The Church and Science*. Boston: St Paul Editions, 1982.

Westin, Alan F. *Databanks in a Free Society*. Alexandria, Virginia: Time-Life Books, 1974.

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### L'CHAIM AND ITS LIMITS: WHY NOT IMMORTALITY?

[Leon R. Kass, M.D., is the Addie Clark Harding Professor in the Committee on Social Thought and the College at the University of Chicago and author of *The Hungry Soul: Eating and the Perfection of Our Nature*. This article is adapted from a lecture given in Jerusalem in May 2000 under the auspices of the Shalom Center. It is reprinted here with permission from *FIRST THINGS*, May, 2001.]

You don't have to be Jewish to drink *L'Chaim*, to lift a glass "To Life." Everyone in his right mind believes that life is good and that death is bad. But Jews have always had an unusually keen appreciation of life, and not only because it has been stolen from them so often and so cruelly. The celebration of life -- of *this* life, not the next one -- has from the beginning been central to Jewish ethical and religious sensibilities. In the Torah, "Be fruitful and multiply" is God's first blessing and first command. Judaism from its inception rejected child-sacrifice and regarded long life as a fitting divine reward for righteous living. At the same time, Judaism embraces medicine and the human activity of healing the sick; from the Torah the rabbis deduced not only permission for doctors to heal, but also the positive obligation to do so. Indeed, so strong is this reverence for life that the duty of *pikuah nefesh* requires that Jews violate the holy Shabbat in order to save a life. Not by accident do we Jews raise our glasses "*L'Chaim*."

Neither is it accidental that Jews have been enthusiastic boosters of modern medicine and modern biomedical science. Vastly out of proportion to their numbers, they build hospitals and laboratories, support medical research, and see their sons and daughters in the vanguard wherever new scientific discoveries are to be made and new remedies to be found. Yet this beloved biomedical project, for all its blessings, now raises for Jews and for all humanity a plethora of serious and

often unprecedented moral challenges. Laboratory-assisted reproduction, artificial organs, genetic manipulation, psychoactive drugs, computer implants in the brain, and techniques to conquer aging -- these and other present and projected techniques for altering our bodies and minds pose challenges to the very meaning of our humanity. Our growing power to control human life may require us to consider possible limits to the principle of *L'Chaim*.

One well-known set of challenges results from undesired consequences of medical success in sustaining life, as more and more people are kept alive by artificial means in greatly debilitated and degraded conditions. When, if ever, is it permissible for doctors to withhold antibiotics, discontinue a respirator, remove a feeding tube, or even assist in suicide or perform euthanasia?

A second set of challenges concerns the morality of means used to seek the cure of disease or the creation of life. Is it ethical to create living human embryos for the sole purpose of experimenting on them? To conceive a child in order that it may become a compatible bone marrow donor for an afflicted "sibling"? Is it ethical to practice human cloning to provide a child for an infertile couple?

Third, we may soon face challenges concerning the goal itself: Should we, partisans of life, welcome efforts to



increase not just the average but also the maximum human life span, by conquering aging, decay, and ultimately mortality itself?

In the debates taking place in the United States, Jewish commentators on these and related medical ethical topics nearly always come down strongly in favor of medical progress and on the side of life -- more life, longer life, new life. They treat the cure of disease, the prevention of death, and the prolongation of life as near-absolute values, trumping most if not all other moral objections. Unlike, say, Roman Catholic moralists who hold to certain natural law teachings that set limits on what are permissible practices, the Jewish commentators, even if they acknowledge difficulties, ultimately wind up saying that life and health are good, and that therefore whatever serves more of each and both is better.

Let me give two examples out of my own experience. Four years ago, when I gave testimony on the ethics of human cloning before the National Bioethics Advisory Commission, I was surprised to discover that the two experts who had been invited to testify on the Jewish point of view were not especially troubled by the prospect. The Orthodox rabbi, invoking the goodness of life and the injunction to be fruitful and multiply, held that cloning of the husband or the wife to provide a child for an infertile couple was utterly unobjectionable according to Jewish law. The Conservative rabbi, while acknowledging certain worries, concluded: "If cloning human beings is intended to advance medical research or cure infertility, it has a proper place in God's scheme of things, as understood in the Jewish tradition." Let someone else worry about Brave-New-Worldly turning procreation into manufacture or the meaning of replacing heterosexual procreation by asexual propagation. Prospective cures for diseases and children for infertile couples suffice to legitimate human cloning -- and, by extension, will legitimate farming human embryos for spare body parts or even creating babies in bottles when that becomes feasible.

The second example. At a meeting in March 2000 on "Extended Life, Eternal Life," scientists and theologians were invited to discuss the desirability of increasing the maximum human life span and, more radically, of treating death itself as a disease to be conquered. The major Jewish speaker, a professor at a leading rabbinical seminary, embraced the project -- you should excuse me -- whole hog. Gently needling his Christian colleagues by asserting that, for Jews, God is Life, rather than Love, he used this principle to justify any and all life-preserving and life-extending technologies, including those that might yield massive increases in the maximum human life expectancy. When I pressed him in

discussion to see if he had any objections to the biomedical pursuit of immortality, he responded that Judaism would only welcome such a project.

