

INSTRUCTIONS FOR HUMAN BEINGS

AS a human enterprise, science is many things. For the scientist, it is accumulation of knowledge of how the world works. For the industrialist and the businessman, it is instruction in how to put the natural forces harnessed by science to work for the production of goods and services. For the philosopher, science provides data indispensable to any attempt to discover the *meaning* of what is going on. Religion might be defined as an intuitive jump to the meaning of things, with or without what appears to be scientific confirmation. The character of a religion is largely determined by the feelings of its believers concerning their (or human) capacity to know the truth—whether they can reach it by an inspiration of their own, or must instead rely on instructions given by a supernatural being. Believers in supernatural religion put Revelation in the place of intuition. Pantheists and mystics find sanction or confirmation for their intuitions in a system of transcendental metaphysics which employs reason in its development. Such systems are sometimes called philosophical religion.

As we know, historically, in the West, science has been the aggressive foe of supernatural religion. This antagonism is easily explained. The interpreters of supernatural religion used the faith of its believers to achieve tyrannical power over both individuals and societies, and maintained this power with both subtle and overt methods of thought control, punishing independent thinkers with persecution and sometimes death. One has only to read the biographies of men such as Giordano Bruno, a philosopher, and Galileo, a scientist, to understand the moral energy which accumulated to support scientists and scientific inquiry in their opposition to established religion. While many scientists, perhaps most, preserved some sort of intuitive religion of their own, they have seldom shared in the beliefs of the prevailing

orthodoxy. Einstein is a good example. That he was a profoundly religious man is evident from his life and his clear expressions, yet in 1940 he said:

In their struggle for the ethical good, teachers of religion must have the stature to give up the doctrine of a personal God—that is, give up that source of fear and hope which in the past placed such vast power in the hands of priests. In their labors they will have to avail themselves of those forces which are capable of cultivating the Good, the True and the Beautiful in Humanity itself. That is, to be sure, a more difficult but incomparably more worthy task.

The further the spiritual evolution of mankind advances the more certain it seems to me that the path to genuine religion does not lie through the fear of life and the fear of death and blind faith, but through striving after rational knowledge. In this sense, I believe that the priest must become a teacher if he wishes to do justice to his lofty educational mission.

We may wholly agree, but then the question becomes: What should he teach? We know what the men of the eighteenth century said: Study the findings of science and teach what they reveal. They agreed with Galileo, who had declared for study of the Book of Nature, not the dusty volumes of the theologians. The Book of Nature discloses the instructions given to all natural things, found in those things themselves. Observation and experiment were Galileo's tools, and we've been using them ever since in order to amplify the instructions implicit in natural law. Physics was the outcome of his enterprise, vastly extended by Newton and Einstein. Mostly observation led Darwin to Evolution as the fundamental process to be studied by the life sciences, but it was not long before humans seeking guidance from evolutionary processes ran into difficulty. Darwin's great colleague and champion, Thomas Huxley, was wholly unable to make these biological processes fit with the basic

ethical ideas of human beings, obtained by other means. He wrote in *Evolution and Ethics* (1894):

Cosmic evolution may teach us how the good and evil tendencies of man may have come about; but, in itself, it is incompetent to furnish any better reason why what we call good is preferable to what we call evil than we had before. . . . The practice of that which is ethically best—what we call goodness or virtue—involves a course of conduct which in all respects is opposed to that which leads to success in the cosmic struggle for existence. In place of ruthless self-assertion it demands self-restraint; in place of thrusting aside, or treading down, all competitors, it requires that the individual shall not merely respect but shall help his fellows; its influence is directed, not so much to the survival of the fittest as to the fitting of as many as possible to survive.

Let us understand, once for all, that the ethical progress of society depends not on imitating the cosmic process, still less in running away from it, but in combating it.

