Prizewinning poster shown at a “Mass for Life Through Health” co-sponsored by an inner city church and a unit of UR Medical School. Story begins on Page 3.
The Myth of Corporate Responsibility  
—Henry G. Manne

More Power to the People  
—Barbara Hale

Relevance in Biology  
—Aser Rothstein

Signs and Symbols: American Folk Sculpture

The Fortunes of the Left  
—Eugene D. Genovese

New Development Causes Great Excitement  
—Deborah Fay Abrahams
In an inner city "lead belt,"
a church and a UR medical team fight lead poisoning with a

Mass for Life Through Health

Each year some 400,000 of the nation's children are affected by a preventable ailment: poisoning by lead-based paint. Today's paints no longer are leaded, but the peeling chips in old ghetto dwellings remain a hazard for inner city youngsters. Not all "lead chip" victims die; not all suffer permanent injury to body or brain. But a sizeable number experience some lingering disability from eating paint from the flaking walls and window sills of ghetto buildings.

To parishioners of Immaculate Conception Church in Rochester's Third Ward and to faculty, students, and staff members of UR's Department of Preventive Medicine and Community Health, lead poisoning poses a constant threat to area children. From this mutual concern came the idea for a jointly sponsored worship service related to health and, specifically, to lead poisoning. The result—a unique
Mass for Life Through Health

Mass for Life Through Health—drew more than 1,100 participants to two services on a chilly Sunday morning late this spring; among the visitors, children from suburban Temple B'rith Kodesh and ex-prisoners from the county penitentiary who are engaged in a neighborhood health program with Medical School personnel.

For two weeks prior to the Mass, the eight grades in the Immaculate Conception School discussed lead problems in classes conducted by the UR team, and many youngsters entered their drawings, paintings, posters, and skits in a school art contest on the subject. Meanwhile, UR medical students and neighborhood volunteers blanketed the area with pamphlets on lead poisoning and offered to test paint from residents' homes.

 Appropriately, the unusual Mass blended the traditional and the topical. There was gospel music and soul music . . . a sermon by Assistant Professor Naomi Chamberlain of the Medical School . . . the world premiere of "Paint Chips," a song written as a meditation hymn by Charles Blackwell, production manager for the Broadway musical "Promises, Promises." There were new words for much of the liturgy:

*For those who own the houses with leaded paint that is in a condition to maim and kill children—Open their minds and hearts today
Oh Lord let us pray*

and new lyrics for the familiar "Jesus Loves Me":

*In our homes and in our beds
Keep us safe from poisoned lead
To Jesus each of us belong
So help Him keep us well and strong*

During the service, envelopes were passed out so that parishioners could send paint chips to the Medical School, which has developed a simple test for lead content. In the offertory procession, children carried some of the art contest entries to the altar; after the first service the prize-winning works were displayed at a coffee hour on lead poisoning.

Although the project has won widespread attention (the Mass was broadcast over the CBS "World of Religion" program and is being featured in leading religious and lay publications), its more significant outcome, for organizers and participants alike, is a very personal one: a greater awareness of a shared problem and a sense of community in trying to solve it, as, in the closing words of the service, "we are sent out now to find more life through health, for ourselves, our brothers, our children."
The special Mass is believed to be the first in which a Catholic parish has developed a liturgy on the theme of a neighborhood health problem.
"Jeff can get lead poisoning from paint in old houses. It is dangerous to eat. Little children eat the paint. Sometimes they get sick and die.

Things We Should Know:
1. We should keep the children away from lead poisoning.
2. We should either fix the old houses or tear them down.
3. We should tell everyone we know about lead poisoning. Do you know about it?

Exhibit of art contest entries accented the message of the Mass. Among other outcomes of the service, scores of paint chips have been sent to the Medical Center for analysis.
From the sermon delivered by Naomi Chamberlain, UR assistant professor of preventive medicine and community health, at the Mass for Life Through Health:

The practice of painting the inside of dwellings with such (lead) paint almost belongs to the past. The problem and tragedy of 400,000 children, little children between the ages of one and six, becoming poisoned from leaded paint eaten or chewed . . . is a problem and tragedy of the present.

Today is not to be used to accuse or attack that which has happened in the past, for we are “forgetting those things which are behind and reaching forth into those things which are before.” Isaiah 43:18-19, this morning’s word, is “Behold I will do a new thing; now it shall spring forth; shall ye not know it?” . . . .

Some good things have been done in relation to the problem and tragedy of lead poisoning of children, little children. Today we recognize the good that has been done and we offer an act of appreciation for those things, but today we must leave them and “do a new thing” . . . .

We can, each in our own way, move from the past into a present and future where active concern becomes concerned action.
The Myth of Corporate Responsibility

-- Or --

"Will the Real Ralph Nader Please Stand Up?"

HENRY G. MANNE

The issue of corporate responsibility recurs periodically in American thought. It is part of a larger tradition of popular mistrust of large scale business enterprise that goes back to our colonial days. The modern version espoused by Ralph Nader and his followers displays little that is new or different, but simply uses the political, legal, and intellectual modes of the 1970's to continue an anti-free enterprise campaign begun a long time ago.

The most important intellectual source of current attacks on big business is Berle and Means' 1932 classic, The Modern Corporation and Private Property—a work that has been as influential in shaping modern attitudes towards corporations as Lord Keynes' General Theory was on government monetary and fiscal policy. Berle's fundamental notion was captured in the popular phrase "the separation of ownership and control." By this Berle meant that shareholders who owned the corporation were not the individuals who made responsible decisions about corporate assets, and that the executives of the company, those in control, bore none of the responsibilities of ownership. Berle implied that this arrangement was illegitimate, since it did not fit traditional ideas of private property. Unfortunately his theory of private property was so uninformed that nothing in the modern world could fit it.

Running through Berle's theory are two subordinate themes, each directly related to the separation of ownership and control. One was that competitive markets do not operate to constrain the behavior of corporate executives. Berle held—and it has been asserted time and again since—that competitive forces do not function to force corporations to behave in the public interest. Bolstered by Gardiner Means' naive statistical proof of the increasing concentration of American industry, Berle boldly predicted that the future—now upon us—would find all of American industry dominated by a few large firms autocratically run by their executives.

Berle's second theme was that the presumed political constraints failed as well. Taking his lead from earlier writers, he proclaimed that corporations were supposed to be governed democratically in the shareholders' interest, but that, in fact, they were not. Of course, he was not serious in seeming to want that result, but it served his purpose to voice the complaint. It is interesting to see how this theme comes back to haunt us today in the guise of the SEC proxy rules and the shareholder proposal rule.

Since neither traditional economic nor political constraints operated to legitimize the actions of corporate executives, clearly something would have to be done. In 1932 Berle was not sure exactly what should be done, though he implied that corporate executives should don the mantle of godly men who would understand society's needs and would have the proper incentive to provide for them. In a later book he explicitly proclaimed the virtue of corporate executives in meeting their social responsibilities in ways other than that suggested by traditional economic theory.

Berle's theory was wrong in many respects, though his views have been so popular that the development of a systematic economic theory of corporations has begun only recently. In the first place, if things were as Berle believed, it is difficult to understand why 30 million Americans would continue to put money into the hands of corporate executives to use for social and other non-profit-maximizing ends. We would have to assume that American investors were either the greatest collection of fools the world had ever seen or that they were charitable to a degree that even saints could not aspire to. Happily, there are more cogent arguments for the American corporate system as it has developed, if one is not blind to the benefits of free enterprise.

Competition in product markets continues to be the rule of the land, except in those growing areas in which government prevents competition; certainly, no substantially monopolized economy could or would produce the amount and...
business executives . . . are not fit . . . for the responsibilities that corporate critics would foist upon them, nor could they possibly keep their social roles independent of self-interest.

variety of goods we are familiar with. Today most students of industrial competition and monopoly believe, contrary to Berle's expectation, that where government has not interfered, there is as much or more competition than at the turn of the century. (And, I might note, recent studies indicate beyond a doubt that competition was intense in all American industries in that earlier period). Thus, on the most basic premise of his entire work, Berle has been proved wrong over and over again.

But industrial competition is only one of the many relevant dimensions of an integrated theory of large corporate enterprise. A somewhat newer theory explains something that Berle's work could not: the immense success of the American corporate system as an administrative device.

This theory, borne out by several recent empirical studies, implies that the corporate system requires that, by and large, companies be operated exclusively in the interest of the shareholders. Each shareholder's interest is measured by the amount of money he is willing to risk. As shareholder dissatisfaction grows, market forces, working invisibly and automatically, provide the correct solutions. Dissatisfied shareholders will sell their shares, thereby lowering the market price of the company's shares. As the price of shares declines to a crucial level, outsiders will find tremendous opportunity to make large gains by taking over the corporation and managing it efficiently. This market for corporate control functions in various ways, most prominently through tender offers, proxy fights, and mergers. In its less overt form it constantly pressures corporate executives to operate the company in the shareholders' interest. Again, Berle simply did not recognize the speciousness of his complaint that corporations are not democratically run; actually, a more intense democratic representation of voter interests than that found in the corporate system would be difficult to imagine.

