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WHAT MAY HAPPEN TO SCIENCE

IN his article in *Science,* Sept. 5, 1986, Gerard Piel, of the *Scientific American,* and retiring president of the American Association for the Advancement of Science, draws attention to the role of science in American life, showing that its importance was clearly recognized by the Founding Fathers. Jefferson, in particular, writing to a young friend, declared that the freedom of the mind and of the press were essential to the immeasurable promise of science, saying that "as long as we may think as we will, and speak as we think, the condition of man will proceed in improvement." Commenting, Piel says:

> From its beginnings in the West, science was the work of heretics like Galileo and then of revolutionaries like Thomas Jefferson. By contrast, the Mandarin kowtowed to the despot; the Brahmin was at the service of the Moghul and the European conqueror in turn. Here must be the answer to the arrest of technology in earlier civilizations. Conducted by heretics and revolutionaries, the advance of science and technology in the West has changed not only the relation of man to nature but of man to man. In its brief history, our country has been transformed from a rustic republic to an industrial world power. That transformation has been attended by radical redistribution, more than once of economic and political power in the social order. The work of the scholar and scientist is bound to challenge and make obsolete first this and then that special interest in established ways of making and doing things. The freedom to conduct the supreme public business of the advancement of human understanding must be protected, therefore, by defenses as absolute as social institutions can provide.

Two questions must be entered here before going on to consider the undoubted value of Gerard Piel's intentions and article. First, he seems to regard the transition of the United States from a rustic republic to an industrial world power as an unqualified good. Quite conceivably, life in a rustic republic is better for human beings than life in an industrial world power. A rustic republic, you could say, is what the bioregionalists would like to go back to, pursuing life according to the laws of ecology and putting behind them the trouble-making acquisitive goals of an industrial world power. Piel might make a reasonable reply by saying that he is arguing for a better use of the freedom we have achieved, which is, broadly speaking, acceptable. The other question to be raised is whether or not the defenses against the abuses of power can really be achieved by "social institutions." If the social institutions come into being as foci of the maturity and wisdom gained by the people at large, well and good, but if they are no more than watchdogs set to control behavior of enterprises largely based on exploitive tendencies, they will likely prove elaborate failures, as in the case, say, of the Food and Drug Administration.

Piel, however, holds up the university as the best protector of intellectual freedom. Today scientists work almost exclusively in universities, and they are free so long as they are protected in their freedom by the institutions which employ them. But, he says, they are rapidly losing this protection. How they may regain it is the point of his article.

He begins by distinguishing between European and American universities. In the Old World the universities "trace their beginning to self-governing scholars' guilds, secured later by princely endowment." The American university is a corporation created by the community to employ scholars to teach and to advance their learning. For spokesman concerning the ideal American University, Piel chooses Henry Augustus Rowland, of Johns Hopkins, founded in 1876, Rowland was a physicist who at the annual AAAS meeting in 1883 made "A Plea for Pure Science." He deplored the claim of some 400 institutions to be recognized as universities when some of them

had very few teachers and only a handful of students. "They must," he said, "be a cloud of mosquitoes, instead of the eagles they profess." He found only seventeen institutions with more than twenty faculty members, and only eight institutions with endowments exceeding a million dollars.

Rowland was himself a physicist of distinction. He conceived of the university as an institution which would, as Piel puts it,

> foster the "scientific study of nature in all its branches, of mathematics, of mankind in its past and present, of the pursuit of art . . . the highest occupation of mankind." In Rowland's own case, it was to set him free to do "what must be done to create a science of physics in this country rather than to call telegraphs, electric lights, and such conveniences by the name of science."
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> "To have the applications of science," he said, "the science itself must exist. Should we stop its progress and attend to its applications, we should soon degenerate into a people like the Chinese, who have made no progress for generations because they have . . . never sought for reasons in what they have done."
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> As an experimental physicist, Rowland had a practical grasp of the funding required to provide the scientific man with a library, a laboratory, instruments, the expenses of each experiment, and "a respectable salary to live upon, before he is able to exert himself to full capacity." Rowland called upon private wealth to finance the university. "Government appropriations are out of the question," he said, "because no political trickery must be allowed around the ideal institution."

There followed what might be called the golden age of the practice of science in the universities. "The disposable wealth of the nation responded generously to the claims laid upon it by Rowland and his colleagues and their successors. By the time of the great Depression, it had financed the creation of a dozen universities worthy of the name." Meanwhile the professors won life tenure, which amounted to "a guarantee of freedom to think and to speak in the public interest." They could not be fired.