I am prepared to accept the view that traditional Jewish sources may be silent on these matters, given that the halakhah could know nothing about test-tube babies, cloning, or the campaign to conquer aging. But, in my opinion, such unqualified endorsement of medical progress and the unlimited pursuit of longevity cannot be the counsel of wisdom, and, therefore, should not be the counsel of Jewish wisdom. *L'Chaim*, but with limits.

Let us address the question of *L'Chaim* and its limits in its starkest and most radical form: If life is good and more is better, should we not regard death as a disease and try to cure it? Although this formulation of the question may seem too futuristic or far-fetched, there are several reasons for taking it up and treating it seriously.

First, reputable scientists are today answering the question in the affirmative and are already making large efforts toward bringing about a cure. Three kinds of research, still in their infancy, are attracting new attention and energies. First is the use of hormones, especially human growth hormone (hGH), to restore and enhance youthful bodily vigor. In the United States, over ten thousand people -- including many physicians -- are already injecting themselves daily with hGH for anti-aging purposes, with apparently remarkable improvements in bodily fitness and performance, though there is as yet no evidence that the hormones yield any increase in life expectancy. When the patent on hGH expires in 2002 and the cost comes down from its current \$1,000 per month, many more people are almost certainly going to be injecting themselves from the hormonal fountain of youth.

Second is research on stem cells, those omniscient primordial cells that, on different signals, turn into all the different differentiated tissues of the body -- liver, heart, kidney, brain, etc. Stem cell technologies -- combined with techniques of cloning -- hold out the promise of an indefinite supply of replacement tissues and organs for any and all worn-out body parts. This is a booming area in commercial biotechnology, and one of the leading biotech entrepreneurs has been touting his company's research as promising indefinite prolongation of life.

Third, there is research into the genetic switches that control the biological processes of aging. The maximum life span for each species -- roughly one hundred years for human beings -- is almost certainly under genetic control. In a startling recent discovery, fruit-fly geneti-



cists have shown that mutations in a *single* gene produce a 50 percent increase in the natural lifetime of the flies. Once the genes involved in regulating the human life cycle and setting the midnight hour are identified, scientists predict that they will be able to increase the human maximum age well beyond its natural limit. Quite frankly, I find some of the claims and predictions to be overblown, but it would be foolhardy to bet against scientific and technical progress along these lines.

But even if cures for aging and death are a long way off; there is a second and more fundamental reason for inquiring into the radical question of the desirability of gaining a cure for death. For truth to tell, victory over mortality is the unstated but implicit goal of modern medical science, indeed of the entire modern scientific project, to which mankind was summoned almost four hundred years ago by Francis Bacon and René Descartes. They quite consciously trumpeted the conquest of nature for the relief of man's estate, and they founded a science whose explicit purpose was to reverse the curse laid on Adam and Eve, and especially to restore the tree of life, by means of the tree of (scientific) knowledge. With medicine's increasing successes, realized mainly in the last half century, every death is increasingly regarded as premature, a failure of today's medicine that future research will prevent. In parallel with medical progress, a new moral sensibility has developed that serves precisely medicine's crusade against mortality: anything is permitted if it saves life, cures disease, prevents death. Regardless, therefore, of the imminence of anti-aging remedies, it is most worthwhile to reexamine the assumption upon which we have been operating: that everything should be done to preserve health and prolong life as much as possible, and that all other values must bow before the biomedical gods of better health, greater vigor, and longer life.

Recent proposals that we should conquer aging and death have not been without their critics. The criticism takes two forms: predictions of bad social consequences and complaints about distributive justice. Regarding the former, there are concerns about the effect on the size and age distribution of the population. How will growing numbers and percentages of people living well past one hundred affect, for example, work opportunities, retirement plans, hiring and promotion, cultural attitudes and beliefs, the structure of family life, relations between the generations, or the locus of rule and authority in government, business, and the professions? Even the most cursory examination of these matters suggests that the cumulative results of aggregated decisions for longer and more vigorous life could be highly disruptive and undesirable, even to the point that many individuals would be *worse off* through most of

their lives, and worse off enough to offset the benefits of better health afforded them near the end of life. Indeed, several people have predicted that retardation of aging will present a classic instance of the Tragedy of the Commons, in which genuine and sought for gains to individuals are nullified or worse, owing to the social consequences of granting them to everyone.

But other critics worry that technology's gift of long or immortal life will not be granted to everyone, especially if, as is likely, the treatments turn out to be expensive. Would it not be the ultimate injustice if only some people could afford a deathless existence, if the world were divided not only into rich and poor but into mortal and immortal?

Against these critics, the proponents of immortality research answer confidently that we will gradually figure out a way to solve these problems. We can handle any adverse social consequences through careful planning; we can overcome the inequities through cheaper technologies. Though I think these optimists woefully naive, let me for the moment grant their view regarding these issues. For both the proponents and their critics have yet to address thoughtfully the heart of the matter, the question of the goodness of the goal. The core question is this: Is it really true that longer life for individuals is an unqualified good?