Turning specifically to the question of corporate responsibility, we can observe some of the results of mistaken notions about corporate operations. First, if the product market in which the corporation sells is truly competitive, there can be no significant possibility for corporate charity or other non-profit-oriented activity. The market treats non-profit-maximizing expenditures the same, whether they result from gross inefficiency, embezzlement, or charity. Too much of any kind of outflow of funds, and the invisible hand may deal a knockout blow.

This is not to say that in a competitive industry there is no room for inefficiency and, therefore, for charity. No business could function in which competition was so intense that absolute perfection was demanded at all times. The suggestion that competition implies this is merely another of the strawmen frequently set up by the enemies of free enterprise. There will always be some room for what will appear to be non-profit-maximizing behavior, though, in fact, it will simply represent a non-monetary perquisite for some factor of production. The amount of such "give" in an industry will depend on different circumstances, but the amount will be limited. Just so much inefficiency or so much corporate charity can be tolerated—and there is no extra allocation of grace for the altruistic corporation.

Paul Heynes, in his superb little book, "Private Keepers of the Public Interest," refers to the "GM syndrome." He points out that we tend to talk about all corporations as if they were General Motors. What makes the syndrome so vexatious is its subtle implication that of course there is something wrong with GM. Now if, in fact, General Motors has monopoly power or some other mysterious power not accounted for in traditional economic theory, the issue for public concern is indeed serious. But for all the assertions that General Motors is actually a sovereign power, that it administers prices, that it can drive out its competition—in short, that it dominates the lives of millions—no one has yet produced one iota of proof or logic to bear them out. Academics and other intellectuals continue to mislead the public by confusing size with monopoly, competitive success with dishonorable tactics, and free institutions with the work of the devil.

At this point one might ask how, if things are so competitive, corporations
The Myth of Corporate Responsibility

have managed to engage in the amount of non-profit activity we have seen in the past twenty-five years. Actually, of course, the bulk of apparent non-profit oriented activity has not been that at all: it is largely self-interested conduct being passed off as something else.

Much of this behavior is simply public relations. A case in point is the famous Pepsi-Cola scholarship program of the 1940's, which two full tuition scholarships were awarded in every state. Rarely has a company hit on a better public relations scheme at a lower cost than that one; I might add that it is no longer in existence. In a slightly different vein, contributions by corporations to local community chests, churches, Boy Scouts, hospitals, and similar enterprises bear as much resemblance to true charity as does my income tax. No businessman in his right mind would blatantly refuse the importuning of these charities, since to do so would incur the enmity of powerful citizens and of numerous not-so-powerful ones.

On a grander scale we find corporations playing the politicians’ cat-and-mouse game in Washington. The threats of political retribution and the sale of political favors are accounted for to the public with the rhetoric of government largess and corporate good citizenship. The amount of this truly profit-motivated behavior in our political system must be enormous. Only those blinded to a realistic appraisal of American business would conclude that this is indeed corporate charity; that corporations have a conscience; and that there is an inchoate law which dictates that corporations must be operated as non-profit institutions.

I DO NOT WISH to deny that many corporate directors and executives sincerely feel an obligation to make corporate contributions. I would simply point out that there is a heavy element of faddism and style-consciousness in all of this, and that businessmen look for guidance in their business behavior to intellectuals, ministers, and even the Harvard Business Review. But the strength of their conviction becomes evident as soon as there is an economic pinch; right now, for example, because of the downturn in business, corporate contributions are at their lowest in many years. This has typically been the case. Moreover, both the amount of giving and the specific object of giving tend to change regularly. This year the big news in corporate obligations is ecology; a few years ago it was safety; last year or the year before last, it was problems of the urban ghetto. Such fickleness is not the stuff of which informed corporate responsibility is made.

The subject of ecology is fascinating. Public feeling has been made so intense that the goodwill of any large company at the moment rests heavily on seeming to do something about pollution. The risks are great that any company or industry may be singled out as a polluter, with untold economic and political consequences. But who can believe that the efforts of businessmen in Washington today to deal with anti-pollution measures are based in large part on their interest in the public welfare?

As so often happens in the American system, peculiar coalitions of groups with seemingly disparate interests form on any issue. Consider, for instance, the nature of support for the concept of corporate responsibility. Liberals are becoming disenchanted with the old notion of giving ever greater powers to government (at least while they are out of power), so they favor the idea. Businessmen seek to avoid severe government regulation and power in the hands of politicians they cannot control, so they favor it, too. And, finally, politicians are always looking for a scapegoat to explain the numerous failures of government—and who better serves that purpose than the big, bad corporations?

This coalition operates in almost every area where corporate responsibility is demanded. Few reputable economists maintain that our current inflation results from anything but faulty government policies; yet over and over we hear the cry of corporate or union responsibility for holding down prices. The government fails to establish appropriate property rights in water, streets, and the air; accordingly, everyone proclaims the responsibility of business to do something about pollution. Education is a governmental disgrace, but many a corporate critic tells us that the responsibility, at least for educating the poor and the black, lies with American business. Governments fail to establish adequate safety standards for automobiles and many other items, and the villain becomes the corporate producer. Most of a symposium on corporate responsibility could profitably be spent exploring governmental irresponsibility.

Nearly two hundred years ago Adam Smith pointed out that we have a better chance of having something done for our benefit if the action is also in the interest of the benefactor. And just as none of us would want to rely on the good faith and conscience of farmers, butchers, and bakers to provide us with the food we need to eat, we should not rely on imagined superhuman proclivities in corporate executives, either. The best way to solve any problem is to channel the self-interested activity of participants in a socially constructive way. By and large this is precisely what free markets do for us. They organize expertise, information, and goods in a way that no planner, whether in government or in a corporation, ever could.

The comparative advantage of business executives is in running businesses. They are not fit by training or experience for the responsibilities that corporate critics would foist upon them, nor could they possibly keep their social roles independent of self-interest. Any economic system that allows corporate officials to move too far beyond their traditional functions threatens undesirable consequences for us all.

I F RALPH NADER's ideas on corporate responsibility can be made politically popular, every corporation in America will have a public observer in the executive suite, and he will be a government official. You can be sure that such an official's view of the public interest will not be what the best intentioned corporate critic would want. He, like everyone else, can be expected to behave in his own self-interest, and political control of private enterprise will become a reality. Every time businessmen acknowledge a public interest in what they do, they invite further political control of their activities. That, I am convinced, is what the present corporate responsibility strategy is all about.
UR Professor's Goal:
MORE POWER TO THE PEOPLE

Barbara Hale

Americans, who represent only six per cent of the world's population, use 40 per cent of its energy-producing fuels—and over the past few generations have tended to believe that cheap and abundant energy is forever assured. Only recently have some people begun to realize that current fuels are calculably finite. According to a recent report in Fortune magazine, if our nation's standard of living became worldwide by the year 2000, all known and reasonably assured reserves of fossil fuel—coal, oil, and gas—would be used up in 30 years. Nuclear fuels, they estimate, would last just a few decades longer—that is, if life on this planet could survive the chemical, radioactive, and thermal pollution created by traditional energy conversion practices.

Ultimately, the goal of a rising standard of living for

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Key to "more power to the people" may be the laser, believes Moshe J. Lubin, director of UR's Laboratory for Laser Energetics. Diagram shows a pattern produced by a series of laser pulses.
More Power to the People

all the world's peoples in a habitable and desirable environment is inexorably coupled to the discovery of a pollutionless, cheap, limitless source of power. Scientists do know of such a power source—it's called controlled thermonuclear fusion—but, so far, the secret of how to tame and harness it has eluded them. However, according to Associate Professor Moshe J. Lubin, director of the UR's Laboratory for Laser Energetics, the need is so urgent that "every major nation now has a substantial controlled thermonuclear fusion research program."

Lubin, who directs the UR's experimental controlled fusion research program, explains that fusion is literally the opposite of fission, the atom splitting process which drives all of today's nuclear reactors. Essentially, fusion involves the forcing of light atoms, such as hydrogen's isotopes deuterium and tritium, to combine or "fuse." As in fission—the splitting of heavy atoms such as uranium—a small residue of matter is converted to energy. But, says Lubin, while fission is "dirty" in that it produces radioactive by-products, fusion is "clean" in that it produces no radioactive material of consequence. Moreover, since fusion uses as fuel some forms of hydrogen that are abundantly available in sea water, it is, in a real sense, limitless. Finally, Lubin believes, fusion can be made to function economically and, perhaps, in the case of electric power plants, more economically than current methods.