For a time the universities financed the scientific undertakings of their professors, but as the experiments became more elaborate, instrumentation grew more expensive. In time the rich private foundations, Piel says, "became the mainstay of university science." And after the extraordinary contributions of this science to the war effort (World War II), it was evident that "The arsenal of democracy was its universities." The prestige of science naturally grew, a Harvard professor remarking that "It became apparent that what scientists discovered by unrestricted research might be of greater importance than the things the military officers thought they wanted." And Piel says:

> The prevailing faith in the utility of science had been compellingly sustained. The country was eager for more science and ready to pay for it. Correspondingly, university scientists looked to the continuation of their wartime partnership with the federal government. No source of funding other than the national treasury could finance the radical innovations in the technology of instrumentation now available to facilitate new advances in the scientific enterprise from which they came.

During the war, Vannevar Bush had been appointed by Roosevelt as the mobilizer of university science and the President asked him "to tell the federal government how to manage the support of science in peacetime." In reply Bush and his colleagues wrote a book, *Science, the Endless Frontier,* in which they proposed (in Piel's words):

> Pure science merited generous public support without strings and for its own sake because it would repay such support many times over in the utility of its discoveries. As wary of "political trickery" as H. A. Rowland, they proposed that the public funds be administered through a National Science Foundation established outside the government under the control of a part-time board of trustees. Their proposal found its way through Congress but was vetoed by President Truman. He declared that their design of the foundation was "divorced from control by the people to an extent that implied a distinct lack of faith in democratic processes."

But meanwhile various government agencies had been improvising ways in which to give money to the science departments of universities. The funds were kept flowinp along the lines developed by the Office of Naval Research which made project grants. Piel summarizes:

> On this precedent, the military and paramilitary agencies, including the then Atomic Energy Commission and what was later to become the space agency, took over the financing of the physical sciences in the nation's universities. The life sciences soon found a corresponding federal patron in the U.S. Public Health Service and later in the National Institutes of Health, on which congress pressed increased appropriations every year. . . . Lloyd Berkner expressed the general satisfaction of the scientific community in its arrangements with the government when he said: "Instead of one National Science Foundation, we have six or seven."

While these arrangements seemed to work well for a while, the consequence of "mission-oriented" grants finally became evident. Here Piel is reaching his fundamental points.

> The mission-oriented grant is for the project; the university's commitment is to the scientist. The grant is for the short term; the university is charged with the long-term interests, the next generation's at least, of society. Ever present is the question whether the work being done for the granting agency would be done by the grantee under the umversity's sponsorship, anyway.
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> However liberally a particular granting agency construes its mission and administers its grants, the missions of the agencies taken together leave large voids in what would be the 360° horizon of autonomously motivated scientists. Funding by the health agency has notably neglected plant life, and molecular biologists are late in addressing the plant cell in a world that must feed a population of 6 billion at the end of this century. John R. Pierce and Patrick Haggerty years ago attributed the well-known decline of U.S. industry in international trade to the preoccupation of physical scientists with the questions relevant to the exotic technologies of interest to the military. . . . The universities have grown in wealth and size, albeit "out of all faculty control" as Clark Kerr observed. The granting agencies now count 100 "research universities"; they receive 85% of the federal funds.
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> There is not a line in the federal budget, however, for science and higher education. The funding has come from appropriations for other purposes and has waxed and waned as the priorities of the federal government have changed. The recent upturn in federal funding and declarations of concern from the present Administration have now lost their promise. The increased funding stems from the renewal of the arms race and anxiety about the country's standing in the world economy; so it goes largely to applied science.

The universities are now, it seems clear, virtual dependencies of the federal government, overtaken by the fate that Henry Augustus Rowland anticipated a century ago, and warned against. The concluding portion of Gerald Piel's paper in *Science* is devoted to what a less considerate writer would doubtless call the corruption of both the university and science. He calls it simply a change of status, saying:

> The universities are regarded as contract research centers at the command of the federal government.
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> The Strategic Defense, or Star Wars Initiative (SDI) starkly illuminates this change in the status of our universities and the scientific community. The clear consensus of the community rejects as physically infeasible this proposal to create an "impenetrable shield" against intercontinental ballistic missiles. Against the consensus of the scientists who are called upon to create it, the Administration nonetheless presses SDI. . . .
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> The first appropriation by Congress for SDI authorizes $100 million to buy the services of university science; if the program goes forward there will be enough funds to hire half of all the country's physicists. Unfortunately, in the dearth of funding otherwise, some physicists are willing to warp their research proposals to fit the program. The Pentagon has thus warped already outstanding research contracts with university physicists in order to count them in the program and thereby to imply their endorsement of its feasibility. For the same public relations end it has bought the cooperation of government scientific agencies in England, West Germany, and Israel.
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> The proposition that the SDI enterprise may secure a defense against a missile attack is not a mere fantasy, it is a hoax. Its centerpiece is the x-ray laser