It may come as a surprise to many that Darwin was in agreement with this view. In 1864 he wrote to his friend and collaborator, A. R. Wallace, that "I had got as far as to see with you that the struggle between the races of man depended entirely on the intellectual and *moral* qualities." Needless to say, the movers and shakers of Western civilization in the nineteenth and twentieth centuries were not in the least affected by Darwin's almost parenthetical qualifications. The scientists had made Nature the authority for modern man, and biological law revealed that it was natural (and thereby moral) to stomp on your competitor. Kropotkin might point out (in *Mutual Aid*) that cooperation was far more noticeable than competition among the social animals, but businessmen, especially the Americans, preferred the reading of nature given by Herbert Spencer to anything a Russian anarchist might say, however well said.

Throughout the first half of the twentieth century, most of the scientists seeking the instructions which nature might have for man kept on looking for them either in physiology or in the behavior of animals. They studied monkeys, apes,

and, as everyone knows, little pigs and rats. Freud studied neuroses in nineteenth-century Vienna and Watson studied Pavlovian reflexes in twentieth-century America, but the instructions they obtained from these divisions of nature, while of limited and sometimes morbid interest, have not much improved our understanding of ourselves. Apparently, the idea of studying man as a part of nature has meant studying man as an animal. That man has an animal body seems plain enough, but what else is a human being?

There have been various answers to this question, but they are seldom in contradiction with each other. Discussing *Evolution* in the *Encyclopedia Britannica* (1953 edition), J. Arthur Thompson said that in a far distant age in the past, when men were not yet men, "there was a redefinition and a re-thrilling of the moral fibres under the influence of the new synthesis or mutation—Man. With reason and language and consciousness of history both past and possible, there must have been a retuning of the moral nature." A well-known ecologist, John H. Storer, after giving some examples of animal intelligence as products of evolution, says this:

But one more ability has been developed, apparently possessed by man alone, the newest, most powerful of all the forces of life. That is the power to deal with abstract ideas, to analyze causes and effects, to recognize the principles that underlie them, to use these concepts as building blocks for new ideas in a process of creative imagination. From this imagination there has grown that restless urge which leads man to constant fresh activity—to heights of achievement when guided by wisdom, and to depths of stupidity when wisdom is lacking.

This is not just one more simple forward step in the process of evolution. It is a revolutionary change in direction. For the first time in the world's history it has given to a living creature the power to escape partially from the natural laws that control all other forms of life, and it has conferred the power to modify the environments on which all life depends. (*The Web of Life*, 1953.)

More poetically, if less definitively, a distinguished ethnologist, Philip Ainsworth

Means, a leading authority on pre-Columbian America, in his study of ancient Andean civilizations, spoke of a decisive factor in human culture which "may be designated frankly as x , the unknown quantity, apparently psychological in kind," going on to say:

If x be not the most conspicuous factor in the matter, it is certainly the most important, the most fate-laden. When, through a tardily completed understanding of the significance of life, we shall achieve mastery over x , then, and not till then, shall we cease to be a race of biped ants and, consummating our age-old desire, join the immortal gods.

Ortega, in *Toward a Philosophy of History* seems to carry forward and to deal in some degree with the questions raised by Storer and Means. Storer said that humans have been able to emancipate themselves from the natural laws of life. Ortega asks:

What is man to do after he has eliminated what nature compels him to do? What fills his life? For doing nothing means to empty life, to not-live; it is incompatible with the constitution of man. . . . Life in the zoological sense consists of such actions as are necessary for existence in nature. But man arranges things so that the claims of this life are reduced to a minimum. In the vacuum arising after he has left behind his animal life he devotes himself to a series of non-biological occupations which are not imposed by nature but invented by himself. This invented life—invented as a novel or a play is invented—man calls "human life," well-being. Human life transcends the reality of nature. It is not given to man as its fall is given to a stone or the stock of its organic acts—eating, flying, nesting—to an animal. He makes it himself, beginning by inventing it. . . . Human life, it would appear then, is not a thing, has not a nature, and in consequence we must make up our minds to think of it in terms of categories and concepts that will be *radically* different from such as shed light on the phenomena of matter. . . .