Lubin, who looks and is as young as some of his graduate students, has been a faculty member in UR's Department of Mechanical and Aerospace Sciences since he received his Ph.D. from Cornell in 1965. His research on the use of lasers to harness controlled thermonuclear fusion has been under way for about four years and forms a large portion of the work in the Laboratory for Laser Energetics in the Hopeman Engineering Building. The Laboratory, a multi-disciplinary teaching and research unit believed to be the first and only one of its kind at any American college or university, was established in the College of Engineering and Applied Science under his direction last fall.

Central to the laboratory and to Lubin's ideas about how the fusion reaction can be controlled is the laser, a device capable of delivering short, concentrated bursts of light strong enough, for example, to drill a hole through a steel plate. In the June issue of Scientific American Lubin and Arthur P. Fraas of Oak Ridge National Laboratory explain that "numerous available sources are capable of delivering energy in a short time. None, however, equals the laser in the ease with which the output may be concentrated in a small volume."

It is this ability to focus on a small target with pinpoint
accuracy, Lubin adds, that makes the laser uniquely attractive for initiating and controlling fusion reactions.

Equally important, he notes, is the fact that lasers can heat small volumes of dense matter to temperatures above 50 million degrees.

Equipment currently in operation in the Laboratory for Laser Energetics includes an ultra-high power laser system equipped with an amplifier that produces one of the strongest pulses in the world. Designed and constructed at the UR in conjunction with the Institute of Optics, the system can produce a pulse capable of heating matter to 60 to 70 million degrees. It is the only system of its kind at any U.S. college or university and the second such system in the world.

In the traditional approach to controlling fusion, Lubin explains, scientists produce a plasma, or hot gas in which the atomic nuclei have been stripped of their electrons, and then trap it in a confining magnetic field (often called a magnetic bottle). The trapped plasma is then heated so that its particles will be forced to fuse or “burn.” The magnetic field is supposed to keep the plasma together long enough so that more energy is liberated through burning than is used in lighting the nuclear fire. Otherwise, like all gases, the plasma would expand rapidly, eventually strike the walls of the container, and lose its heat.

Unfortunately, Lubin adds, magnetic bottles so far have proved inadequate. Somehow the plasma always manages to wriggle free before the scientists “break even” on the energy generated by the process. What’s more, the future for this kind of system remains bleak, he believes, because scientists still are “unsure of the proper magnetic configuration required to contain the hot plasma long enough for significant burning to occur.”

The solution, according to Lubin, is to make magnetic bottles unnecessary by using the laser. In this scheme, a solid fuel pellet of deuterium and tritium (the isotopes of hydrogen) are converted to a dense plasma by a laser pulse that lasts long enough to vaporize the pellet without heating it to fusion temperature. Before the pellet flies apart in its gaseous-plasma form, the main heating pulse is applied—and fusion results.

A method for applying this principle to the production of electricity was worked out at the Oak Ridge National Laboratory in 1969. Lubin works closely with both the Oak Ridge and Livermore Laboratories and it is not unusual for him to visit each of them in the same week. Dubbed “the busiest man in plasma physics” by a colleague at Oak Ridge, Lubin on a typical trip will spend two weeks gathering and exchanging information at laboratories in England, Greece, Russia, Israel, Italy, and France and then catch a return flight to be sure to make an 8:30 class.

The Oak Ridge method for converting the fusion energy into electrical power is called Blascon. In this approach, the energy from the fusion reaction is absorbed in a pool of molten lithium metal which, in turn, delivers the energy as heat to generate steam.
More Power to the People

Laboratory director Moshe J. Lubin and a high power ruby laser system in the Laboratory for Laser Energetics. Equipment in the laboratory also includes the disk amplifier (pictured above), which was designed and constructed at the UR in conjunction with the Institute of Optics. The amplifier is the only one of its kind at any U.S. college or university.

for use in producing electricity as in conventional coal- and oil-burning plants.

Lubin explains that the lithium pool would be contained in a pressure vessel perhaps 10 or 15 feet in diameter and would be swirled at a sufficiently high speed to form a whirlpool or ice cream cone-shaped space in the top of the lithium. A pellet of deuterium and tritium would be injected into the whirlpool; when the pellet reached the center of the cavity, it would be ignited by a laser beam powerful enough to generate the fusion reaction with one pulse. The heat released in the reaction would be absorbed by the lithium, which would then be drawn off from the bottom of the pressure vessel, circulated through heat exchangers, and then returned to the pressure vessel to re-establish and maintain the whirlpool.

As Lubin and Fraas observe in their Scientific American article, “there is little point in developing the proposed power plant unless it looks attractive economically.” They report that if a suitable laser system can be built at a reasonable cost—a major question that cannot be resolved at this stage—it appears that the capital cost of the rest of the system would be no higher than that for more conventional plants.

In addition, they estimate that the cost for fuel per unit of heat generated would be only a small fraction (0.75%) of the cost for fossil fuel.

They also note that “the only radioactive material of consequence in a Blascon plant would be tritium, and estimates indicate that it would represent a total hazard potential that would be lower than that of a comparable fission reactor by a factor of about a million.” The lack of radiological hazard should also reduce costs and greatly ease siting problems for a Blascon plant, Lubin says.

Nevertheless, Lubin readily admits that questions about the feasibility of the Blascon concept still remain to be answered experimentally. He says, “There are, of course, many other difficult developmental problems, but none of these appears so difficult as to raise doubts as to the feasibility of the concept.”

Even so, one formidable difficulty does give fusion researchers, including Lubin, some pause. According to The New York Times, the government has decided to reduce federal investment in fusion research. The reduction, about $400,000 in a total fusion budget of $28 million, comes at a time when work is further handicapped by inflating costs. Lubin says simply, “The government does not give proper priority to energy budget planning. Twenty-eight million dollars is insufficient in the face of the problem.”

In the end, he concludes, it is economics and not the laws of physics that will decide when and whether science can bring more power to the people.
There is an elite group of perhaps two hundred people in the world who are really interested in my subject, and another somewhat larger group who, under semi-captive conditions of a symposium, might patiently listen to me while waiting for the next speaker. If I were a genius who could claim that my work is so sophisticated that only eight people in the world could understand it, I wouldn’t worry. The hard fact is that my work may, on occasion, be clever but it is not inexplicable to a reasonably intelligent, educated individual. The reason I don’t often find myself addressing an unspecialized audience is that people in general aren’t sufficiently interested in my expertise to suffer through the explanation. They don’t find my work relevant to their own more immediate interests and concerns.

This relevancy gap is well expressed by my mother-in-law. She likes me but I puzzle her. About every three years, to be polite, she asks me what I’ve been doing. I patiently explain. About halfway through the recital, she will interrupt to ask, “But how will it cure cancer?” and I stop explaining. That the University should pay me a salary to make irrelevant studies she accepts. It is a fact, after all, that her daughter and grandchildren are fed and clothed because of this strangeness of the University.

The gap in understanding and interest between scientists and non-scientists has been brilliantly outlined by C. P. Snow. To quote: “Thirty years ago the cultures had long ceased to speak to each other, but at least they managed a kind of frozen smile across the gulf. Now the politeness is gone, and they just make faces.” My mother-in-law represents a rather benign attitude toward the gap. A more pungent expression can be attributed to the modern poet e. e. cummings:

“While you and I have lips and voices
which are for kissing and to sing with,
Who cares if some one-eyed son-of-a-bitch
invents an instrument to measure spring with”

But the situation has moved far beyond “politeness,” “frozen smiles,” and “who cares.” It is no longer just Snow’s intellectual gap between scientists and humanists. The general public is now a major factor, bringing to bear its concerns about
technologically related societal problems such as the environment, health, the arms race, and the quality of life in general.

As a member of the public, I am concerned and worried about the same problems. As a scientist, however, I have a second worry derived from the first. The fears and frustrations of the public are generating irresistible pressure on the scientific community. Given the general lack of understanding of the nature of science and the distortions that can be imposed by our political machinery in translating public pressures into actions, I am not optimistic about the outcome in terms of scientific progress or in its effective contribution to the problems of society in the long term. The University offers only partial protection against political pressure because some of our salaries, virtually all of our research support, and much of our educational support come from public agencies. I am not arguing that the public doesn’t have a major stake in the scientific establishment. They have purchased a seat in the game by the investment of billions of dollars. The question we must ask is what game we are playing.

The game we are playing now is called “relevance,” or, more fully, “relevance to societal problems.” Not too long ago, the game was called “mission” or “mission orientation” and before that the game was called “pure versus applied research.” Unfortunately my perception of relevance, of mission, and of the applicability of science is not quite the same as that of the decision makers who dole out the federal funds without which I can no longer function. I need rather expensive equipment and supplies and support for my students, post-doctorals, and technicians who do the research for which I take much of the credit.