> powered by an atomic explosion. This and other "third-generation" nuclear weapons, we are told, require the indefinite prolongation of underground nuclear weapons testing; "hundreds, perhaps a thousand, more tests," it has been said. Star Wars supplies a disarming argument to make the arms race permanent—a new endless frontier for science. It tells us once again that . . . the Administration persists in seeking the unattainable goal of military superiority.
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> Whether the President is a perpetrator or a victim of the Star Wars hoax we may never live to know. Military superiority in the age of thermonuclear weapons is unattainable: In principle one infinity of destructive power cannot exceed another such infinity. It is unattainable in fact because, short of its attainment, the destabilizing of the economy and the social fabric of one or the other party to the arms race will ignite World War III.

While Mr. Piel proposes what he thinks may be a way of restoring to universities the integrity they enjoyed in Rowland's time—institutional grants made by an independent agency such as the Office of Technology Assessment—this seems very much like locking the stable door after the horse has been stolen. He would also like to see "the legislative branch of the federal government, rather than the executive, the source of institutional funding." But this overlooks the common acquisitive drives throughout the private sector. It would probably be far better to redesign the universities along the lines of the thinking of Paul Goodman and E.F. Schumacher, and also to give the "advancement of science" in conventional terms a considerable rest while we seek ways to restore the conditions of a "rustic republic" in which the institutions are reduced in function and are developed from a deliberate effort to conform to the findings of the ecologists and the decentralists. We might do this according to the recommendations of those who know how to practice the piecemeal engineering of Karl Popper, with a moral pragmatism as their guide.

As for the applications and uses of science in the private sector, one might consult the most recent issue of *Development Dialogue*, published by the Dag Hammarskjold Foundation (Ovre Slottsgatan 2, S-752 20 Uppsala, Sweden), which is devoted to the practices of the pharmaceutical industry throughout the world. We are thinking in particular of an excellent review by Nils Christie of the recent book by John Braithwaite, *Corporate Crime in the Pharmaceutical Industry* (Routledge and Kegan Paul). Christie begins:

> Many would see the pharmaceutical industry as one of the main pillars of people's health and well-being. Modern medical services were inconceivable without such an industry. Our trust in doctors extends into a trust in the medicine-makers.
>
> Few will be able to feel that trust to the same extent after reading John Braithwaite's book. The topic is crime in the pharmaceutical industry. And crime it is, to an extent that shakes even one relatively accustomed to it. . . .
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> Seven types of criminal behavior are predominant within the industry. The table of contents reveals them: bribery; negligence and fraud in safety testing of drugs; the corporation as pusher; dumping of medicine in the Third World; and fiddling with state money.

One revelation of offenses came into the public domain in a curious way. Christie explains how bribery has been established:

> Braithwaite has gone through the files of the U.S. Securities and Exchange Commission (SEC). Due to lack of control capacity, the commission has allowed major American firms to submit reports on the type and volume of bribery in which they have taken part, but on the understanding that they would not be prosecuted if they registered it all with honesty. It is the sort of arrangement where a firm says: "I did not do it, but I won't do it again."

Thirty firms are listed from the SEC records, with the amounts of the questionable payments. First on the list is Merck & Co., with "questionable payments" amounting to over three million dollars. Second is American Home Products with a similar amount of payments. Others on the list are Pfizer, Upjohn, Squibb, and Bristol-Meyers.

Next comes fraud in safety testing, of which Christie says:

> This is perhaps the most shocking practice, viewed with the perspective of the ordinary citizen in the western world. There is an endless variety of criminal acts, particularly related to fraudulent scientific behavior. A classic case goes as follows: A laboratory was testing out a supposedly safe anticholesterol drug, but one monkey did not act according to the hypothesis. It stopped jumping, could not see properly, showed weight loss, etc., etc. A girl worker, who had grown fond of the animal was told not to report the findings, and the monkey was replaced in the experiment by one that had not received the drug. . . . The cover-up on animal testing was followed by a cover-up on human testing. Doctors took part in biased reporting, or lent their names to "scientific" articles advocating the anticholesterol drug.

In a summary of a Dag Hammarskjold Foundation conference on pharmaceuticals, it was said that the industry conveyed the impression that health problems could be solved only by technological means. The conferees decided that "A pill-popping culture may be in the short-term interest of the pharmaceutical industry," but by no means contributes to self-reliant health development. People have a right to "understand and select the treatments they are undergoing and not as mindless pill receptacles."