How *much* longer life is a blessing for an individual? Ignoring now the possible harms flowing back to individuals from adverse social consequences, how much more life is good for us as individuals, other things being equal? How much more life do we want, assuming it to be healthy and vigorous? Assuming that it were up to us to set the human life span, where would or should we set the limit and why?

The simple answer is that no limit should be set. Life is good, and death is bad. Therefore, the more life the better, provided, of course, that we remain fit and our friends do, too.

This answer has the virtues of clarity and honesty. But most public advocates of conquering aging deny any such greediness. They hope not for immortality, but for something reasonable -- just a few more years.

How many years are reasonably few? Let us start with ten. Which of us would find unreasonable or unwelcome the addition of ten healthy and vigorous years to his or her life, years like those between ages thirty and forty? We could learn more, earn more, see more, do more. Maybe we should ask for five years on top of that? Or ten? Why not fifteen, or twenty, or more?



If we can't immediately land on the reasonable number of added years, perhaps we can locate the principle. What is the principle of reasonableness? Time needed for our plans and projects yet to be completed? Some multiple of the age of a generation, say, that we might live to see great-grandchildren fully grown? Some notion -- traditional, natural, revealed -- of the proper life span for a being such as man? We have no answer to this question. We do not even know how to choose among the principles for setting our new life span.

Under such circumstances, lacking a standard of reasonableness, we fall back on our wants and desires. Under liberal democracy, this means the desires of the majority for whom the attachment to life -- or the fear of death -- knows no limits. It turns out that the simple answer is the best: we want to live and live, and not to wither and not to die. For most of us, especially under modern secular conditions in which more and more people believe that this is the only life they have, the desire to prolong the life span (even modestly) must be seen as expressing a desire *never* to grow old and die. However naive their counsel, those who propose immortality deserve credit: they honestly and shamelessly expose this desire.

Some, of course, eschew any desire for longer life. They seek not adding years to life, but life to years. For them, the ideal life span would be our natural (once thought three-, now known to be) fourscore and ten, or if by reason of strength, fivescore, lived with full powers right up to death, which could come rather suddenly, painlessly, at the maximal age.

This has much to recommend it. Who would not want to avoid senility, crippling arthritis, the need for hearing aids and dentures, and the degrading dependencies of old age? But, in the absence of these degenerations, would we remain content to spurn longer life? Would we not become even more disinclined to exit? Would not death become even more of an affront? Would not the fear and loathing of death increase in the absence of its harbingers? We could no longer comfort the widow by pointing out that her husband was delivered from his suffering. Death would always be untimely, unprepared for, shocking.

Montaigne saw it clearly:

I notice that in proportion as I sink into sickness, I naturally enter into a certain disdain for life. I find that I have much more trouble digesting this resolution when I am in health than when I have a fever. Inasmuch as I no longer cling so hard to the good things of life when I begin to lose the use and pleasure of

them, I come to view death with much less frightened eyes. This makes me hope that the farther I get from life and the nearer to death, the more easily I shall accept the exchange .... If we fell into such a change [decrepitude] suddenly, I don't think we could endure it. But when we are led by Nature's hand down a gentle and virtually imperceptible slope, bit by bit, one step at a time, she rolls us into this wretched state and makes us familiar with it; so that we find no shock when youth dies within us, which in essence and in truth is a harder death than the complete death of a languishing life or the death of old age; inasmuch as the leap is not so cruel from a painful life as from a sweet and flourishing life to a grievous and painful one.

Thus it is highly likely that even a modest prolongation of life with vigor or even only a preservation of youthfulness with no increase in longevity would make death less acceptable and would exacerbate the desire to keep pushing it away — unless, for some reason, such life could also prove less satisfying.

Could longer, healthier life be less satisfying? How could it be, if life is good and death is bad? Perhaps the simple view is in error. Perhaps mortality is not simply an evil, perhaps it is even a blessing — not only for the welfare of the community, but even for us as individuals. How could this be?

I wish to make the case for the virtues of mortality. Against my own strong love of life, and against my even stronger wish that no more of my loved ones should die, I aspire to speak truth to my desires by showing that the finitude of human life is a blessing for every human individual, whether he knows it or not.