The men in the federal agencies—on whom fall the momentous decisions that will determine the quality of American science—are not venal, or even necessarily stupid, but they live in an environment that imposes severe difficulty in making and carrying out wise decisions; that is, if they happen to be wise men. They have their own perceptions of the role of science, but these must be modulated by executive decisions, often made under political pressure, and by the necessity for earning Brownie points with Congressmen and Senators who also are under political pressure. Furthermore, the science administrators, the executive branch, and Congress don’t know in a first-hand way what is really going on in the research laboratories. They must depend for information on a plethora of advisory committees and on reports from administrators with a vested interest in success. Consequently, the image of what is happening may depart significantly from the reality. In a political sense, this doesn’t matter because the image is what counts most and images are easier to create than reality. The “reality gap,” if I may give it a name, is perhaps the saving feature of the system, giving it a measure of flexibility. (I’ll return to the point later in my discussion.)

As I look ahead, I see no lessening of the dependence of university-based science on government. No one else will pick up the costs of research and research training. I see increasing pressure by the public for the solution of technologically oriented societal problems, with this pressure being transformed by Congress and the Executive into pressure for “relevant,” “mission oriented,” and “applied” research. I see little change in the public’s perception of science. If anything, the public’s attitude may grow worse, particularly its ambivalence between science as the root of all evil and science as the savior of lives and the solver of problems. I do not see any great improvement in the government’s way of doing business with science, despite proposed reorganizations. The morass of agencies and advisory committees, the political pressures, and the wide swings in agency missions and in funding of various kinds of research will continue.

The situation, in terms of free inquiry in many scientific areas, is extremely serious. Not that the federal agencies are forcing us to do anything or preventing us from doing any other. Rather it is like the old days of the Model T when Henry Ford announced that you could buy one in any color so long as it was black. If we want needed financial support for research, we can pick any area provided it is labeled “relevant” by a federal agency. But what does “relevant” mean? For that matter, what does “free inquiry” mean?
The emphasis on relevancy is continually forcing science in the direction of short-term limited objectives at the expense of attempts at a deeper understanding of the nature of the universe.

As I have pondered these questions, I have had to conclude that nothing in science is irrelevant and that, for most of us, free inquiry is an ephemeral, theoretical creature.

I would like to draw briefly on my own personal experiences in discussing relevance. About fifteen years ago, the Atomic Energy Commission had a potentially serious health problem in one of its plants. AEC had started a process that involved use of tons of mercury and some was escaping onto the floor. Metallic mercury is not something to ignore; it forms vapor which is inhaled and deposited in the body, producing all sorts of dreadful effects. The AEC people started checking urinary levels of mercury in plant personnel and found some abnormally high values and began to worry. They didn’t know how to translate urinary levels into some measure of what might be in the body; as a result, they asked me to undertake a study in animals of the factors relating to distributions of inhaled mercury vapor in the body and its excretion in the urine. The basis of the request was that, starting from our wartime efforts, the University of Rochester had become the primary center for determining the toxicity of materials by inhalation. Although at the time I was happily doing basic biological research on the nature of the cell membrane, I agreed. It was a straightforward technological problem that could be easily done. It didn’t take too much of my time to supervise the work and it seemed important to the welfare of a number of people that it be done.

In about two years we finished a series of studies that provided the first adequate set of data on the metabolism of mercury and its vapor in animals. The interesting point, however, was that once they got us started on this critical problem, no one ever wrote, called, or visited to find out anything about the results. The practical problem which made studies of mercury highly relevant was solved by changing the ventilating and housekeeping system. Consequently, everyone lost interest except me. I became interested in certain compounds of mercury because they reacted so specifically with sulfhydryl groups of proteins. I undertook a series of studies using mercurials as specific probes of protein function in transport of materials across the cell membrane. These studies have had considerable influence in membrane research. To me, they are basic studies that I freely chose to do, which have helped me in unraveling the mysteries of the cell membrane.

What is the relevance of my membrane work to the AEC? Their mission is not to understand how the cell membrane is constructed or how it functions or how it is regulated. They justify the work in terms of what it tells them about mercury and what mercury might do to biological systems. They and I are looking at different faces of the same information, but our perspectives are different. To me, the mercurials are a tool to explore the membrane. To them, the membrane is a biological endpoint to describe the effects of mercury. To me, I am doing research in membrane biophysics. To them, I am doing research in heavy metal toxicology. Which is imagination and which is reality? Is the work relevant because I use a mercurial? Is it less relevant because I am interested in the biophysical properties of the cell membrane and that the basic information I get may be applicable to understanding not only the action of mercurials but also that of drugs and radiation, as well as normal and pathological cell function?

There is a synergistic factor here which, if recognized and exploited, can, I believe, help science accommodate to the problem of relevancy. By working at a strictly mission-oriented relevant problem, I produced some useful information about an immediate problem. In addition, there was a significant fallout in terms of the idea of using mercurials as a specific chemical probe of membrane function, resulting in a definite contribution to basic biological knowledge. As long as the government agency will recognize in turn that from my basic studies they receive fallout in terms of information useful in delineating mercury toxicity, we can both be happy in a symbiotic relationship. If, on the other hand, they apply their criteria of relevancy in a restrictive sense, focusing only on mercury, I would resist doing the work, and even if it were done, it would be far less important and useful in the long run.

There is an interesting sidelight on...
Relevance in Biology

the role of chance in determining relevancy and mission. At the start the mercury studies were highly relevant and had a top priority. (By the way, “priority” is a new name for our game and it may well replace “relevancy.”) After the practical problem went away the work was still relevant, but each year the priority got lower; nevertheless, funding was ample so there was no problem. As dollars became scarce, the AEC began to raise questions concerning the studies of mercury. Then the problem of mercury in the Great Lakes and in fish hit the press and some of the mercury work at Rochester had exposure over national television. The AEC has been getting a bad press on its control of radiation hazards, but it is getting a good press for anticipating the mercury problems, so it is grateful. Mercury is high priority again and under the umbrella of its relevance, we may get financial support for additional basic biological research.

The emphasis on relevancy is continually forcing science in the direction of short-term limited objectives at the expense of attempts at a deeper understanding of the nature of the universe. This pressure of immediacy is exemplified in an exaggerated form by the attitude of some of our younger medical students who are anti-research. They feel that everyone should quit his research lab immediately and rush to the inner city to make sick people well. The fact that some of the research people may not be good at handling sick people and that in the long run their research may be far more valuable than anything else they might do, doesn’t sink in.

In part the problem is one of semantics. What is called “relevant” is usually research undertaken to solve a well-defined problem in the short term. Basic research on the nature of life and matter is, by implication, irrelevant research. Perhaps we can sell the terminology “instantly relevant” and “ultimately relevant.” How can we keep a balance between the two in the face of pressure favoring instant relevancy? One of the saving features of the whole system of the federal science establishment is its unmanageability. A second is the gap in knowledge between federal decision makers and what goes on in the research laboratory. These factors contribute to the reality gap I mentioned before; that is, the difference between what is really happening and what is believed to be happening.

Most important of all is the attitude of the individual scientist and his university. Even though we are faced with less freedom of action because of the relevancy restrictions, we can, within those limits, do first class science. We can, in fact, stretch the limits of relevancy considerably if we are reasonably clever. We can try to unravel the secrets of nature to satisfy our intellectual curiosity if on the way we produce some relevant science to satisfy the sources of funds. We may have no other options than to play this sort of game. We have to achieve a posture that satisfies our own perceptions of science and our own criteria of relevancy, maintaining rigorous scientific integrity and yet, at the same time, meeting the relevancy criteria of an agency. A little more pushing and tugging and we’ll all be pretzels.

I can best summarize the problem of science management and of coping with science management with a simple poem in limerick form:

A curious animal is man;
His future he thinks he can plan.
But events unpredictable
And acts contradicable
Put man and his plan in the can.

Is it worth the struggle? Emphatically yes. Science in abstract is a difficult and imperfect mistress. Science in the reality of 1971, on a relevance kick, offers a nerve-wracking relationship, yet I love her and I’ll never leave her. The best way I can express this feeling is in the form of a sonnet by an obscure poet, William Shakespeare:

My mistress’ eyes are nothing like the sun;
Coral is far more red than her lips’ red;
If snow be white, why then her breasts are dun;
If hairs be wires, black wires grow on her head.
I have seen roses damask’d, red and white, But no such roses see I in her cheeks;
And in some perfumes is there more delight Than in the breath that from my mistress reeks.
I love to hear her speak, yet well I know That music hath a far more pleasant sound.
I grant I never saw a goddess go,
My mistress, when she walks, treads on the ground
And yet, by heaven, I think my love as rare
As any she belied with false compare.
SOME 150 YEARS of folk art, with emphasis on the folk sculpture
of Western New York, were celebrated this semester in a special
exhibition at the University's Memorial Art Gallery.

Designed as the Gallery's salute to this year's sesquicentennial
celebration of Monroe County, the exhibition proved an enchanting
melange of weathervanes and whirligigs, toys and carousel animals,
decoys and ship's figureheads, patriotic and religious symbols, trade
signs (complete with cigar store Indian), household utensils, and
even a gravestone or two.

