

As a public service,

THE LAUCKS FOUNDATION

from time to time calls attention to published material that might contribute toward clarification or understanding of issues affecting world peace. The accompanying reprints constitute Reprint Mailing No. 114.

(Mrs.) Eulah C. Laucks, President
Post Office Box 5012
Santa Barbara, CA. 93150-5012

August, 1991

The following is a transcript of Jim Lehrer's "Conversation" with Zbigniew Brzezinski, National Security Adviser in the Carter Administration, aired July 17, 1991, on the MacNEIL/LEHRER NEWS HOUR. (Permission to reprint granted by MacNEIL/LEHRER PRODUCTIONS.)

CONVERSATION

MR. LEHRER: Now an overview of the Gorbachev appearance at the London summit and all it says about the new relationship between the Soviet Union and the West. It comes from Zbigniew Brzezinski, the National Security Adviser in the Carter administration, now at Columbia University and the Center for Strategic and International Studies. His most recent book was "The Grand Failure" about the collapse of Communism. He's with us now for a conversation.
Dr. Brzezinski, welcome.

DR. BRZEZINSKI: Hi, Jim.

MR. LEHRER: How would you describe this new relationship?

DR. BRZEZINSKI: Oh, I think it is a historic watershed. The cold war ended roughly a year or two ago and now after forty-five years of hostility, we're seriously talking about economic cooperation, hopefully leading to political cooperation. So it's the beginning perhaps of a hopeful new stage in the relationship, but it is just the beginning.

MR. LEHRER: A relationship that is now between two former adversaries, between two new allies, between what and why?

DR. BRZEZINSKI: Well, it certainly is between two adversaries. I think it would be too early to say that it is between two allies. But increasingly, it is between uneven partners in a world which is becoming more interdependent and in a world in which everyone knows it is becoming

interdependent. In other words, it's no longer quite the world that it was, divided into hostile ideological blocs of different visions of the future and so forth. The most important development of the last several years, I think, is, in fact, the death of Communism, the realization in the Soviet Union that there is no survival based on the existing institutions and the old ideas and that one way or another the Soviet Union or actually what follows the Soviet Union has to become part of the larger cooperative world.

MR. LEHRER: And interdependence, you mean that literally, that they need us and we need them?

DR. BRZEZINSKI: They certainly need us and we want to avoid a situation in which a breakdown there poses a threat to us. And we also realize that as time unfolds, at least some portions of the Soviet Union will become more and more associated with the West, with the larger international cooperative system, and eventually, as Jim Baker said sometime ago, we may, in fact, succeed in fashioning a larger cooperative structure that runs all the way from San Francisco Eastward to Vladivostok, which is a very long way.

MR. LEHRER: A lot of people still have trouble understanding how this country, this Soviet Union, this huge, huge country, after all of these years could become what we would consider a democracy. Is that a realistic possibility? Is it a dream? Is it necessary?

DR. BRZEZINSKI: Well, it is a dream if we think of it as happening to a single country. I think one of your earlier guests, Judy Shelton I think, drew attention to it, but it wasn't picked up. I personally do not believe, in fact, that it is possible to reform the Soviet Union into a working democracy. I think the very notion of the Soviet Union being a democracy is an oxymoron.

MR. LEHRER: Why?

DR. BRZEZINSKI: Because if it becomes a democracy, then it means freedom of choice and freedom of choice in what still is a multinational empire will inevitably mean that some will opt out of it. Certainly the Baltic republics want out now and we support them because we have never recognized their incorporation into the Soviet Union. But others are beginning to insist either on independence totally, Georgia, Armenia, Moldavia, or on a sovereignty within the frame work perhaps of an agreement with Moscow, but a sovereignty which makes them increasingly independent, for example, the Ukraine, so I really do believe that in the longer run, the Soviet Union will have to become some multiplicity of states and this is one of the reasons why we have to be very cautious about predicting or expecting rapid change to democracy. It's going to be a very turbulent, very long road.

MR. LEHRER: But doesn't what we're doing economically, what happened in London today run counter to that? In other words, the more we help the current government, which means Gorbachev, be successful, the more he is able to maintain the status quo, which is a United Soviet Union, doesn't that run counter to what you were just saying?