I know I won't persuade many people to my position. But I do hope I can convince readers of the gravity — I would say, the unique gravity — of this question. We are not talking about some minor new innovation with ethical wrinkles about which we may chatter or regulate as usual. Conquering death is not something that we can try for a while and then decide whether the results are better or worse — according to, God only knows, what standard. On the contrary, this is a question in which our very humanity is at stake, not only in the consequences but also in the very meaning of the choice. For to argue that human life would be better without death is, I submit, to argue that human life would be better being something other than human. To be immortal would not be just to continue life as we mortals now know it, only forever. The new immortals, in the decisive sense, would not be like us at all. If this



is true, a human choice for bodily immortality would suffer from the deep confusion of choosing to have some great good only on the condition of turning into someone else. Moreover, such an immortal someone else, in my view, will be less well off than we mortals are now, thanks indeed to our mortality

It goes without saying that there is no virtue in the death of a child or a young adult, or the untimely or premature death of anyone, before they had attained to the measure of man's days. I do not mean to imply that there is virtue in the particular *event* of death for anyone. Nor am I suggesting that separation through death is not painful for the survivors, those for whom the deceased was an integral part of their lives. Instead, my question concerns the fact of our finitude, the fact of our mortality -- the fact *that we must die*, the fact that a full life for a human being has a biological, built-in limit, one that has evolved as part of our nature. Does this fact also have value? Is our finitude good for us -- as individuals? (I intend this question entirely in the realm of natural reason and apart from any question about a life after death.)

To praise mortality must seem to be madness. If mortality is a blessing, it surely is not widely regarded as such. Life seeks to live, and rightly suspects all counsels of finitude. "Better to be a slave on earth than the king over all the dead," says Achilles in Hades to the visiting Odysseus, in apparent regret for his prior choice of the short but glorious life. Moreover, though some cultures -- such as the Eskimo -- can instruct and moderate somewhat the lust for life, liberal Western society gives it free rein, beginning with a political philosophy founded on a fear of violent death, and reaching to our current cults of youth and novelty, the cosmetic replastering of the wrinkles of age, and the widespread anxiety about disease and survival. Finally, the virtues of finitude -- if there are any -- may never be widely appreciated in any age or culture, if appreciation depends on a certain wisdom, if wisdom requires a certain detachment from the love of oneself and one's own, and if the possibility of such detachment is given only to the few. Still, if it is wisdom, the rest of us should hearken, for we may learn something of value for ourselves.

How, then, might our finitude be good for us? I offer four benefits, first among which is *interest and engagement*. If the human life span were increased even by only twenty years, would the pleasures of life increase proportionately? Would professional tennis players really enjoy playing 25 percent more games of tennis? Would the Don Juans of our world feel better for having seduced 1,250 women rather than 1,000? Having experienced the joys and tribulations of raising a family

until the last had left for college, how many parents would like to extend the experience by another ten years? Likewise, those whose satisfaction comes from climbing the career ladder might well ask what there would be to do for fifteen years after one had been CEO of Microsoft, a member of Congress, or the President of Harvard for a quarter of a century? Even less clear are the additions to personal happiness from more of the same of the less pleasant and less fulfilling activities in which so many of us are engaged so much of the time. It seems to be as the poet says: "We move and ever spend our lives amid the same things, and not by any length of life is any new pleasure hammered out."

Second, *seriousness and aspiration*. Could life be serious or meaningful without the limit of mortality? Is not the limit on our time the ground of our taking life seriously and living it passionately? To know and to feel that one goes around only once, and that the deadline is not out of sight, is for many people the necessary spur to the pursuit of something worthwhile. "Teach us to number our days," says the Psalmist, "that we may get a heart of wisdom." To number our days is the condition for making them count. Homer's immortals -- Zeus and Hera, Apollo and Athena -- for all their eternal beauty and youthfulness, live shallow and rather frivolous lives, their passions only transiently engaged, in first this and then that. They live as spectators of the mortals, who by comparison have depth, aspiration, genuine feeling, and hence a real center in their lives. Mortality makes life matter.

There may be some activities, especially in some human beings, that do not require finitude as a spur. A powerful desire for understanding can do without external proddings, let alone one related to mortality; and as there is never too much time to learn and to understand, longer, more vigorous life might be simply a boon. The best sorts of friendship, too, seem capable of indefinite growth, especially where growth is somehow tied to learning -- though one may wonder whether real friendship doesn't depend in part on the shared perceptions of a common fate. But, in any case, I suspect that these are among the rare exceptions. For most activities, and for most of us, I think it is crucial that we recognize and feel the force of not having world enough and time.

A third matter, *beauty and love*. Death, says Wallace Stevens, is the mother of beauty. What he means is not easy to say. Perhaps he means that only a mortal being, aware of his mortality and the transience and vulnerability of all natural things, is moved to make beautiful artifacts, objects that will last, objects whose order will be immune to decay as their maker is not, beautiful



objects that will bespeak and beautify a world that needs beautification, beautiful objects for other mortal beings who can appreciate what they cannot themselves make because of a taste for the beautiful, a taste perhaps connected to awareness of the ugliness of decay.

Perhaps the poet means to speak of natural beauty as well, which beauty -- unlike that of objects of art -- depends on its impermanence. Could the beauty of flowers depend on the fact that they will soon wither? Does the beauty of spring warblers depend upon the fall drabness that precedes and follows? What about the fading, late afternoon winter light or the spreading sunset? Is the beautiful necessarily fleeting, a peak that cannot be sustained? Or does the poet mean not that the beautiful is beautiful because mortal, but that our appreciation of its beauty depends on our appreciation of mortality -- in us and in the beautiful? Does not love swell before the beautiful precisely on recognizing that it (and we) will not always be? Is not our mortality the cause of our enhanced appreciation of the beautiful and the worthy and of our treasuring and loving them? How deeply could one deathless "human" being love another?