In the exhibition catalogue—appropriately barn red—Isabel C.
Herdle, '27, assistant director of the Gallery, noted that the Gallery's
own holdings of folk art form "one of the most important and appeal­ing
sections" of its permanent collection.

Pictured on the next three pages are some of the 125 "signs and
symbols" in the loan exhibition, which was made possible through
the Museum Aid Program of the New York State Council on the Arts.
Winsome . . . weird . . . or just plain wonderful, all of the objects in the Gallery exhibition were made by non-professional craftsmen who worked with, in Miss Herdle's words, "a strong sense of design and color, naive, almost child-like vision, and direct, honest use of materials." Collectively, they "reflect the work, play, national pride and beliefs of America in its formative and frontier years, as well as in the fast-moving tempos of today."

Eagle. Circa 1880
Leant by Stony Point
Folk Art Gallery
Drawing an appreciative smile from Gallery-goers, this painted ship’s figurehead of General Peter B. Porter once adorned a 19th century Great Lakes steamer.

Girl on a Pig. Circa 1900. One of about 40 articulated figures made by Clarke Coe of Killingworth, Conn., for his nephew.
Lent by Herbert W. Hemphill, Jr.

Father Time. 19th century
Lent by Museum of American Folk Art
Everybody loves a carousel—and just about everybody loved the carved and painted figures in the exhibition's “circus lot.”

Dappled gray hobby horse.
Lent by Margaret Woodbury Strong
Museum of Fascinations
The Fortunes of the Left

EUGENE D. GENOVESE

W HEN INVITING ME to write this piece the editors of National Review asked me to include an evaluation of the Left’s chances of taking power.* Truthfully, I did not know whether to laugh or cry. Not wishing to offend my hosts, I shall pretend that the question deserves to be answered seriously: The chances for an electoral victory by an opposition to the left of liberalism are nil and receive no attention within any section of the left-wing movement; the chances for a seizure of power by one or more sections of the Left are slightly inferior to the chances of a seizure of power by a coalition of the Campfire Girls and the Gay Liberation Front under the leadership of Ti-Grace Atkinson. I respectfully submit—without a trace of malice—that those conservatives who fear for the life of the American state be given prompt psychiatric attention.

If Jerry Rubin and Mark Rudd are awakening such fears, then it is the fearful, even more than the feared, who need urgent and kindly attention.

The Left has fewer prospects today than it had ten years ago; and at least another decade will be needed to repair the damage done by the madness of the last few years. Whereas the rise of the New Left in the early 1960s promised to effect a reconciliation of revolutionaries and social democrats, the gulf between the two camps (and within each) is now greater than ever before. Whereas the New Left promised to transcend narrow and outmoded ideologies, much of what remains of it today wallows in the ideology of the 1930s or, as in the case of the Weathermen, in the ideology of pre-1905 Russia. Whereas the New Left promised to develop tactics of non-violent civil disobedience as an alternative to both ineffective electoral machinations and vain dreams of violent action, much of it today spends itself on a cult of violence generally manifested in blustering and sporadic and self-defeating acts of nihilism, which are no more than the acting out of adolescent fantasies of revolution by impotent individuals or tiny sects.

The Left has no party, no organization, and no leader with a shred of credibility beyond a handful of adherents—and ironically, beyond the terrified elements of the Right and Center who interpret their own inability to discipline their children as the beginning of the end of civilization. (I suspect that it is, in fact, only the beginning of the end of the quaint notion that children can be raised without occasional spankings.)

SDS has died, and nothing has arisen to replace it. The Weathermen would be laughed out of the Left, were it not for the sobering thought that these pitiable young bourgeois will get themselves and some other people killed before the newspapers and TV, which invented them, stop finding them cute. The pro-Chinese Progressive Labor Party which embodies such virtues of the Old Left as personal discipline and morality, respect for the sensibilities of working people and an appreciation of the need for social order, has never grown beyond the size of a small sect and, given its dogmatism and inability to grasp the realities of American life, it is never likely to. The Trotskyists are still Trotskyists. If the readers of National Review do not know what that means, perhaps Mr. Burnham will write a piece about his friends from the old days; whatever he says is likely to be as true of them today as it was 35 years ago.

As for the hippies, the freaks, the Mother Fuckers, and the several other exponents of “cultural revolution,” these are the natural-born, legitimate, honest-to-goodness children of the pseudoconservative suburbanites of the 1950s. They are the problem children of the solid bourgeoisie and constitute a problem for the Left only because their antics are confused with left-wing politics by the working class and lower middle class of Middle America. Beyond that, they constitute an essentially apolitical excrescence of the world of indebted affluence—a collective withdrawal of that part of the middle class (and especially the upper middle class) which is superfluous.

*In this article I shall not discuss the various sections of the Black-Liberation movement, which in my opinion are only superficially related to the White Left. Even the “Marxist-Leninist” Black Panthers cannot be subsumed under this heading despite appearances and, in any case, deserve a full and independent assessment. I shall also ignore the Woman’s Liberation Movement because I consider it of peripheral interest and relevance. I might say more, but even Marxists understand that discretion is the better part of valor.

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The Fortunes of the Left

to the task of preserving a middle-class social and economic order. One suspects that relatively they form no larger a percentage of bourgeois youth than criminals, lumpens, and tragically broken souls have traditionally formed of working-class or poor-rural youth without anyone's bothering to notice. But these are the children of the people who own the country, and they do have the power to burn down a campus or two; they will therefore be noticed and even pampered—at least until the gentlemen of the ruling class are forced by consciousness of the responsibilities attendant upon their ownership of property and of the state to deal harshly with their own children. That day is not, I think, far off. The disappearance of youthful nihilism would strengthen, not weaken, the prospects for a political Left, unless, as is probable, its excesses are used as an excuse to crush all dissent at once.

For the moment the “youth revolt,” supported as it is by national media that hail everything young as intrinsically good and misunderstood, enormously hinders the Left, not only by the reaction it generates among working and middle-class Americans who are normally slightly to the left of center in their social views, but in the obstacles it places in the way of the emergence of a left-wing party of order. A mass movement of the Left must be based on a vision of a new order, even if its tactics sometimes appear disorderly. Conservatives do not have to be told that Americans will not rally to a burn-baby-burn banner and will choose even fascism over anarchy, if the choice comes to that. One of the greatest difficulties the Left has always faced in its efforts to build a broad movement has been the association in the popular mind of radicalism with disorder and a repudiation of those values which are necessary to any civilized existence. The ascendancy of the Pepsi Generation’s latest heroes, the Weathermen and the hippies, represents the ascendancy of what the conservative historian Stephen Tonsor has marvelously called “liberal nihilism,” and it has wrecked those hopes for a new departure on the Left which were so high in the early 1960s.

The hippie Left and the Weathermen are certainly not aberrations; they are logical developments of the anarchism of the early New Left. It was a short step from the absurdity of “participatory democracy” to the rediscovery of Josef Stalin. The common thread has been the extreme egotism of the pretension that self-expression is life’s highest value. Professor Tonsor is right: The ideology of the New Left is liberal nihilist—which to me means that it is the ideology of the marketplace in violent caricature. Even its proclaimed collectivism, as manifested in the passion for communal living, is generally no more than a projection of the infantile notion that if everyone were left to do as he pleased, he would naturally love and help everyone else. These young people announce themselves as Maoists, Castroites, Leninists, even Stalinists, but who besides themselves does not know that any serious left-wing political movement, and certainly any of those particular movements, would make short work of them if only because they are liberals turned inside-out and therefore unassimilable to any socialist party.

The insanity on and off the campus is symptomatic of the crisis of liberalism and brings us to the prospects for a party of the Left based on democratic principles, a realistic assessment of American life, and a decent respect for Western civilization’s historical commitment to individual freedom. Curiously, the early New Left came closer to realizing this ambition than the Old. For all its anarchism, or rather as a positive function of it, it did project a critical spirit, an assertion of humane values, a hatred for regimentation, and, on a more direct political level, a strong suspicion of centralization in general and Big Daddy government in particular. These early strivings have been largely reversed for a variety of reasons, among which have been the naivete with which they were originally formulated and the inability of the New Generation to bear setbacks, defeats, and other irritants to the compulsion for instant gratification. Nevertheless, those early strivings, which intersect at some points—both genuinely and spuriously—with those of many conservatives represented the Left’s best hope for the 1960s. Their defeat and rejection have recreated the miseries and impotence of the Old Left in, as we Marxists like to say when we are trying to impress liberals with our sophistication and learning, “a new and higher synthesis.”