Our society, obviously, will be neither peaceful nor healthy until enough people decide to make themselves responsible for the good of all. How to help them begin to move in this direction is the fundamental question.

REVIEW
ON MAKING PEACE...AND GANDHI

CITIZEN SUMMITRY, a book put together by Don Carlson and Craig Comstock, and published in paperback by Jeremy Tarcher, Inc., at $11 .95, is said to be "not about weapons but about people; not about fear but about hope and the use of personal freedoms on behalf of global security." It is full of wise words and practical counsels, from some of the best minds of all times, all woven together with an admirable ardor. Yet it must be admitted that the context of this volume is the omnipresent fear that the world will be destroyed by nuclear war. Fear, in short, is the motivation of the book. While it is true that some kinds of fear can be ended by well chosen explanatory words, there are other anxieties and moral disturbance which are not reduced by reasoned argument, but even, it may be, increased. Is the present fear of war throughout the world susceptible to the persuasions of words? One needs to think long and deeply about this question. It may not be a matter of persuasion at all, so long as fear is the animating principle, either directly or indirectly.

Peace, we are endeavoring to suggest, is not a matter of getting enough people to choose it as the result of effective persuasions: peace is one of the ways—and perhaps not the best—we use to describe a condition of living which grows out of human character. War and peace, as we talk about them, are not topics of conversation among genuinely peaceful people, just as wisdom is not advocated in discussions among the wise.

Henry David Thoreau, certainly a peaceful man if there ever was one, talked about the things which engrossed his life, and about what he enjoyed doing because it was worth doing. The wars and injustices of his time demanded and obtained comment from him, also some action, but mainly because they were obstacles and interruptions to his life. So we have made Thoreau a model of how one might best relate to the matter of war and peace.

Something of Thoreau's point of view occasionally appears in *Citizen Snmmitry,* as for example in a section titled "Transforming Our Consciousness," at the beginning of which (an introduction) Craig Comstock says:

> Even if we became less irrational in the ways we threaten one another, would this be peace?
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> Avoiding the worst forms of "crisis instability" is certainly crucial, but making peace springs from a consciousness different from the one evidenced in arms control. Ultimately it springs from a personal experience of compassion for the Self and for the Other.
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> Developing and exercising this compassion is the great adventure of our time. As compassion moves outward to learn how to live with (and to adopt parts of) what is strange and foreign to us, so it moves inward to come to terms with the "shadow" parts of ourselves. As a result of this outer and inner work, we are more and more capable of recognizing the higher self that all people have potentially in common, of transforming ourselves in the image of this higher self, and thus of going beyond the boundaries that ordinarily divide people from one another.
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> As a program of development, this may sound, to some, like hopeless romanticism or even total nonsense. To those who are drawn to the spiritual traditions of human kind however, it may instead remind them of what Aldous Huxley called the "perennial philosophy."
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> Somebody may be able to propose a path to outer peace that does not involve a development of the inner spirit. I have been unable to find one. Whenever I have tried to "fight war," I have eventually felt that I was becoming part of the problem. Whenever I have imagined profound rearrangements within the tradition of "realism," I have been left wondering what could possibly motivate the adoption of them. It seems to me, as to a growing number of others that a change in consciousness must precede any conclusive ordering of relations in the outer world.

In the same section of the book, a contribution by Michael Nagler, a teacher in the University of California in Berkeley, asks:

> Without the vision of a remote condition like peace how can we know which steps lead us there?
>
> I accept Gandhi's definition, and one of St. Augustine in *The City of God—"Peace* is the ordered tranquility of all parts of a system." But I have also been experimenting with another: that state in which all parties spontaneously desire one another's welfare. Any truly positive definition tells us immediately not only that the "Peacemaker missile" cannot bring positive peace—if it is not indeed, some kind of grotesque joke—but that the deterrent concept itself cannot be equated with building peace.

Throughout this book, the pages (with wide margins) bear selected quotations from a variety of authors, from the time of Plato up to the present. Some are long, some short, but very nearly all are good. We conclude our discussion of this book by reprinting a passage from Hannah Arendt, one of the most distinguished thinkers of our own time. What she says may not be encouraging, but it has the rare value of provoking thought. She says:

> The trouble concerns the fact that the "truths" of the modern scientific world view, though they can be demonstrated in mathematical formulas and proved technologically will no longer lend themselves to normal expression in speech and thought. . . . We do not know whether this situation is final. But it could be that we, who are earthbound creatures and have begun to act as though we were dwellers of the universe, will forever be unable to understand, that is to think and speak about, the things which nevertheless we are able to do. In this case, it would be as though our brain, which constitutes the physical, material condition of our thoughts, were unable to follow what we do, so that from now on we would indeed need artificial machines to do our thinking and speaking. If it should turn out to be true that knowledge (in the modern sense of know-how) and thought have parted company for good, then we would indeed become the helpless slaves, not so much of our machines as of our know-how, thoughtless creatures at the mercy of every gadget which is technologically possible, no matter how murderous it is.