To an astonishing degree, Ortega seems a literary reincarnation of Pico della Mirandola. Pico, in his *Oration on the Dignity of Man* (1496), declared that man must make his own nature, in effect create himself. Ortega wrote in

Toward a Philosophy of History, published in 1941:

Man is no thing, but a drama—his life, a pure and universal happening which happens to each one of us in which each one in his turn is nothing but happening. . . . Man is the entity that makes itself. . . . But man must not only make himself: the weightiest thing he has to do is to determine *what* he is going to be. . . . Hence, I am free. But, be it well understood, I am free *by compulsion*, whether I wish to be or not. Freedom is not an activity pursued by an entity that, apart from and previous to such pursuit, is already possessed of a fixed being. To be free means to be lacking in constitutive identity, not to have subscribed to a determined being, to be able to be other than what one was, to be unable to install oneself once and for all in any given being. . . .

Man is what has happened to him, what he has done. Other things might have happened to him or have been done by him, but what did in fact happen to him and was done by him, this constitutes a relentless trajectory of experiences that he carries on his back as the vagabond his bundle of all his possessions. Man is a substantial emigrant on a pilgrimage of being, and it is accordingly meaningless to set limits to what he is capable of being. . . . he has no nature other than what he has himself done.

These are indeed rarefied abstractions, yet with a persistent thread of reality throughout. We understand what Ortega means because he is talking about himself, and about us. We *know* that we have in some measure made ourselves. We know that we have chosen to go up or down or sideways. We understand the irritation and outrage of a Tolstoy when, in search of the meaning of life, he puts his questions to the scientist and receives only technical answers which have no meaning for him as a human being. Camus, having set the same questions, and having listened to the replies, exclaims:

Yet all the knowledge on earth will give me nothing to assure me that this world is mine. You describe it to me and you teach me to classify it. You enumerate its laws and in my thirst for knowledge I admit that they are true. You take apart its mechanism and my hope increases. At the final stage you teach me that this wondrous and multi-colored earth can be reduced to the atom and that the atom

itself can be reduced to the electron. All this is good and I wait for you to continue. But you tell me of an invisible planetary system in which electrons gravitate around a nucleus. You explain this world to me with an image. I realize then you have been reduced to poetry: I shall never know.

Nature, in short, is filled with instructions, but only for its apparently purposeless self. We are filled with purposes, confronted by barriers and frustrations, subjected to wild hopes and dissolving longings. Where are our instructions?

Can we deduce them from the grain of a sufficient number of genes? If Pico and Ortega are right, and it is our destiny to make ourselves, to compose our own destiny, then we have somehow to participate in writing the instructions. If not completely authors, we are certainly collaborators. In that case, every instruction we receive, by whatever mysterious mode of transmission, will have blank pages in it, whole paragraphs left out. And the equations will not have enough terms. These crucial elements have to be supplied by ourselves. We find ourselves weakened in thickets of bad habits. We want everything "objective," spelled out, as in manuals of physics. But human dynamics are of another sort. Mind, morality, and will are involved. The instructions are gnostic, the counsels written in runes. Our real history begins with allegory, farther back in time than our historians are able to reach.

If, as Ortega maintains, the substance of our being is in drama and act, not in the temporal sheath of our bodies, what then is the law which governs this order of life? How can we even formulate the problem?

Plato, in the *Phaedrus*, the *Laws*, and elsewhere, speaks of two kinds of motion—the motion which is self-generated, as by the soul, and the motion which affects a body from without. Our scientific studies tell us about the second sort of motion. Whatever a thing does, science looks for an outside cause. An inside cause, being self-generated, would be an impenetrable mystery. So,

being scientific, when we look for explanation, which we account knowledge, we look for outside causes. When we find them, we have reduced what we wanted to "explain" to a mechanical effect. Its independent identity is gone. But only determined reductionists apply this method of explanation to human beings. They are able to apply it because humans are not only creative beings but use objective bodies and have various qualities which react in mechanical ways. If you cut yourself, you bleed. Yet wide ranges of human behavior remain unpredictable. Human beings, as Ortega and Erich Fromm affirm, are not things.

We need and take instruction aplenty for dealing with things. We know the ways of teaching and learning predictable things. The foundation of science is the principle that given a set of controlled circumstances and a precisely defined cause, the same thing will happen, or can be made to happen, again and again. Unless this were so, experiments could not be repeated, theories could not be confirmed, and hypotheses could not be turned into laws. But when we come to our real selves—the part that is original, creative, and, as we say, free—another order of reality must be sought. Means called it *x*, Plato a self-moving soul, Ortega the man who "must at every moment be deciding for the next moment what he is going to do, what he is going to be." Where shall *he* seek instruction? Does it, for him, anywhere exist?