DR. BRZEZINSKI: What it does, if we're actually to do it, I frankly doubt that we will do it that way, so far we have just made promises in response to promises, we have taken some initial steps to open up Soviet access to Western institutions to wider cooperation, but as we become more engaged, as we negotiate technical arrangements, as we begin to make more serious investments, I think we'll have to work with the national republics, because if we do not, then, in fact, the aid is going to be wasted. One of the problems, one of the economic failures of the system is the central bureaucracy. And we cannot sanitize the system, make it healthy by working with that bureaucracy. And we also have to respect the yearnings of the various national republics for genuine economic independence, and so we'll have to work with them.

MR. LEHRER: But how does that jive with working with Gorbachev?

DR. BRZEZINSKI: Well, I think it jives only to the point that it involves an initial relationship

with the Soviet Union, but in the meantime within the Soviet Union if democratization continues, if, and I hope that it does, it will necessarily mean the transformation and not just the reform of the Soviet Union into probably a series of layers, maybe a confederation for some existing national republics in Moscow, perhaps a looser relationship with some but still defined very explicitly and in-depth and perhaps complete separation for some, such as the Baltic republics. And if democratization continues, then that reality will come to pass. And if it doesn't, then not only would democratization be aborted, but I firmly believe that economic reform will not go forward.

MR. LEHRER: But what if Gorbachev says, hey, wait a minute, G-7s and all you folks that's none of your business, this is our country, we will work this out, don't be sitting around telling us that we have to allow the Baltics to do this and we have to allow this and we have to allow that?

DR. BRZEZINSKI: Well, he might say that and he, in fact, has been saying that. But he's finding it more and more difficult to deal with the national republics which increasingly feel their own oats. We all know about the Baltic republics and their desire for independence. But take, for example, the Ukraine. The Ukraine is headed by a President who when he was initially appointed was viewed as a centrist apparatchik, a bureaucrat from Moscow, and yet, in the course of having become President of the Ukraine he has now increasingly turned towards more and more insistence on real sovereignty for the Ukraine.

MR. LEHRER: He's tasted it.

DR. BRZEZINSKI: Yeah. He loves the anthem, he loves the limousines. He loves the flag. He now insists that all money that is taxed within the Ukraine be under the control of the Ukraine government. And when he recently went to Moscow to talk with Gorbachev and his associates, he insisted on taking and interpret it, which is very symbolic because Ukrainian and Russian are very similar and he actually speaks Russian.

MR. LEHRER: What is -- what's your reading of Gorbachev and his staying power, or his power, any context you want to put him in right now as a result of what happened today in the last two days?

DR. BRZEZINSKI: Well, first of all, he's certainly a historic figure. He has demonstrated enormous capacity to maintain himself in power, great flexibility, a capacity to learn, but at the same time, I do have the feeling that he under estimates the complexity of the processes of economic change in the Soviet Union, that he thinks it's easier and simpler, and I say this not only on the basis of reading his statements and listening to him talk, but also on the basis of what some of his closest associates have told me. They have said to me that Mikhail Sergeivich doesn't really understand economics and he thinks it's much easier. And secondly, I do think that even though he now realizes that he has a very serious national problem on his hands, the aspirations of the non-Russians, he still underestimates the gravity and the difficulty of the problem, and, therefore, both he and maybe even some of his friends in London expect a process of change which I think is not going to be quite as stable as they might think, not as much subject of central control as Gorbachev might expect, and not quite as simple as perhaps everyone assumes.

MR. LEHRER: If you were in a position to write his report to his friends in the Kremlin as a result of what was gained for the Soviet Union by these last couple of days at London, what would you say?

DR. BRZEZINSKI: Well, it would depend whether I wanted to emphasize the proposition of the glass is half full or half empty, so let me deal with both sides.

MR. LEHRER: Okay.

DR. BRZEZINSKI: On the half full side, aspect, well, it's a beginning of the process. He's accepted not as a partner, but least as a quasi participant. The doors are being opened to him. This special

association with the IMF will lead to more exchanges.

MR. LEHRER: So you agree with Sec. Brady that that is a big thing?

DR. BRZEZINSKI: Oh, yes, it's important.

MR. LEHRER: Yeah.