What remains of the early New Left’s ideology or, better, impulse is to be found in the rapidly leftward moving young liberals of the kind who flocked to McCarthy in 1968. Through the demagogy, rhetoric, and more reasonable hopes of the “new politics,” which may be politics but is certainly not new, there may yet emerge a new party led by the Lindseys, Hatfields, Kennedys, and McGovern. But if so, it would by itself clearly be a left-liberal New Deal party, brought up to date for the age of affluence; some of these liberals are genuinely concerned with the need for structural changes in the economy, but they cannot do much so long as they remain imprisoned within their present economic and social assumptions and commitment to capitalist property relations. Alternatively, the Democratic Party may be captured by this kind of coalition. In either case, the socialist Left, New or Old, would then have to choose between being absorbed by a rhetorically radical but basically status quo liberalism or retreating once again into isolation and sectarian politics.

Hence, the Left faces the same dilemma with which it entered the 1960s. The left-liberals are as yet neither socialists nor radicals in any meaningful sense (that is, they have no interest in a fundamental shift in property relations), and liberal solutions have already proven worthless except as bread-and-circus distractions. Ma-

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<th>Possible scenarios for the Left.</th>
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<td>The chances for a seizure of power by one or more sections of the Left are slightly inferior to the chances of a seizure of power by a coalition of the Campfire Girls and the Gay Liberation Front.</td>
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As yet, no left group has shown a willingness or an ability to operate independently within such a coalition, and it is not at all certain that the liberals would tolerate those who did. The odds, therefore, are that the Left will take one or the other of the older roads into absorption or sectarianism.

Since people on the Right and even in the Center believe that the Communist Party consists of Communists—something few of the Left are silly enough to believe—a word is in order. The Communist Party comprises those on the Left most committed to garden-variety liberal politics and the least interested in building an independent socialist Left. (I except the formal remains of the Socialist Party, which to all intents and purposes has disappeared.) The Communist Party continues to operate as an extension of Soviet policy, not in the sense that it is made of “agents” (few of its adherents are bright enough to be anyone’s effective agents, even if they were so inclined), but in the sense that they are historically and ideologically imprisoned by the idea that the USSR will in time outstrip the capitalist countries in economic and social performance and thereby draw the rest of the world into its orbit. Hence, the Communist Party opposes all “adventurism,” by which it means anything that might interfere with a détente. In recent years they have supported the Kennedy wing of the Democratic Party, but the logic of their position could easily produce increasing support for others, even Nixon, if negotiations for a rapprochement advance. Those who think such a turn im-

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Possible should reflect on the vigorous if covert support given by the French Communists to de Gaulle, especially during the May Events of 1968, and their thinly disguised shift to Pompidou during the subsequent election. Conservatives would do well to tell J. Edgar Hoover to stop bothering the CP, for its only function is to use its reputation as a revolutionary force and its considerable bank account to choke off genuinely radical movements on the Left.

The one possible way out of the dilemmas of popular frontism for the Left would be to enter a liberal-left coalition as a distinct caucus with a socialist program of its own, but this course appears, at the moment, to be closed off by the hostility of the disorganized and frustrated youth movement, which wants no part of electoral or long-range politics. We may, therefore, expect that the Left will remain for some years split between the Communists, Social Democrats, and other opportunists who will support a liberal coalition in the vain hope of influencing it to do good, progressive, peaceloving things (whatever these may be) and the “revolutionaries,” who will either decline further into sectarianism or turn to desperate, useless, and easily suppressed violence.

The crisis of the Left reflects that of the nation as a whole and of all political tendencies within it, for liberalism’s failure to solve our national problems proceeds simultaneously with the failure of both Left and Right to do any better—even on paper. Let us take the racial crisis. Notwithstanding the assurances of National Review and others, I do not believe that the economic position of Black America is, in fact, improving meaningfully, but let us bracket the question for the sake of argument. Few are likely to deny that the technological development of the economy, the historically and culturally conditioned technical backwardness of the black community, and the impossibility of effecting rapid social integration continue to guarantee that a very large portion (whether a big majority or a big minority is not decisive) of black Americans are being bypassed and rendered marginal.

The liberal solution to this problem has been a variant of the liberal solution to all social problems: provide a dole for the unemployed and unemployable; keep troublemakers quiet by putting them on the payroll as investigators, consultants, and niggerologists; and ease the more successful blacks into white cocktail parties as best one can. To provide jobs, however, is a more difficult task. There is always the Kennedy Plan of 1960: increase military spending. Unhappily, liberal opposition to the war in Vietnam and belated liberal recognition that military spending has manifold effects, not all of which are palatable even to liberals, now threaten to render even that part of the proposed solution difficult.

What neither the liberal approach, nor any conservative approach of which I am aware, has bargained for...
has been the upsurge of black nationalism as a genuine and deeply rooted social force. We cannot here discuss the question of black nationalism in general—the question of the extent to which black people in the United States constitute a nation-within-a-nation with its own culture, traditions, collective sensibilities, and community of interest. But it is impossible not to recognize their growing determination to have some measure of self-determination and to preserve and develop a separate ethnic personality. Under these conditions all "great society" swindles will fail, and so, I believe, will an alternate reliance on equal access to a free market that is manifestly not free in the first place and that is largely irrelevant to problems which transcend mere economics.

The Left has no party or coherent program of its own; it therefore cannot formulate demands to facilitate the integration of blacks into the national economy and simultaneously to plan for a decent and peaceable socio-political separation for those blacks who prefer it. So long as it continues to be bedeviled by the twin ghosts of regimented statism and anarchism it will remain as unable as the Right or Center to come to grips with the black experience, which is simultaneously a separate national experience and part of the general American experience. (And unlike the Right and Center it cannot even fall back on the "solution" of reacting to the demands of people it cannot understand by bringing in troops to shoot the bastards down.)

In this as in other matters, John Lindsay and Edward Kennedy evince only a limited interest in radical surgery. However far to the left these liberals may appear to conservatives, they are "radical" more in the potentialities inherent in their awareness of the need for a new turn than in their present political policies. Much more could be said about the inability of these or any other liberals to solve any of the great problems confronting us without a prior transformation in their own politics. But neither conservatives nor radicals have much to cheer about. President Nixon's right-wing liberalism is the counter-part of the Communist Party's left-wing liberalism—that is, each advances solutions within the established consensus of liberal social policy. Regimes and societies do not just disappear, and there is no reason to believe that God will intervene to create either a genuine Left or Right opposition and then put it in power. For all the current fear of fascism, what we are in danger of experiencing is merely a more repressive policy carried out by men of the Right within the context of liberal-consensus national policy. In my opinion, no profound turn to the Right or Left is yet on the horizon.

The continued predominance of the liberal Center, with its unquenchable thirst for centralization and statism and its contempt for autonomous institutions and communities, may, however, force quite different alignments in the decade ahead. Increasingly, for example, the financing of universities is being taken over by state and federal governments. As campus nihilism proceeds, so... does the demand for state intervention to restore order. The nihilist action and the panicky reaction it calls forth each contributes to carrying out the logic of the liberal prostitution of the campus—of the destruction of its autonomy, of its politicization, of its surrender to anyone strong enough to buy or intimidate it. The corruption of the universities, begun long ago, having advanced under cold war liberal auspices in the 1950s, is about to be perfected by liberalism's ostensible enemies. The idea that the university (and other institutions) must be preserved as autonomous bodies is dying precisely at the moment it is most needed. Regional and community decentralization being difficult to effect in a modern national economy, institutional decentralization and autonomy have become the main hope for the arresting of the power of the bureaucratic state. It is possible that those sections of the Left, Right, and Center that value humane learning and academic freedom and regard their preservation as inseparable from institutional autonomy and freedom from state intervention will coalesce to fight this battle. Something of the sort is already happening on a modest scale. We may yet see the emergence of a political opposition to the liberal state, but how "left" or "right" it will be remains to be seen.

What is certain is that, like the genuinely anti-liberal Right, the Left has, in its present manifestations, no future and only a shadowy and deceptive present. Its domestic-policy dilemmas have their counterpart in foreign policy. Since the Russian Revolution the Left has been plagued by an inability to come to terms with international affairs and to face the truth about the socialist countries. Things were bad enough in the Good Old Days, when the issue, however difficult to resolve, was plain to see. With only one socialist state in the world, leftwingers had a clear if unpleasant choice. They could, with the Communists, offer absolute support and therefore identify the cause of socialism with the Soviet regime; or, they could withhold support on the grounds that the USSR was not socialist at all. In the first case, the Left played into the hands of those who, like some Na-
it became increasingly difficult to deny the facts about Soviet life—and Khrushchev ended all pretenses in 1956 even for Communists—the Communist Left was simply made to look absurd. In the second case, anti-Soviet socialists were driven step-by-step into celebration of the American position in the cold war and were thereby transformed into ordinary liberals with a bad case of nostalgia for Debs and Kautsky. To make matters worse, the emergence of socialism in Eastern Europe, North Korea, North Vietnam, Cuba, and especially China has forced these hapless “socialists” to condemn every variety of socialism among the one-third of the world’s population which practices it while recommending socialism as a cure for what ails the other two-thirds. (Try selling that combination to a construction worker some time.)