* * *

We have from the Gandhi Peace Foundation, 221/223 Deen Dayal Upadhyaya Marg, New Delhi 110002, India, a book, *Gandhi and the Good Life*, by Suman Khanna, a lecturer in philosophy at Mata Sundri College, of Delhi University. The price is 100 rupees. The book may be ordered from the Peace Foundation. The author holds a doctoral degree in philosophy and she has done a comparative study of the religious concepts of Gandhi and Gabriel Marcel, the French philosopher.

Early in this volume the writer draws a comparison between the translations of the *Gita* done by Tilak and Gandhi, giving Gandhi's view of modern scholarship. Gandhi said that his own aim was to eschew erudition. He explained this, saying that "he did not mean any disrespect to the other (scholarly) renderings," which "have their own place." He went on to say:

> But I am not aware of the claim made by translators of enforcing their meaning of the Gita in their own lives. At the back of my reading there is the claim of an endeavor to enforce the meaning in my own conduct for an unbroken period of forty years. For this reason I . . . wish that all Gujarati men or women wishing to shape their conduct according to their faith, should digest and derive strength from the translation here presented.

The comment of Suman Khanna is of particular interest:

> To begin with, Gandhi here throws a hint as to the right way to understand religious or spiritual texts. As contrasted with books about the objective world whose truth can be easily ascertained by checking them with outer fact, religious or spiritual texts, which are concerned with experience that is in the main subjective, cannot be similarly understood. Were the Gita a mere narrative of objective facts its truth could be easily checked by an external verification; but in so far as a good deal of what it says relates to the life of the spirit, a quite different approach is here needed. . . . It is no wonder then that Gandhi should here put the emphasis that he does: it is only through a continual process of growth that a religious truth is revealed in stages and at different levels of being. Perhaps this is why the Gita becomes for Gandhi "a spiritual reference book and why it was his constant endeavor to reduce to practice the teaching of the Gita as he understood it, in his life." This is also the rationale behind Gandhi's firm

> conviction that only he is eligible to interpret the Gita, who has grown into a realization of the text.

But this by no means indicates that Gandhi's *Gita* is the best or only one to read, since there have been other renditions that may have the.same qualities and be better understood by people in the West. Gandhi wrote as an Indian of Hindu background, yet he also said:

> My belief in the Hindu scriptures does not require me to accept every word and every verse as divinely inspired. . . .I reject any religious doctrine that does not appeal to reason and is in conflict with morality.

Yet the *Gita* is an entirely reasonable work, and Gandhi found reason to reject very little of it, although it does become, in his rendition, a Gandhian work as much as a work by Vyasa. In her concluding chapter, Suman Khanna says:

> Gandhi's distinctive emphases may now be put as follows: Truth is the best name of God. This is a very special accent of Gandhian thought. It is true that the concept . . . has for long been there in Hindu religious thought. But no modern Indian has written so emphatically as Gandhi on the idea in question. Nor is his writing, here, quite without reason. In fact, his originality lies in his seeking to show how we may *argue* in favour of the emphasis. With his own suggestions as the basis, we have attempted to explain why he prefers "Truth is God" to "God is Truth."

COMMENTARY
ON READING THE GITA

As Suman Khanna is quoted as saying, toward the end of Review, the *Bhagavad-Gita* relates to the life of the spirit and, if taken seriously, needs to be read in the light of this idea But have we in the West any idea of what "the life of the spirit" means? Are we able to make the stipulations about the nature of things which an understanding of the *Gita* requires? The ancestral religion of India, of which the *Gita* is an expression, teaches that human beings are twofold—operationally both spirit and matter. A purely "spiritual" being could hardly act in our world on earth without a vehicle in which matter plays a part!

So human beings, so constituted, are subject to the drives which originate in both matter and spirit. The sage of the East is regarded as one in whom the spiritual intentions are in control, the material motives subservient and held to common-sense practical objectives, such as the maintenance of a healthy body and needed service to one's family, while a chief spiritual purpose in life is reduction of material factors in life to a minimum, in order that one's development, or evolution, may proceed without distraction.