DR. BRZEZINSKI: On the other hand, it is quite clear there is no cash coming, there are no promises of grants as of now, there is no effort to provide a large stabilization fund for the Soviet currency, which I think Gorbachev or some of his associates expected. So there are no real tangibles. And I think the premise here is the right premise. We're engaged, East and West, the Soviet Union and the G-7, and let's see now what happens in the Soviet Union. Will there really be economic changes? Will there be deadlines and specific plans? Will they be matched by political changes equally with deadlines, and if the process moves forward, then the West I think will become more responsive. But his feet will be held to the fire.

MR. LEHRER: Does he have something to say along the lines, but look, friends, Communism is truly dead now and if we are, if these folks are going to go any further, we must replace it with fill in the blank, and what would you fill in the blank with?

DR. BRZEZINSKI: Well, if I were him, and I think what I'm saying, in fact, probably pertains to what he's thinking and doing, I'd be looking very closely at what is happening in Eastern Europe, because in Eastern Europe actually the real experiment is underway. We literally have neither a model nor a conceptual notion of how to change the Communist system politically and economically into a democracy. But three countries --

MR. LEHRER: This never happened before.

DR. BRZEZINSKI: It never happened before.

MR. LEHRER: Yeah.

DR. BRZEZINSKI: But three countries are well advanced in the process, Czechoslovakia, Hungary, and Poland, with Poland actually the most ambitious of all three and going the fastest, and hence, whether these three countries succeed or not is not only a matter of blazing a path for Gorbachev, but is also a matter of establishing historical precedent, and this is why, incidentally, the West has an enormous stake in making certain that these three countries succeed.

MR. LEHRER: And also an enormous stake in making sure that the Soviet Union also succeeds?

DR. BRZEZINSKI: That is right, but we will not have a Soviet success if Eastern Europe falters or fails because in Eastern Europe the experiment is underway, the effort is being made, and if they fail, then that is a preview of Soviet future.

MR. LEHRER: It's almost like the laboratory step before the real thing?

DR. BRZEZINSKI: That is right and in a sense it also has an impact. Eastern Europe can help the Soviets by increasing its trade, by sharing its expertise, by applying its lessons, by serving as a transmission belt.

MR. LEHRER: All right. Zbigniew Brzezinski, it's a pleasure. Thank you.

AN INFAMOUS VICTORY

THE BURDEN OF PROOF LIES WITH THE WARRIORS

GORDON C. ZAHN

"But what good came of it at last?"

Quoth little Peterkin.

"Why that I cannot tell," said he:

"But 'twas a famous victory."

—Southey, The Battle of Blenheim

The thousands of Kurds and Shiites already killed and the thousands yet to die as victims of hunger and disease are "collateral" victims of the Gulf War. Added to the one hundred thousand dead according to General Schwarzkopf's estimate of Iraqi military deaths in that blessedly brief conflict, the combination provides new and terrible evidence of the inhumanity of modern war and the utter irrelevance of the traditional "just-war" teachings. Primary responsibility for the horrors Iraq and Kuwait have suffered lies with Saddam Hussein as instigator, but this cannot absolve those who planned, ordered, and executed one of history's ugliest wars of their guilt for the excesses committed in response. It is a recurring lesson of human history that injustice can give rise to still greater injustice and, when nations are involved, usually will.

Though I do not accept the validity of the "just-war" tradition as a source of Christian moral guidance, I feel obliged to play the rhetorical game. It is the theological language Catholics are expected to speak. But *it is a game*. Were the conditions of the "just war" ever honestly applied to an actual war, they would lead to behavioral conclusions identical to those required by the pacifism to which I personally subscribe.

Real wars, alas, are never put to that test. Consider the advice offered Christians of the Third Reich by a popular Catholic theologian during World War II: It was not the time to raise the question because a scientific judgment of its origins could not be made until the documents of both sides were available. So what should one do? "*Now the individual has but one course open to him—to do his best with faith in the cause of his nation.*"

One welcome change was that people did "raise the question" during the war in the Gulf. Even more remarkable, they included Catholic bishops who publicly voiced the judgment it was not

a just war. Some even advised service-eligible young people to consider becoming conscientious objectors and reminded the faithful of their moral duty to respect and support those who chose to do so. Other bishops, of course, echoed the assurances of "legitimate authority" that the villainous enemy left no option but to go to war and agreed with President George Bush that the cause was "just, moral, and right."