Fourth, there is the peculiarly human beauty of character, *virtue and moral excellence*. To be mortal means that it is possible to give one's life, not only in one moment, say, on the field of battle, but also in the many other ways in which we are able in action to rise above attachment to survival. Through moral courage, endurance, greatness of soul, generosity, devotion to justice -- in acts great and small -- we rise above our mere creatureliness, spending the precious coinage of the time of our lives for the sake of the noble and the good and the holy. We free ourselves from fear, from bodily pleasures, or from attachments to wealth -- all largely connected with survival -- and in doing virtuous deeds overcome the weight of our neediness; yet for this nobility, vulnerability and mortality are the necessary conditions. The immortals cannot be noble.

Of this, too, the poets teach. Odysseus, long suffering, has already heard the shade of Achilles' testimony in praise of life when he is offered immortal life by the nymph Calypso. She is a beautiful goddess, attractive, kind, yielding; she sings sweetly and weaves on a golden loom; her island is well-ordered and lovely, free of hardships and suffering. Says the poet, "Even a god who came into that place would have admired what he saw, the heart delighted within him." Yet Odysseus turns down the offer to be lord of her household and immortal:

Goddess and queen, do not be angry with me. I myself know that all you say is true and that circumstances Penelope can never match the impres-

sion you make for beauty and stature. She is mortal after all, and you are immortal and ageless. But even so, what I want and all my days I pine for is to go back to my house and see that day of my homecoming. And if some god batters me far out on the wine-blue water, I will endure it, keeping a stubborn spirit inside me, for already I have suffered much and done much hard work on the waves and in the fighting.

To suffer, to endure, to trouble oneself for the sake of home, family, community, and genuine friendship, is truly to live, and is the clear choice of this exemplary mortal. This choice is both the mark of his excellence and the basis for the visible display of his excellence in deeds noble and just. Immortality is a kind of oblivion -- like death itself.

But, someone might reasonably object, if mortality is such a blessing, why do so few cultures recognize it as such? Why do so many teach the promise of life after death, of something eternal, of something imperishable? This takes us to the heart of the matter.

What is the meaning of this concern with immortality? Why do we human beings seek immortality? Why do we want to live longer or forever? Is it really first and most because we do not want to die, because we do not want to leave this embodied life on earth or give up our earthly pastimes, because we want to see more and do more? I do not think so. This may be what we say, but it is not what we finally mean. Mortality as such is not our defect, nor bodily immortality our goal. Rather, mortality is at most a pointer, a derivative manifestation, or an accompaniment of some deeper deficiency. The promise of immortality and eternity answers rather to a deep truth about the human soul: the human soul yearns for, longs for, aspires to some condition, some state, some goal toward which our earthly activities are directed but which cannot be attained in earthly life. Our soul's reach exceeds our grasp; it seeks more than continuance; it reaches for something beyond us, something that for the most part eludes us. Our distress with mortality is the derivative manifestation of the conflict between the transcendent longings of the soul and the all-too-finite powers and fleshly concerns of the body.

What is it that we lack and long for, but cannot reach? One possibility is completion in another person. For example, Plato's Aristophanes says we seek wholeness through complete and permanent bodily and psychic union with a unique human being whom we love, our "missing other half." Plato's Socrates, in contrast, says it is rather wholeness through wisdom, through compre-



hensive knowledge of the beautiful truth about the whole, that which philosophy seeks but can never attain. Yet again, biblical religion says we seek wholeness through dwelling in God's presence, love, and redemption -- a restoration of innocent wholeheartedness lost in the Garden of Eden. But, please note, these and many other such accounts of human aspiration, despite their differences, all agree on this crucial point: man longs not so much for deathlessness as for wholeness, wisdom, goodness, and godliness -- lodgings that cannot be satisfied fully in our embodied earthly life, the only life, by natural reason, we know we have. Hence the attractiveness of any prospect or promise of a different and thereby fulfilling life hereafter. The decisive inference is clear: none of these longings can be answered by prolonging earthly life. Not even an unlimited amount of "more of the same" will satisfy our deepest aspirations.

If this is correct, there follows a decisive corollary regarding the battle against death. The human taste for immortality, for the imperishable and the eternal, is not a taste that the biomedical conquest of death could satisfy. We would still be incomplete; we would still lack wisdom; we would still lack God's presence and redemption. Mere continuance will not buy fulfillment. Worse, its pursuit threatens -- already threatens -- human happiness by distracting us from the goals toward which our souls naturally point. By diverting our aim, by misdirecting so much individual and social energy toward the goal of bodily immortality, we may seriously undermine our chances for living as well as we can and for satisfying to some extent, however incompletely, our deepest longings for what is best. The implication for human life is hardly nihilistic: once we acknowledge and accept our finitude, we can concern ourselves with living *well*, and care first and most for the *well-being* of our souls, and not so much for their mere existence.