Since great scriptures such as the *Gita* are composed by the wise, the texts have the symmetry of a mind in complete control based upon the triumph of spirit over matter. Readers of the *Gita* who have come to it without awareness of this metaphysical background may be puzzled or bewildered by the evident assumptions of such texts, written by those who have unified their natures in terms of complete spiritual command. Yet, curiously, the *Gita* reverberates with the profundity of truth for people in the West who are sensitive to its quality and make it a handbook of frequent study. It is a dialogue between the spiritual teacher, Krishna, a great avatar, and Arjuna, a heroic prince about to take part in a great war (the *Mahabharata*) to recover his rightful heritage. At the beginning, Arjuna is suddenly overtaken by doubt and extreme depression when he sees, ranged on the other side, relatives and friends for whom he has great respect. It must be wrong, he says to fight against and kill such people, and he lays down his arms saying, "I will not fight." Then ensues the instruction of Krishna that Arjuna, being of the Kshatrya or princely caste, whose duty is lawful war, must act according to his princely obligation, and fight, putting aside his sentimental rationalizations. Thus little by little the symbolism of the *Gita*, indeed of the *Mahabharata*, is made evident. His kinsmen on the opposing side represent things he respects, yet different from the highest goal, which he must free himself of, if the spiritual beinghood of his nature is to have fulfillment.

The poem has eighteen chapters in which Krishna affords Arjuna insight into the actual nature of things. As Arjuna grasps these subtleties he moves from stage to stage of understanding; he resolves to fight and is victorious.

The rendition of the *Gita* that we have in our library, referring to it again and again, is that by William Q. Judge, an Irish-American theosophist, now maintained in print and made available by the Theosophy Company, 245 West 33rd Street, Los Angeles, California 90007. The price is $3.50.

CHILDREN
. . . and Ourselves
INSTITUTIONS AND PARENTS

IN his "Letter from America" in *Resurgence* for September/October, Kirkpatrick Sale reports a conversation he had with Thomas Berry, in which he had said to the ecologist (and former monk) that he thought it remarkable that "no American university had come forth with a grand offer to house and reproduce the papers and books of E.F. Schumacher and use them as the nucleus of some sort of appropriate technology/decentralism/Buddhist economics center." Berry commented:

> What would you expect . . . of the American academy? When have you ever known it to be in the forefront of any creative movement? Where do you see centers, or even departments, devoted to any of the important ideas that have come along in the last twenty years—Mumford's, or Borsodi's or Paul Goodman's, or Illich's . . . or Schumacher's?
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> I don't mean academic ecology, or biology, or geology, he emphasized. I mean something based on new perceptions, the new consciousness, that has grown up over the last ten-fifteen years, the new understanding of the proper human relationship to Nature, that biocentric vision that you and I share.

Well, the surprise here expressed by these two intelligent men may be more rhetorical than actual—a way of emphasizing the need to give attention to genuine innovators and thinkers with vision—instead of actually expecting institutions of learning to sponsor the investigation of new ideas. The academies do not undertake such research because they can't—it would be too disturbing to the institutionalized departments of their organizations. You could say that universities consolidate the realm of what is regarded as established truth, and established truth is the chief obstacle that the innovators must overcome. This pattern was established a long time ago—remember what happened to Peter Abelard? Institutions are meant to represent the past, and they stick to it as the means of their continuity. Consensus is the rule that is followed, not the rough path of independent thought. This is what is expected by the trustees of a university and what the parents of the younger generation entering college expect of the schools of higher learning. How would these parents know it is the higher learning unless practically everybody who works in the university says so? The fact is as Kirkpatrick Sale puts it—

> . . . the most important thinkers of our time, the people who were putting out the new ideas and syntheses, were not for the most part connected with universities but rather independent scholars and writers: "Once we cast a fresh eye over the intellectual landscape, we find far more serious inquiries going on outside of academe. . . . Taken together these inquiries constitute much of what is most exciting in our cultural life."

Sale is here quoting from an article which impressed him greatly. The article gave the names of a number of recent innovators, leading Sale to say:

> That started me thinking. It is true, at least in my life, that the important influences, the people whose books and thoughts have been most informative, have tended to be outside the universities. Think of them: Arthur Koestler, Thorstein Veblen, Lewis Mumford, Ralph Borsodi, Murray Pookchin, Philippe Ariés, and, more contemporarily, Frances Moore Lappé, Susan Sontag, Susan Brownmiller, Wendell Berry, Amory Lovins, Karl Hess, Hazel Henderson, Edward Goldsmith, Gary Snyder, Jane Jacobs, Peter Berg, James Lovelock, E. F. Schumacher—and Thomas Berry.
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> That may say something positive about the vitality of independent scholarship, all right, but it is a terrible indictment of the academic world, particularly its American branch. One begins to suspect it is a morass in which almost no intelligent life is to be found . . . and a place so moribund that it could never catch up to the ideas of a Schumacher or a Mumford.