Members of the professional theological fraternity followed suit and, except for a few dissenters, were able to find (if necessary, create) flexibility in interpreting the conditions so as to avoid burdening Catholics with too troubling a crisis of conscience. A few, more imaginative, introduced new qualifications ("just but unwise") or categories ("an imperfect just war"). The majority concentrated on other matters and, if they had misgivings about the morality of the war, held their tongue. Yet if ever there was a war suited to putting the traditional teaching to the test, it was Mr. Bush's war in the Gulf. A good case can be made that most, if not all, of the "just war" conditions were ignored or violated.

The injustice of Hussein's aggression is beyond challenge, but that does not in itself constitute a just cause for a massive military response. Already under Pius XII the favored interpretation held that only defensive war can meet that test. His successors, especially John XXIII, narrowed that still further until we have John Paul II declaring (in 1982), "Today the scale and the horror of modern warfare—whether nuclear or not—makes it totally unacceptable as a means of settling differences between nations." Read in that context his last-minute appeal for peace ("...Never again war, adventure without return; never again war, spiral of struggle and violence; never this war in the Persian Gulf...") deserved more of a hearing, not only in Washington, but in our major chancery offices as well. It mocks logic to claim that tens of thousands of bombing sorties over Baghdad and a full-scale crossing of the Saudi/Iraqi border was "defensive." Aggression, even in reprisal, does not automatically make for a just cause.

At face value the resolutions adopted by the UN Security Council could be considered "legitimate authority." This too, though, was flawed by the deceit and manipulation which reduced the adoption of the resolutions to a thinly veiled and carefully orchestrated *fait accompli* in the Bush administration's determined drive toward war. After persuading a none-too-eager Saudi Arabia to "invite" the U.S. forces, Secretary of State James Baker pro-

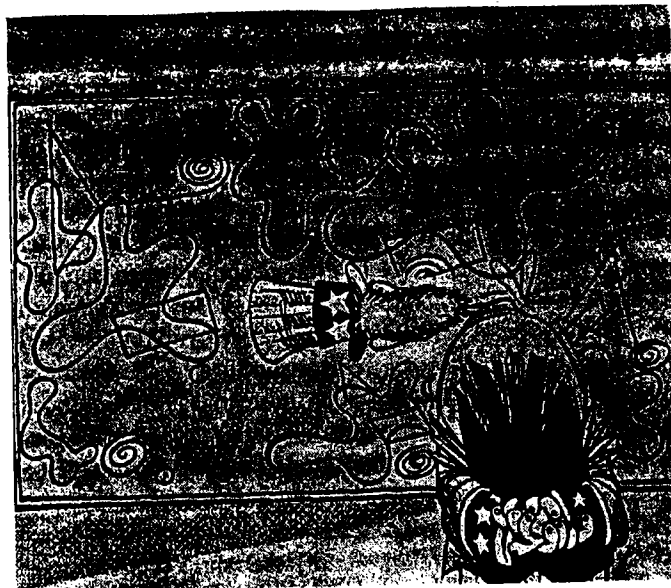
GORDON C. ZAHN is the national director of The Center on Conscience and War in Charlestown, Massachusetts, and the author of *German Catholics and Hitler's Wars* (University of Notre Dame Press).

ceeded to construct a façade of international participation by intensive diplomatic bargaining and sometimes dubious concessions. The final touch was the reluctantly sought and no less reluctantly given congressional vote endorsing the use of force. What at times degenerated to a crudely personalized contest between President Bush and Saddam Hussein gained respectability in a finely woven cloak of international unity covering a war planned by, proposed by, directed by, and fought by the United States. Other nations provided token forces and funds, but in essence it was strictly an American enterprise.

The stated purposes kept shifting and expanding without ever being given a clear and consistent definition. The demand for removal of Iraqi forces from Kuwait was always there, expressed in terms of moralistic indignation that, once victory had been achieved, seemed to vanish. The promised restoration of the Kuwaiti emirate, though something of an embarrassment, was also a constant. The restoration of Mideast "stability" and the promises of a "new world order" were added as attractive packaging for the determination to assure "friendly" control of the area's oil reserves. Perhaps the most explicit statement of presidential intent was "kicking Hussein's ass" and this, deserved though it might have been, is not enough to meet the test of right intention.