But perhaps this is all a mistake. Perhaps there is no such longing of the soul. Perhaps there is no soul. Certainly modern science doesn't speak about the soul; neither does medicine or even our psychiatrists, whose name means "healers of the soul." Perhaps we are just animals, complex ones to be sure, but animals nonetheless, content just to be here, frightened in the face of danger, avoiding pain, seeking pleasure.

Curiously, however, biology has its own view of our nature and its inclinations. Biology also teaches about transcendence, though it eschews talk about the soul. Biology has long shown us a feasible way to rise above our finitude and to participate in something permanent and eternal: I refer not to stem cells, but to procreation -- the bearing and caring for offspring, for the sake of

which many animals risk and even sacrifice their lives. Indeed, in all higher animals, reproduction *as such* implies both the acceptance of the death of self and participation in its transcendence. The salmon, willingly swimming upstream to spawn and die, makes vivid this universal truth.

But man is natured for more than spawning. Human biology teaches how our life points beyond itself -- to our offspring, to our community, to our species. Like the other animals, man is built for reproduction. More than the other animals, man is also built for sociality. And, alone among the animals, man is also built for culture -- not only though capacities to transmit and receive skills and techniques, but also through capacities for shared beliefs, opinions, rituals, traditions. We are built with leanings toward, and capacities for, perpetuation. Is it not possible that aging and mortality are part of this construction, and that the rate of aging and the human life span have been selected for their usefulness to the task of perpetuation? Could not extending the human life span place a great strain on our nature, jeopardizing our project and depriving us of success? Interestingly, perpetuation is a goal that is attainable, a transcendence of self that is (largely) realizable. Here is a form of participating in the enduring that is open to us, without qualification -- provided, that is, that we remain open to it.

Biological considerations aside, simply to covet a prolonged life span for ourselves is both a sign and a cause of our failure to open ourselves to procreation and to any higher purpose. It is probably no accident that it is a generation whose intelligentsia proclaim the death of God and the meaninglessness of life that embarks on life's indefinite prolongation and that seeks to cure the emptiness of life by extending it forever. For the desire to prolong youthfulness is not only a childish desire to eat one's life and keep it; it is also an expression of a childish and narcissistic wish incompatible with devotion to posterity. It seeks an endless present, isolated from anything truly eternal, and severed from any true continuity with past and future. It is in principle hostile to children, because children, those who come after, are those who will take one's place; *they* are life's answer to mortality, and their presence in one's house is a constant reminder that one no longer belongs to the frontier generation. One cannot pursue agelessness for oneself and remain faithful to the spirit and meaning of perpetuation.

In perpetuation, we send forth not just the seed of our bodies, but also the bearer of our hopes, our truths, and those of our tradition. If our children are to flower, we need to sow them well and nurture them, cultivate them in rich and wholesome soil, clothe them in fine and



decent opinions and mores, and direct them toward the highest light, to grow straight and tall -- that they may take our place as we took that of those who planted us and made way for us, so that in time they, too, may make way and plant. But if they are truly to flower, we must go to seed; we must wither and give ground.

Against these considerations, the clever ones will propose that if we could do away with death, we would do away with the need for posterity. But that is a self-serving and shallow answer, one that thinks of life and aging solely in terms of the state of the body. It ignores the psychological effects simply of the passage of time -- of experiencing and learning about the way things are. After a while, no matter how healthy we are, no matter how respected and well placed we are socially, most of us cease to look upon the world with fresh eyes. Little surprises us, nothing shocks us, righteous indignation at injustice dies out. We have seen it all already, seen it all. We have often been deceived, we have made many mistakes of our own. Many of us become small-souled, having been humbled not by bodily decline or the loss of loved ones but by life itself. So our ambition also begins to flag, or at least our noblest ambitions. As we grow older, Aristotle already noted, we "aspire to nothing great and exalted and crave the mere necessities and comforts of existence." At some point, most of us turn and say to our intimates, Is this all there is? We settle, we accept our situation -- if we are lucky enough to be able to accept it. In many ways, perhaps in the most profound ways, most of us go to sleep long before our deaths -- and we might even do so earlier in life if death no longer spurred us to make something of ourselves.

In contrast, it is in the young where aspiration, hope, freshness, boldness, and openness spring anew -- even when they take the form of overturning our monuments. Immortality for oneself through children maybe a delusion, but participating in the natural and eternal renewal of human possibility through children is not -- not even in today's world.

For it still stands as it did when Homer made Glaukos say to Diomedes:

As is the generation of leaves, so is that of humanity. The wind scatters the leaves to the ground, but the live timber burgeons with leaves again in the season of spring returning. So one generation of man will grow while another dies.