The New Left has not solved the problem; it has merely tried to bypass it. In the early 1960s it condemned Soviet totalitarianism and American imperialism and called for an undefined reformation. Since it was not wedded to socialism its position looked plausible, although a number of us on the Left even then said publicly that a debacle was in the making. With the shift—as inevitable as anything can be in politics—to a socialist position, the New Left has had to confront all the old problems; its solutions have been mere variations on the old themes. With China, the USSR, and other socialist countries denouncing each other for restoring capitalism, the Left’s discomfit has passed into agony.

This agony is of its own making. It is possible to reconcile limited support for undemocratic states in backward countries without liberal-democratic traditions with a firm commitment to freedom in the advanced countries of the West: In fact, if the Left were not so stupidly insensitive to the elementary truths that conservatives have been preaching about the staying power of culture, tradition, and habit—if the Left was not wedded to fantasies about remaking the human race by an act of political will—it would have confronted this unpleasant problem a long time ago. Here again, what is clear in the Old Left and the New is the extent to which they are imprisoned by liberal notions of man and society and are unable to realize the historical insight that Marxism ought to have offered them. Moreover, it is possible to admit that socialism’s centralizing tendencies are dangerous and require institutional checks, which are possible to provide in countries with traditions like our own. It is not an accident that outstanding left-wing intellectuals—William Appleman Williams being the most prominent—have called for a positive reassessment of much of the American conservative tradition and for the incorporation of many of its values and ideas into an American socialist ideology. But this theoretical development is beyond the scope of this article, which I fear is already taxing the patience of the editors, who made it clear that I was not to use these pages to present a left-wing manifesto. In any case, the critical viewpoint to which I allude has not yet become part of the thinking of any organized section of the Left.

In the decade ahead this view is likely to absorb the attention of the growing number of left-wing intellectuals who are already rallying to oppose the nihilists on and off the campus and who are determined not to fall back to the useless positions of Communism and Social Democracy. But since the socialist intelligentsia remains split and deeply discouraged and since it has never been able to force itself into a position of political influence with any organized section of the Left, its only hope is to build a movement of its own on the campuses, which have become much more important in political affairs than any one could have believed ten years ago. As the radical students retreat from nihilism—as many are already doing—and as the campus grows in political importance to our national life, this potentiality may come to fruition.

But the odds are clearly long, and therefore the prospects for the Left are poor. To complicate matters, the outlook I have outlined leads many campus socialists into increasingly bitter opposition to the campus confrontationists, who in turn charge cowardice and betrayal. The Left is on the verge of a total split—one that transcends without healing the current fractionalism. Those who want a new departure can no longer deny to themselves or others that the “revolutionaries” are destroying what few chances remain, whereas the “revolutionaries,” feeling themselves betrayed by those who dislike suicide, are continuing to escalate pointless and self-defeating violence. For the next few years we must expect more of the same, after which the certain defeat of the carriers of apocalyptic fantasies may clear the way for the long, slow work of finding new ground on which to stand, unless of course it buries the whole Left in a savage wave of repression.

Before conservatives rejoice at these prospects, they would do well to consider the irony they disguise: The New Left, especially in its recent aspect, has been the nihilist cutting-edge for the liberal assault on what remains of autonomous and independent civil society in America. And so, so far, has been the mindless right-wing call for using the state power to restore order on the campuses. (The right-wing call for troops and professional purges on the campuses is merely the other side of the same cutting-edge.) The liberal Center is much more opportunist than philosophically liberal; with a few exceptions campus liberals have no principles of any kind. But it is nonetheless on its way to another triumph—this one delivered into its hands by the common ineptness and unprincipledness of both its left and right opposition. We are, I do believe, at the beginning of another decade of living proof that even the most decadent, compromised, and incompetent of regimes will last indefinitely so long as its opponents are bigger fools than itself.
New Dean for Education

James I. Doi, professor of higher education at the University of Michigan and director of Michigan's Center for the Study of Higher Education, will become dean of UR's College of Education July 1.

Doi, professor of higher education at the University of Michigan and director of Michigan's Center for the Study of Higher Education, will become dean of UR's College of Education July 1.

A member of the Michigan faculty since 1964, Doi was appointed director of the UM Center last year.

He was director of institutional research and professor of higher education at New York University from 1963 to 1964 and taught at the University of Colorado from 1957 to 1963. While at Colorado, he was director of institutional research and, later, associate provost, and held academic appointments in education and sociology. He was director of studies for the Colorado Association of State-Supported Institutions of Higher Education for three years and held posts on the New Mexico Board of Educational Finance for five years.

Currently he is a special research consultant to the U.S. Office of Education and to the National Endowment for the Humanities.

He attended Muskingum College and holds M.A. and Ph.D. degrees from the University of Chicago, where he was elected to Phi Beta Kappa.

Students Win NSF Environmental Grant

Five River Campus juniors have received a National Science Foundation grant of $8,140 to study an aspect of the water pollution problem. The grant was awarded in the first competitive program sponsored by the Foundation to encourage student-initiated proposals for studies of environmental problems.

The UR students' project is one of 104 funded out of 561 proposals and is one of only seven grants awarded in New York State. (Proposals submitted by two other UR students were awarded honorable mention.)

The Rochester team is headed by Gregory K. Hearn, an optics major in the College of Engineering and Applied Science's Institute of Optics. According to Hearn, the UR group is seeking to develop "a more efficient and reliable method of determining the particulate nature of matter in water." The students hope to do this by working out a method of analysis that uses a laser beam to illuminate the water sample. The changes that occur in the beam after it passes through the sample and is scattered by any tiny foreign particles in the water can be translated into information about the size and concentration of the impurities.

Hearn says the technique would be valuable in analyzing river sedimentation rates and in determining the concentration and size of oil droplets suspended in water after oil spills. Sample sources eventually will include the Hudson River, the Genesee River, Lake Ontario, and Irondequoit Bay.

The idea for the project occurred to Hearn last fall when he had to do a term paper for an optics course taught by Assistant Professor Edward Brody. Hearn had been looking for an area in which he could link his long-standing interest in oceanography with his studies in optics. (The UR junior, who spent his freshman year at the Marine Sciences School of the University of Miami, plans to study oceanography in graduate school.)

Brody, who will serve as faculty advisor for the project, has made available his laboratory in UR's new Space Science Center. Equipment, including the lasers, will be lent by the Institute of Optics and the Materials Science Program.

Economics for Lawyers

Twenty prominent professors from some of the country's leading law schools will be taught market economics by eight top-ranking economists at a month-long Summer Economics Institute—the first of its kind in the nation—on the River Campus.

The Institute will be directed by Henry G. Manne, Kenan Professor of Law in the Department of Political Science.

According to Manne, the program is "designed to give law professors greater familiarity with the analytical techniques of economics. Although law professors educate the principal policy makers in our society, few law schools give adequate training in economic analysis of our legal policies." Manne hopes the Institute will encourage the study of economics as an integral part of legal education.

In addition to studying general theory, participants will explore specific areas such as the economics of higher education, insurance and medical care, property rights, ecology and products liability, labor relations, discrimination, and minority rights. New theories of politics which are applications of economic theory and the relationships between market theory and government fiscal and monetary policy will also be discussed.

The Institute is supported by the Earhart Foundation, the Koch Foundation, the Veritas Fund, and General Motors, Inc.

Our Men in Washington

Two very special groups of UR students members of the Graduate School of Management's Executive Development Program and Systems Analysis Program—met with some very special instructors top-ranking government officials—for two days in Washington, D.C. last semester.

Lecturers for the Washington seminars included Harold C. Pauser, Assistant Secretary for Economic Affairs, Commerce Department; Andrew F. Brimmer, member of the Board of Governors of the Federal Reserve System; Robert J. Pranger, Deputy Assistant Secretary of Defense/International Security Affairs; Charles E. Walker, Un-
nder Secretary of the Treasury, Treasury Department; William Silber, senior staff economist, Council of Economic Advisors; Geoffrey Moore, Commissioner of Labor Statistics, Department of Labor; Frank J. Nulist, Assistant Postmaster General, Bureau of Operations, Post Office Department; David Taylor, special assistant, Office of Management and Budget; and K. Wayne Smith, Director of Program Analysis, National Security Council.

The students, many of them in their thirties and forties, are working toward master’s degrees in their respective UR programs.

The Executive Development group is made up of middle-management men from western New York companies. Theirs is almost unique among so-called “B-school” programs that allow mature executives to continue full time at their jobs, while living at home and completing all requirements for an M.B.A. degree. The Rochester students go to school every Friday for two years, carry a full study load, and attend special lectures such as those in the twoday Washington trip. The objective is to give promising executives education in management science.

The Systems Analysis Program is designed for all types of public and non-profit management personnel. The one-year sequence leads to an M.S. degree; many of the current participants hold other advanced degrees.

**Honors**

*G*uggenheim Fellowships for “scholarly and scientific research” have been awarded to Thomas Ferbel, associate professor of physics, and Eleonore Zimmermann, associate professor of French and comparative literature.