The reasonable expectation of success was certainly present; indeed, it is difficult to see how success could have been anything short of a foregone conclusion. If those charged with the responsibility for preparing and planning for this war were really as concerned about the military threat posed by Iraq to the U.S. forces as the general public was led to believe, it would testify to either inexcusably inadequate intelligence operations or rampant Pentagon paranoia. Already the yellow-ribboned, flag-waving frenzy of victory is giving way to more sober second thoughts and increasingly uncomplimentary comparisons with grossly unequal contests. No, little Peterkin, future historians will not record the Gulf War as "a famous victory." As more of the grim facts emerge, it may even become a cause for national shame.

The conduct of the war violated the "just means" condition in several ways. Credit must be given to the officially declared intent to achieve precision in the bombings and discriminate between military and civilian targets; and this was matched to a commendable extent by performance. But neither intent nor performance could overcome the fact that the very technology of war—the weapons and the uses for which they are designed—is indiscriminate by nature. If, as reported, 40 percent of the "smart" bombs miss their target, sometimes by as much as five miles, the performance record of "dumb" bombs (several times the tonnage of the former) will be worse. The results of "precise" massive bombings become impossible to calculate in advance and probably no less difficult to assess after the fact. Similarly when "military targets" include the full-scale assault upon a society's infrastructure (usually located or at least headquartered in urban centers), the risk of excessive "collateral" civilian destruction and deaths becomes a certainty too great to justify bombings of the scale and intensity of the campaign unleashed



against Iraqi cities and their inhabitants.

Discrimination is not the sole determinant of the justice of the means, however. The obligation to control and limit their effects to insure that no more damage or injury than necessary is done *even to combatants* must also be considered. Here, too, technology presents a problem. The administration's vulnerability on this score is reflected in the unwillingness to provide an official estimate of enemy casualties, civilian or military, and its annoyance with General Schwarzkopf's "indiscretion" in making his estimate public. Not that the general was concerned about this moral principle of limitation, however. His obvious dismay that the cease-fire deprived him of the opportunity to complete the "battle of annihilation" already in his grasp illustrates how little weight was assigned to theological niceties in military planning or execution. Day-long carpet bomb raids shaking the earth; cluster bombs maiming and napalm incinerating forces cornered in dugouts and bunkers; new techniques for setting the air itself afire—these instruments defy both discrimination and limitation. The shocking story of the "highway of death" where panic-stricken troops in full retreat were trapped in a "killing box" and slaughtered from the air in what was jokingly compared to "a turkey shoot" and "shooting fish in a barrel" provided irrefutable evidence that not only the technology but also the execution were designed for massacre, not the "just war" of traditional theology.

It is the failure—actually the *refusal*!—of President Bush and his advisors to give priority to seeking other solutions short of war that should be enough to clinch the case against the Gulf War. The unwillingness to allow a reasonable time for international sanctions already in place *and having effect* to succeed, coupled with the adamant refusal to even consider negotiations or support the efforts of coalition partners seeking a diplomatic solution, constitutes an explicit violation of the requirement that war be a last resort, that all other means must have been tried and have failed. It was this demonstration of presidential intransigence and impatience that caused some of our leading bishops to break with tradition and publicly challenge the justice of an ongoing war.

There remains that all-important final condition: proportionality, the requirement that the good to be achieved must outweigh the evil or harm to be done. Surely those who planned the campaign and chose the weapons and strategies must have anticipated the extent of the injury and destruction Iraq and its population would undergo. A high Air Force officer was disciplined for publicly describing what the air war could (and did) achieve. One assumes, too, allowance had been made for a far greater number of U. S. casualties in ground combat than actually occurred. In their exaggerated assessment of Hussein's strength planners must have realized that these costs would far exceed the risks entailed in allowing a reasonable time for the sanctions to have full effect. Especially since those "risks" were, at best, hypothetical—on the one hand, the danger that delay might weaken the commitment and participation of coalition partners; on the other, fear that the continued expense of maintaining large military forces on extended desert duty, coupled with morale problems that might develop, would lessen support on the home front.

The rush to war, then, represented the choice of *certain* evil over *potential* inconveniences that might arise. By even the most generous of interpretations, this does not meet the test of true proportionality. This will become clearer as the actual costs are tallied—when to the widespread physical damage in Iraq (and Kuwait) and the as-yet-uncounted totals of dead and wounded on both sides in the actual hostilities are added untold thousands of victims of the futile uprisings incited by President Bush and the CIA along with thousands more doomed to death as refugees. "But what came of it at last?" That, I suspect, no one will ever know in full detail.