And yet it also still stands, as this very insight of

Homer's itself reveals, that human beings are in another respect unlike the leaves; that the eternal renewal of human beings embraces also the eternally human possibility of learning and self-awareness; that we, too, here and now may participate with Homer, with Plato, with the Bible, yes with Descartes and Bacon, in catching at least some glimpse of the enduring truths about nature, God, and human affairs; and that we, too, may hand down and perpetuate this pursuit of wisdom and goodness to our children and our children's children. Children and their education, not growth hormone and perpetual organ replacement, are life's -- and wisdom's -- answer to mortality.

This ancient Homeric wisdom is, in fact, not so far from traditional Jewish wisdom. For although we believe that life is good and long life is better, we hold something higher than life itself to be best. We violate one Shabbat so that the person whose life is saved may observe many Shabbatoth. We are obliged to accept death rather than commit idolatry, murder, or sexual outrage. Though we love life and drink *L'Chaim*, we have been taught of old to love wisdom and justice and godliness more; among Jews, at least until recently, teachers were more revered than doctors. Regarding immortality, God Himself declares -- in the Garden of Eden story -- that human beings, once they have attained the burdensome knowledge of good and bad, should not have access to the tree of life. Instead, they are to cleave to the Torah as a tree of life, a life-perfecting path to righteousness and holiness. Unlike the death-defying Egyptians, those ancient precursors of the quest for bodily immortality, the Children of Israel do not mummify or embalm their dead; we bury our ancestors but keep them alive in memory, and, accepting our mortality, we look forward to the next generation. Indeed, the mitzvah to be fruitful and multiply, when rightly understood, celebrates not the life we have and selfishly would cling to, but the life that replaces us.

Confronted with the growing moral challenges posed by biomedical technology, let us resist the siren song of the conquest of aging and death. Let us cleave to our ancient wisdom and lift our voices and properly toast *L'Chaim*, to life beyond our own, to the life of our grandchildren and their grandchildren. May they, God willing, know health and long life, but especially so that they may also know the pursuit of truth and righteousness and holiness. And may they hand down and perpetuate this pursuit of what is humanly finest to succeeding generations for all time to come.



## MORE GENES

By J. Cyril Hanisko

I hope the readers can tolerate a few more "Genes". First of all, I want to compliment Dr. Rudolph Brun on his spirited defense<sup>2</sup> of his original essay<sup>1</sup> against my criticisms<sup>3</sup>. After having studied his defense, I concluded that some clarifications and comments, from me, were in order. They follow. But, before we get to those, I want to express my wish that the members have enjoyed reading these exchanges as much as I (and, I'm sure, Dr. Brun) have enjoyed engaging in them.

### Where Credit Is Due

The unwary reader might get the impression that Dr. Brun is quoting me as claiming " ... a life-giving factor lies at the center of the whole machinery and design of the world." Alas, I am not worthy. That statement (see my essay for a more complete version) is properly attributed to the renowned astrophysicist, John Wheeler. I included it in my essay to show that there are scientists of substantial repute (Wheeler is just one of these) who, despite Dr. Brun's assertion that "[t]here is no anthropic principle in nature forcing evolution to bring forth Homo Sapiens" (see p. 6 of Dr. Brun's original essay), are willing to seriously entertain that very possibility.

I am not necessarily an adherent of the anthropic principle. But, I do think it represents an important (if grudging, on the part of some) acknowledgment of the extreme specificity of the universe.

### AP: The Vitalists/Determinists Club?

I don't know of anyone, who is sympathetic to the anthropic principle, who identifies it with vitalism. Furthermore, far from dismissing, or ignoring, probability as a factor in nature, adherents of the anthropic principle begin by assuming that chance is the event-operator in the universe. What they find is that the probability of any one of the anthropic coincidences (the conditions which we understand to be necessary for the emergence/existence of intelligent life) is extremely small, while the product of these probabilities is a practical zero. Thus, they are led to the altogether reasonable inference that there exists, in the universe, a strong bias for these events to occur: perhaps, a probability of one. Some seek refuge, from the inexorable next step in this process of reasoning, in the many-worlds theory of quantum mechanics.

Dr. Brun opposes the concept of "emergence" to the anthropic principle as well as to the concept of "intelli-

gent design". At first, I had suspected that Dr. Brun's description of emergence, a seemingly irresistible activity of nature, capable of finding probabilistic pathways around any and all obstacles in order to bring about increasing complexity, amounted to a form of the untestable hypothesis. Upon further reflection, however, it has occurred to me that there is at least one test for emergence. That test is proliferation. If "emergence" is the irresistible force that Dr Brun depicts it to be (I hope I'm not misrepresenting him), undeterred by the kinds of findings which, proponents of intelligent design believe, pose mortal difficulties for universal evolution, then complexity should have proliferated widely. It hasn't. It is astonishingly localized. Even if intelligent life should, one day, be discovered in a distant galaxy, that would affect not at all our present understanding that, in the vast universe, complexity is extremely scarce.

### Neither An Inventor Nor A Tinkerer

I remain unpersuaded that, in real terms, nature either invents or tinkers. Both words imply purposeful activities; and, evolution theory insists, there is no purpose in nature. I am not in favor of defining meaning downward simply to ease the burden of articulating, or popularizing, a theory which is being proposed. The maintenance of this standard becomes especially important when, in the context of the theory, the original meanings, of the terms being imported, are rejected. If inculturation of the theory is found to be dependent on such importation, one is led to suspect that the theory may contain conceptual weaknesses, which would become all the more evident were the theory to be articulated in a more consistent manner (i.e., on its own terms).