Well, maybe so, but this scathing indictment of academia applies to very nearly all institutions, all builders of every status quo, the work of which requires certain talents—not inventive but useful and which we could no more do without than trees would be trees if they had no trunks. The more highly organized for "efficiency" the institutions are, the less innovation is possible within them. The same applies to the arts, as for example grand opera, which has hardly changed in any significant way for scores of years. Changes in medicine—except for acceptable

technological advance—proceed very slowly, although unorthodox methods of healing have become almost rampant. One might read Thomas S. Kuhn's *The Structure of Scientific Revolutions* (University of Chicago Press) to see how, and with what difficulty, large-scale institutional change takes place.

There is of course still another side to this argument. In any college or university where there remain some sparks of integrity—you see evidences of them now and then—there are likely to be at least one or two remarkable persons on the faculty, not great innovators but imaginative and open-minded men or women who exert an unnoticed influence for good. They suggest important reading when appropriate and provide really useful ideas. Robert Hutchins was a man and teacher like that, and there have been others. An institution whose board has sense enough to find and hire such teachers, you could say, is performing its function, but nowadays it seems to be getting harder and harder and harder to find this condition of health in a college or university. And what, after all, do most parents want and expect of the higher learning? Conformity and contacts, skills and conventional ideas, or an actual *education* for the young?

Where does institutional change begin? At the bottom, apparently, if we are speaking of education. A story by Selwyn Feinstein in the *Wall Street Journal* for last October 6 begins:

> One of the most significant developments in education is taking place far from any classroom. The children involved don't hear the clangor of school bells or join in the bustle of students in school corridors. Their parents, often critical of deteriorating public-school systems or driven by religious motives, are educating them at home—a movement that has been exploding across the country in recent years, with no end to its growth in sight.
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> In Kotzebue, Alaska, 25 miles north of the Arctic Circle, children do math at midnight. In Boonville, Calif., they read what they like at a mountaintop ranch, surrounded by sheep and goats. In Poughkeepsie, N.Y., they try to master multiplication tables in the bedroom. Their numbers are increasing in every state, and dozens of support groups, newsletters, and purveyors of curricula and books have sprung up to organize them, inform them and supply them.
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> No one knows how many children are being taught at home But their ranks, though still small compared with the 44 million in elementary and secondary schools, have increased manyfold. Patricia Lines, a policy analyst for the Department of Education, estimates that there were 15,000 home schoolers in the early 70s; she puts the number today at 120,000 to 260,000. Other estimates range up to a million.

Some parents give up after a while, finding teaching their children a drain on their energy, and other parents want their children to have the social relations school provides, but over all the movement is growing.

> For some parents, the satisfaction of watching their children grow in learning under their tutelage is a powerful motivation. Julian Ellison, 11, and his brother Trevor, 10, are back in conventional schools in Darien, Conn., having exercised a choice that their mother, Cheri, always gave them. But she looks back on four years of home schooling with no regrets. "I got to change their diapers," she says, "and I wanted to have the joy of hearing them read." . . .
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> . . . many who observe the home-school movement believe that the parents are doing at least as good a job as certified teachers do. Carl Friedman, who tracks home schoolers for New York state's Department of Education, says they are "passing well above the norm." Parental dedication and individual attention more than compensate for a lack of credentials, he believes.

The rest of this informative article tells about the practices of various states with home schoolers and gives information on courses by mail to be used for teaching at home. More complete information is available from the editors of *Growing Without Schooling*, 729 Boylston Street, Boston, Mass. 02116.

FRONTIERS

A Note on "Channeling"

SEVERAL weeks ago, a friend who has a relative who runs a popular bookstore north of San Francisco, brought us for inspection six or eight books which are part of a current vogue—"channeling" books, they are called—and we looked at them, eventually deciding that this was a "trend" that did not deserve particular notice in MANAS. There is a sense in which they were all the same—some "advanced spirit" had chosen a contemporary human being as his "medium" or channel, and that person became an author of book after book—they seem to sell pretty well and are talked about among the people who like to read such stuff. One or two of the books seemed a lot better than the others, but were all filled with promises of how ordinary people could transform themselves into virtual geniuses at getting exactly what they want by following the book's instructions. As we said, some of these books were better than others, and one gave advice that could hardly be objected to in relation to personal achievement, but none of them seemed especially aware of the present condition of the world and the growing dimensions of pain that is afflicting more and more people. They are virtually all "personal salvation" books, with liberation in view on earth, and not only after you die. Most of the books use splendiferous language which would be embarrassing even to give samples of. Well, as we said, we didn't feel the need to write anything about these books, but now a story about one of the sources they come from made page one of the November 16 Sunday *New York Times*, with news of a woman named J. Z. Knight, identified by the *Times* writer, Robert Lindsey, as a slender blonde of forty, who is somehow in touch with a man called "Ramtha" who is thirty-five thousand years old and chock full of wisdom which he communicates through her. She lives, Lindsey says, in the small town of Yelm in Washington, but travels about, speaking in hotel ballrooms before audiences of, on the average, 350 people, each of whom pays $400 to attend. Lindsey says in the *Times* report:

> Periodically her appearances are relayed by a television satellite hookup to thousands of people at once in half a dozen cities.
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> Mrs. Knight's teachings are similar in many respects to those of a variety of recently popular "human potential" groups and quasi-religious sects that have been referred to collectively as the "New Age movement." Scholars say most of them combine elements of Eastern mysticism, Western occult traditions and a Norman Vincent Peale style of power of positive thinking" about life.
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> Among other things, Mrs. Knight's teachings include these precepts: God is not a remote entity but an integral part of everything in the universe; therefore, man himself is divine ancl, as such, is able to "create his own reality" and achieve anything he desires; and in the absence of what
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> Mrs. Knight calls a "judgmental God that you could never please," there is no sin and therefore no reason for human guilt.
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> Mrs. Knight contends that cataclysmic events, not nuclear wars but earthquakes and other natural catastrophes, are likely to occur soon. As "Ramtha," she warns that people should find a safe place to live, stockpile a two-year food supply and become self-sufficient by planting their own gardens. Among the safest areas, she asserts, is the Northwest.

She is not trying to "build a community" in the Northwest. She doesn't want that. Lindsey's concluding paragraph is this:

> "I don't want people moving to live near me, she said. "I love my small town the way it is. I'm not their leader. I'm not a guru; there are no such things as 'Ramtha-ites' I'm not somebody's savior. This is a business."

What kind of a business? Well, it seems to be profitable, whatever else it may be. Lindsey reports:

> In an interview, Mrs. Knight said "Ramtha" first began speaking through her in 1977. She acknowledged that she was taking in millions of dollars a year from the fees collected at her personal appearances and from sale of videotapes and other materials. But she quickly added, "We pay 50 per cent of it, right off the top, in taxes." . . .

> Mrs. Knight denied allegations by some of her critics that she was head of a cult. She said leaders of cults asserted absolute control over the lives of their followers, while students of "Ramtha" acted as individuals in response to her comments.

Starting about two years ago, Lindsey says, hundreds of people have been migrating to rural areas in Washington, Oregon, Idaho, Montana and northern California, following her advice, according to real estate agents. They come from all over—New York, and even Hawaii. Why? What is the great attraction? One man, not a "believer," was "dragged" to a Seattle area hotel by his wife to hear her voice as "Ramtha."

> "She's either psychotic or she's a good actress," the man said. "She's obviously a fake, but she sure is a spellbinder." But he was the only person among many interviewed at the hotel who questioned Mrs. Knight's assertion that she had been temporarily transformed into a 35,000-year-old man.

Mrs. Knight was formerly a cable television industry executive, and she and her husband now breed Arabian horses on their ranch at Yelm.

Hardly anyone except a few cultural historians now recall that about a hundred and thirty years ago, an enthusiasm something like what is now called "channeling" swept the country. It was then called "Spiritualism," a misnomer that is not now being repeated. It began in 1848 in Hydesville, New York, with the mediumship of the Fox sisters, two little girls, and by 1850 seances were being held in California, Oregon, Texas, and in several southern states. Spiritualist revealers bloomed like the prophets of old, and a rash of psychic phenomena broke out as a result of these seances, exciting attention and also charges of fraud, while a few persons of eminence such as Horace Greeley for one, testified to the genuineness of the "rappings" produced by the Fox sisters. The mediums, who became numerous, claimed to be in touch with "spirit guides," although there was little that was "spiritual" about their communications. The interest in these strange psychic happenings spread to Europe and for a time it became fashionable among the upper classes to join in holding séances, although after thirty or forty years this interest died out almost completely. Yet in consequence of the phenomena of the Spiritualists, a new area of scientific research developed called "psychic research" and parapsychology, most notably the work in this country of Dr. J. B. Rhine of studying the processes of genuine telepathy and other aspects of extra-sensory perception. While the legitimacy of such research as "scientific" is often challenged, today a number of universities have departments pursuing work of this sort, which is slowly becoming acceptable, especially to the general public. But a wide gap separates "channeling" from recognized psychic research. See *William James on Psychic Research* (Viking, 1960) and the explanations of psychic phenomena in *The Key to Theosophy* by H. P. Blavatsky, along with criticism of Spiritualism.