Those who object that my application of the traditional conditions is too rigid and does not prove the war unjust miss the crucial point. It is for those who initiate (and support!) a war to establish beyond reasonable doubt that it does meet these tests. This is where theology fails. When a distinguished American theologian is quoted as saying bishops should have left it "up to the people in the military and political realm professionally to make the best judgments they can and sincerely try to apply these principles," he echoes his German counterparts of World War II. The advice cited earlier recommended obedience in blind nationalistic faith; this interpretation would go beyond that to grant the privilege of making the moral judgment to Hitler and his generals.

Vatican II's urgent call for "an entirely new attitude toward war" remains unanswered. When a blessedly brief and regionally limited war takes so horrible a toll in human life and devastation, there can be no excuse for further delay. The just-war tradition, for good or ill, began as a response to a sequence of dramatic social changes that created a situation in which the Roman Empire no longer sought the eradication of Christianity (and the extermination of Christians) but, instead, had become its protector and promoter. Now it faced the threat of invasion by barbarian hordes. In that sociological context, the Augustinian concessions represented an "entirely new attitude" and provided a welcomed accommodation to a reality in which many, perhaps most, Christians had already found it convenient to reconcile the

demands of their faith with obedience to Caesar's.

One may grant that Augustine and others who later added their elaborations and embellishments intended to preserve the essence of earlier teachings by restricting the practices of violence and war. They may have succeeded to some extent, but their accommodations introduced the flexibilities and modifications that have permitted Christians ever since to kill on either or both sides of virtually every war that comes along. And do so assured they were fulfilling God's will!

We face a situation created by changes in the nature of war, by a technology of such inhumanity that it must no longer be accommodated with adherence to Christian principles and belief. Human beings created in the image of God have become appendages to (or victims of) competing killing machines. Theologians may stretch concepts and strain logic to the limit, but any attempt to fit this fact into traditional patterns of moral discourse must inevitably fail.

Bodies piled high at Austerlitz and Waterloo were buried, and the grass ultimately covered all. Not so with the scatter of uncounted and uncountable body fragments shoveled into unmarked desert graves. One U.S. soldier interviewed by Boston's *Globe* confessed to being haunted daily by the memory of battlefields strewn with Iraqi soldiers' "arms and legs and pieces of their faces." With Wilfred Owen it is fair to ask: "Was it for this the clay grew tall?"

Poets can pose the questions; theology must provide the answers. The technology of modern war has brought us back to the choices faced by Christians in their pre-Constantinian commitment to pacifism and nonviolence. In their 1983 pastoral the bishops speak of having "only begun the journey toward a theology of peace" and called upon theologians to make specific contributions to "this desperately needed dimension of our faith."

What is more urgently needed is a new (perhaps a resurrected?) theology of war. Putting aside learned discourses and *summae* of the past, theologians might—like Augustine—"start from scratch." All they really need for the task is the New Testament and some pictorial and testimonial histories of recent wars. They might consider, too, the plight of that young man cited above with his haunting memories and his even more troubling conclusion: "I don't have any questions in my mind that we should have done what we did, but I will carry this forever." *Not even questions in his mind?* If we have reached the point where one can witness these things, perhaps even do these things, and still, though troubled, *accept* them, we confront the ultimate question any truly Christian theology must ask and answer: Was it for this he hung upon the cross?

Commonweal, [ISSN 0010-3330] A Review of Public Affairs, Religion, Literature, and the Arts, is published biweekly, except monthly Christmas, New Year's and July and August, by Commonweal Foundation, 15 Dutch St., New York, N.Y. 10038. Telephone: (212) 732-0800. Display advertising correspondence should be sent to Ruth E. Taylor, 11 Graffam Rd., So. Portland, Me. 04106 (207) 799-4387, classified advertising correspondence to 15 Dutch St. POSTMASTER: Send address changes to Commonweal, 15 Dutch St., New York, N.Y. 10038.

*(Reprinted with permission of the author from
The Christian Science Monitor, Jan. 10, 1990)*

Genetic Research: A Scientific Dilemma

By Liebe F. Cavallieri

IN science, contradictions are the stuff of revolutions. If a newly discovered fact does not square with existing theory, the latter has to be abandoned and a new framework erected. Thus, when experiments on the nature of electromagnetic radiation contradicted the concepts of classical physics, Einstein was led to develop the theory of relativity. That theory overturned much of the so-called "old physics" of the 19th century. No one could have predicted all the consequences of Einstein's work – including atomic fission.