Ferbel will investigate the nature of nuclear particles at the National Accelerator Laboratory soon to be completed in Batavia, Ill. In 1970 he was one of four UR faculty members awarded Sloan Foundation Fellowships, given annually to promising young scientists.

Professor Zimmermann plans to research the themes of fate and freedom in the works of the 17th century French dramatist Racine. She will conduct much of her study in France.

- Alvin Rabushka, assistant professor of political science, has been awarded a one-year fellowship to study at the Hoover Institution on War, Revolution, and Peace at Stanford University.
- Robert G. Loewy, dean of the College of Engineering and Applied Science, has been elected a member of the National Academy of Engineering.
- Dean Loewy, an authority on helicopters and other vertical-takeoff craft, was honored for “his contributions to the engineering of rotary-wing, vertical take-off, and landing aircraft.”
- Dr. Lawrence E. Young, Dewey Professor and chairman of the Department of Medicine since 1957, has been elected a Master of the American College of Physicians. Only 82 of the 17,000 members of the College hold masterships.
- Kenneth E. Clark, dean of the College of Arts and Science, has been appointed to the Human Resources Board newly established by the National Research Council to survey national education and manpower problems. The 10-member board, representing the social and natural sciences, will undertake a wide range of studies, including an evaluation of social and economic returns on higher education and an analysis of education and manpower data-collection systems.
- Clark also has been named chairman of the recently established Communication Committee that monitors and sets policy for the National Information System for Psychology being developed by the American Psychological Association.
- Two UR doctoral students in history are among the first scholars in the nation to be awarded Ford Foundation dissertation fellowships for research in the field of ethnic studies. John T. O’Brien, Jr. has received a fellowship to support his study of “Ethnic, Class and Race Relations in Four Southern Cities During Reconstruction,” and John Straw will study “The Transition from Slavery: The Experience of Black People Behind Union Lines in Mississippi During the Civil War.”
- Prof. Harry E. Gove, director of the Nuclear Structure Research Laboratory, has been awarded a North Atlan-
tic Treaty Organization Senior Fellowship in Science.

Professor Gove will study at Orsay and Strasbourg, France, and Frankfurt and Heidelberg, Germany.

Janice Weber, a junior at the Eastman School of Music and pupil of Walter Hindl, recently won the top award in the instrumental division of the Aria-Concerto Competition finals. She received a cash award and an invitation to appear with the New Jersey Symphony Orchestra next year.

Seniors James V. Capua (history) and Bruce R. Orvis and Michael W. Passer (both psychology) have won Danforth Graduate Fellowships for study toward the Ph.D. degree.

S. D. Shirley Spragg, dean of graduate studies, has been elected vice-chairman of the Graduate Record Examination Board.

Helen H. Nowlis, research consultant for student affairs, served as co-chairman of the Drugs Task Force for the White House Conference on Youth.

Three UR seniors—Carol W. Alisson, Kathleen F. Carrese, and Kevin Logan—have won Herbert H. Lehman Graduate Fellowships in Social Sciences and Public and International Affairs. Lehman Fellowships are the most highly prized awards in the State's annual program of scholarships and fellowships.

In Quest of Quarks

"The snark's a peculiar creature, that won't be caught in a commonplace way," wrote Lewis Carroll. According to a group of UR physicists, Carroll's appraisal of the mythical snark applies as well to the mysterious quark, first proposed as the most fundamental particle of matter about seven years ago.

Direct experimental evidence of the quark's existence is still missing. However, a UR graduate student in physics, Sheldon Stone, recently presented a paper to the American Physical Society detailing research that gives at least indirect evidence for the quark's existence. As Stone's adviser, Associate Professor Thomas Ferbel puts it, "You wouldn't want to bet your life on it," but the evidence can be interpreted as pro-quark.

UR's research on quarks is being conducted by an eight-man team, with support from the Atomic Energy Commission. Currently the group is studying two types of sub-nuclear particles, mesons and baryons. (Baryons form the core of nuclear matter; mesons make up a kind of nuclear "glue." If quarks exist and are, in fact, the most fundamental particles, Professor Ferbel explains, a meson would consist of a quark (q) and an anti-quark (q̅), and a baryon would be composed of three quarks (q,q,q).

Following some clues from a recent University of Wisconsin experiment and from two continuing UR experiments (which have previously revealed the existence of three new particles), the Rochester team performed a series of experiments using the Brookhaven National Laboratory's 30 billion electron volt Alternating Gradient Synchrotron. The phenomena studied—collisions between a pi meson and a proton (at the highest energy to date) —were observed in the 80-inch Brookhaven bubble chamber as spidery tangles of occasionally converging trails which the scientists recorded on film.

The analysis of each frame of the miles of film took a group of UR scanners about 50,000 hours; interpretation of the scanners' findings by the physicists took an additional 50,000 hours.

The UR group's results confirm those of Wisconsin; however, the Rochester scientists consider that evidence for quarks still is not definitive.

Ferbel points out that although the UR physicists are studying what now appears as the complicated behavior of an "alphabet soup" of sub-nuclear particles, experiments at higher energies may reveal a much simpler reality. The scientists will have to wait until the National Accelerator Laboratory's 500 billion electron volt machine at Batavia, Ill. is completed (possibly this summer) to obtain the energies they need. Meanwhile, they aren't wasting time: Two UR experiments have already been approved by the laboratory, and other projects are being planned for the big machine.

Notes from the Admissions Office

Yes, Virginia, UR applicants do have a sense of humor, claims Caro F. Spencer, '27, veteran River Campus admissions officer. Mrs. Spencer, who retired this spring as associate director of admissions, reports that when college applicants "take a look at the home pad, their reactions are quite diverting." Some excerpts gleaned from this year's applications:

"My family is set up similar to the U.S. government. My father enforces the law (legislative branch). My sisters and I enforce these laws on each other (executive branch). My mother, with the help of my father, tries all transgressors (judicial branch)."

"My father has taken up wood sculpting at the advanced age of forty-two."

"Parents are a queer lot: worriers, breakfast fanatics, cold-watchers, weight-watchers, psychologists, psychiatrists."

"I am very sensitive. I realized this when, after I had broken up with a girl I was very close to, it took me a week or two to get over it."

"Ever since I was a child I worked well with numbers. As a baby, I would calculate the family dinner check when dining out."

"Who am I? I am a long-legged 17-year-old female trying to find my own place in the universe."

"I'm a klutz at sports."

"I have four younger sisters. If you do not have four younger sisters you will not appreciate this paragraph. . . . I am going away to school."

One candidate, reports Mrs. Spencer, apparently had filled out one too many applications. "One reason I would like to go to Syracuse University," he wrote, "is that it is near to home. . . . I believe I could easily integrate myself into a large diverse community as Syracuse's — Syracuse's largeness, I feel, could develop even further my sense of responsibility." Comments Mrs. Spencer, "We wonder what he told the Syracuse admissions committee about Rochester!"
THE RASER, a new device of considerable importance and far more power than either the maser or the laser, has recently been developed by the German-Italian participle physicist, Heinz del Monte. This marks the first use of the newly discovered quantum participle, the figneutron.

The figneutron, first predicted by the same theory that predicted mesons, dixons, and lions, is one of the fifty-seven varieties of participles resultant from the excitation of what is now known as a phonoelectron. When a phonoelectron is struck by a photon of a certain energy $E$, where $E$ is equal to $1, 2, 3 \ldots n \ldots$, it becomes excited.

For different frequencies of light, the energy required varies. This is shown in the accompanying phonograph.

![Phonograph](image)

Frequency is measured in Angxious (A^*)

Once struck by the phonophoton, the phonoelectron moves from the metastable to the metaphysical level. The change is measured by delta $R$, where $R$ is the ridiculousness of the entire proposition. It does not, however, remain there for long, but slips into something more comfortable, into a stable state. (Frequently Kentucky) This is accompanied by the omission of the participle, the figneutron. In this reaction, the frequency of the figneutron is measured by the formula $f = ig$, where $i$ is some imaginary number and $g$ does not exist at all. This is known as a figneutron of the imagination.

The raser is based upon the abovementioned principles. It consists of an antique crystal set, a revolving centrifugal platter and a cupro-ferric wire, commonly known as an extension cord.

When the cupro-ferric wire is connected to some source of power (best is Tabasco) the platter begins to revolve and the crystal set begins to resonate. This causes excitation and the release of figneutrons. If a speaker is attached to the system, sound may be broadcast. This, in turn, may cause more excitement, and perhaps even amazement, due to the total impossibility of this system's ever working.

It is unlikely that for his work in the field of figneutrons, del Monte will ever win a Nobel prize, or anything else for that matter.
GIANT BIRDS and carved wooden saints, even Father Time himself, made their appearance this spring at UR's Memorial Art Gallery. A pictorial report on "Signs and Symbols: American Folk Sculpture" starts on Page 19.