### Hanisko's Smart-Bomb Universe

This has a nice ring to it. But one suspects such a universe would have a bad ending. Dr. Brun credits me with proposing the smart bomb as a model of the universe. This is more credit I don't deserve. I don't recall proposing any model of the universe. I simply tried to give some reasons (and not an exhaustive list, by any means) for questioning the existence of an all-embracing evolution.

I did pose the smart bomb as an example of a process which, although it appears mindless when attention is focused exclusively at the level of component interactions, actually has a guiding purpose behind it. In this regard, it provides a counter-example to those which



evolutionists like to cite as instances in which a process, which seems to be designed, is only apparently so (e.g., the free-market economy).

The smart bomb may also serve as an example of the gap between information and complexity. To the investigator, who is unwilling to entertain the possibility that an agency, external to the bomb and its immediate environment, defines what data will serve as information to guide the bomb, the fact that such bombs unerringly hit their targets is enduringly confounding. To escape from this quandary, someone might propose the existence of an uncountable infinity of universes, all governed by chance alone, all having different initial conditions, such that, in at least one universe (ours), all smart bombs score direct hits.

#### Not Necessarily Sufficient

Angels are wholly spiritual beings, created directly by God. This means that they are simple, not made up of parts. Angels are also self-conscious. The implication, here, is that complexity is not necessary for self-consciousness. It remains to be seen whether material complexity is sufficient for self-consciousness. Is a process, which is not necessary to effect self-consciousness, nevertheless sufficient to effect self-consciousness? The original triumphalism, which characterized the march down the reductionist road to consciousness, has faded, I think. Not that all of its adherents have given up. However, they are now more appreciative of the elusiveness of their quest.

#### The Evidence Check Is In The Mail

This assurance, in one form or another, is a staple of pro-evolution briefs. The theory only seems to falter on this or that point, so this defense goes, but all will be explained as soon as some new, supporting evidence turns up, as it surely must. In the meantime, one is to shun competing hypotheses. I don't know of any other theory that expects, and receives, such deference.

A recent, wonderfully illustrative example of this sort of rhetorical promissory note is to be found in the June 22, 2001 issue of *Science*<sup>4</sup>. It appears in Eugenie C. Scott's critical review of Jonathan Wells' book, *Icons of Evolution*. Defending Darwinism against its difficulties with the Cambrian explosion, Ms. Scott writes, "[u]nexplained is not unexplainable." Perhaps so; but this doesn't mean that the theory of evolution has exclusive rights on providing an explanation, nor does it mean that we must automatically assume that it can so provide. Equally, it doesn't mean that we must ignore all competing hypotheses, including those which seem better positioned to produce that explanation, while we

wait patiently for Darwinism to deliver.

Until the check does arrive, we should reserve the right to be skeptical and critical and to seriously entertain alternative paradigms. And, because more than a few of the promised "checks" have bounced, we should further reserve the right to scrutinize any future deliveries carefully.

At present, the notion of all-embracing evolution is being confronted by serious challenges and by a volume of evidence for which it offers no plausible explanations. And no amount of invoking "the God of the gaps" can change that. The situation which, exists for evolution theory today, reminds me of the situation which existed for Newtonian mechanics around the turn of the twentieth century, just before Einstein's theory of relativity burst onto the scene.

#### References:

1. Brun, Rudolph: "Genes, Evolution And The Word Of God In Creation." *ITEST Bulletin*, Spring 2000, Vol. 31, No. 2
2. Brun, Rudolph: "The Word Of God In Creation: A Response To Dr. J. Cyril Hanisko." *ITEST Bulletin*, Summer 2001, Vol. 32, No. 3.
3. Hanisko, J. Cyril: "Genes, Evolution And The Word Of God In Creation: Re-Visited." *ITEST Bulletin*, Vol. 32, No. 3.
4. *Science*, Vol. 292, 22 June 2001.

Secularism is a problem for the whole Christian community. Combatting it is not an apostolate or ministry of the clergy so much as it is the task of the laity. We, as participants in the life of Christ in baptism, need no one's permission to carry out our obligations to preach the Word. We are preachers of the Word far more in how we live than in what we say. What we do speaks more loudly than what we say. In olden days this was called the power of good example. People are more interested in and moved by what we do than by what we say, in how we love than in what we might think. Christianity's proof is more in living than in thinking or speaking.

Perhaps this can be summarized by St. Paul's statement in Corinthians: "We all have knowledge; yes, that is so, but knowledge gives self-importance -- it is love that makes the building grow." In Christ, we are that love, God's gift in history to all his creation.



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### IN MEMORIAM

Most Reverend Mark J. Hurley  
Father William Nichols, SJ  
Father Paul C. Reinert, SJ

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

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