Modern scientific discoveries are revealing the deepest secrets of the universe. When a discovery is so fundamental that it can be applied to manipulate or rearrange basic components of natural systems – as nuclear fission can – we must be extraordinarily prudent about its use.

Molecular biology is proceeding along a path that in many ways resembles that traversed by physics in the early part of this century. The discovery that DNA is the genetic substance started a scientific revolution. It overturned old ideas about heredity and genetic change. Since then other discoveries have widened the scope of this revolution, and each step toward deeper understanding of living systems has provided more opportunities for ma-

nipulating them. Now, the revolution in molecular biology has culminated in the Human Genome Project. The government-sponsored project is aimed at locating all the genes and identifying all of the genetic components of human DNA, of which there are about 3 billion.

The \$3 billion project is estimated to take 15 years to complete. Many scientists believe the intellectual task *must* be carried out; some call it the grail of human biology. They also have practical considerations in mind – the possibility of improved methods for diagnosis of genetic diseases. This is an enticing goal but it will carry its own special baggage – social, ethical, and moral.

When the project is complete, genetic screening is expected to become commonplace. People will learn whether their genetic makeups imply the strong possibility of a chronic or fatal disease; they will know that it may occur in five or in 20 years.

But confronting the ethical dimension of these advances, we should ask: Where is the biological revolution taking us? To what unfamiliar intellectual and moral climate are we emigrating? Are we ready for it? One may wonder whether our collective wisdom is up to the job. We are still wrestling with the nuclear problem.

The Human Genome Project is a new quantum leap, one that is almost certainly going to revolutionize our perceptions of life and ourselves. And yet it can also be argued that scientific progress

should not be hindered.

I have no doubt that the Human Genome Project will succeed. It will achieve many of the targeted goals. But there are hazards in success. I fear that this technology will add the final depersonalizing dimension to modern medicine. Knowing all about human DNA may lead to a cure for some diseases, and that is all to the good. But will this "good" be worth the price of reducing individuality to manipulable blueprints?

Laboratory experiments laying the groundwork for human genetic manipulation have already been carried out. The ruling by the US Patent and Trademark Office that permits the patenting of genetically engineered animals is a harbinger of patenting processes that could be used for introducing genes into humans.

TO curb scientific research is impracticable, anti-intellectual, and contrary to human aspirations. After all, science has provided us with much that is good. At the same time, inhuman consequences are increasingly manifest. One can ask whether heroic medical measures that are commonplace nowadays are in the best interest of the terminal patient who is kept "alive."

What I am defining is a genuine dilemma – a situation where no course of action is entirely satisfactory. The dilemma of science is most certainly going to deepen, for the reason stated earlier: We are penetrating ever more deeply

into the structure of living and nonliving things, enabling us both to understand them better and to manipulate them more fundamentally.

We have become addicted to solving most of our problems with technological fixes. The Human Genome Project will feed that appetite while itself engendering the need for more fixes. Scientific knowledge is power, not wisdom, and this knowledge is increasing at a rate faster than our ability to cope with it. We should learn from the experience of nuclear physics over the last 80 years.

The specter of a nuclear holocaust was certainly not in the minds of those early physicists. They were doing "pure" science. It would be meaningless to try to place "blame" on Einstein, Rutherford, Bohr, and all the others who worked on atomic structure. But we are now in a different time. Science today is viewed as the handmaiden of technology. Our innocence is vanishing rapidly, and ignoring the performance of past technologies is inexcusable.

We are going to have to get rid of the "fix" syndrome. In its place we need to develop a *modus operandi* based on human values that transcend the imperatives of scientific revolutions.

■ *Liebe F. Cavaliere, member emeritus of Sloan-Kettering Institute, now teaches at the State University of New York at Purchase. He is author of "The Double-Edged Helix: Genetic Engineering in the Real World."*

The following is quoted from "The Paradoxes of Help" by Vaclav Havel, President of Czechoslovakia. The New York Times, Op-Ed Page, Sunday, July 14, 1991.

"The experience of the postwar period has shown us that no amount of economic assistance will make a totalitarian country more prosperous unless it is also made more democratic."



LAUCKS FOUNDATION, INC.

P.O. BOX 5012, SANTA BARBARA, CA 93150-5012