The material of this instruction, if indeed it does exist, will not be revealed in fact but hidden in drama. That is the difference between self-moving freedom and objective "reality." The objective world displays the grain of things already done. The world we see with our senses, that we can measure, weigh, and even walk upon, if we choose, is made of the residues of past action. The future that can be anticipated by study of the past is a future determined *in* the past. A computer is an elegant instrument for eliciting, in all their immeasurable complexity, the

consequences of the past. If the data are accurate, then what is predicted will take place, as no more than a redefinition of things already done.

But the instruction for a being who has not yet decided what he wants to do, and is as yet uncertain about what he ought to do—where is that likely to come from? It must come partly from himself—if not, then he is no longer free. But where else? Is there a record of past wisdom in action available for study—not for copying, for that would thingify it—but to brood upon, as an artist might dwell in a musical composition, or as a poet might wander through a tropical forest of ideas?

We are inquiring about a form of instruction which can be used by the intelligence which must teach itself. This is not a matter of following directions. A lot of the things humans do are accomplished by following directions, but not the decisive achievements that determine their being. Instinct, which performs so many wonders in the creatures of the field, is made up of directions. We marvel at its perfection. We envy its one-pointed simplicity, its undeviating intention. There is, said Emerson, a sermon in every blade of grass. But Emerson was an expert interpreter of the natural theology. He read its analogues with an experienced eye, making them into a philosophic sonata.

What does a man like Emerson do with the directions of nature? He turns them into options. While he is forever giving directions of a sort, he will not tell you *what* to think, but only display the reasons for thinking this or that. Poets do not give directions. They do not exhort, they celebrate. They make a ballet of ideas.

We are discussing the matter of instructions for self-conscious beings—for ourselves. A self-conscious being is one who is either marking time or catching up, if taking directions. He begins to live as a human should when he stops taking direction, which is both painful and difficult. And yet, he is never without instruction. It flows in and around our lives. It flows from those feelings

which come to us at magical moments, for some secret reason no longer impeded. It flows in the gentle melodies and majestic epics of past ages. Our minds are afloat in a sea of instruction—we know this when we lift up our eyes and see. How to make a coherent program of such instruction—this is a private/public project which accepts only volunteers.

REVIEW

SOCIETY IN TRANSITION

CULTURES which keep track of themselves have at least a chance to go through radical changes without disintegrating. This is one talent in which the modern world may take pride—that we have a fairly good idea of what is happening to us. A book suggesting this as a distinctive modern achievement is *The Sociology of Freedom* by Krishna Chaitanya, issued in India by Manohar Publications (New Delhi) at 80 Rupees. Fourth in a series of works examining the psychological underpinnings of Freedom in modern thought, this volume reviews the psychosocial consequences of the mechanistic thinking that pervades the branches of science and the civilization science has brought into being, taking note of the innumerable ways in which the present pioneers of philosophic and cultural change are breaking with the past. The modern world, in short, is (at the intellectual level) outgrowing and discarding the Materialism on which it was founded.

This process of change has been well chronicled by Mr. Chaitanya in the several volumes of his series. First there was *The Physics and Chemistry of Freedom*, followed by *The Biology of Freedom*. Next came *The Psychology of Freedom*. The present book is the fourth, and the series will be complete with later publication of *Freedom and Transcendence*. It would be difficult to find a more carefully compiled study of the great transition in ideas about both nature and man that the world is going through. The author has been making a continuous "progress report" on twentieth-century science and philosophy, skillfully summarizing the conclusions of the best thinkers of our time and showing how a new portrait of both man and nature is gradually emerging. The temper of *The Sociology of Freedom* is illustrated in the final paragraph of the preface:

Scientism reduced the variety of the world to the meaningless unity of the dead, inert material particle. As we have seen in the earlier volumes, the genuine

philosophy of science can extend the concept of the organism downward to the atomic system and upward to note a steady enrichment of system capacity and self-identity. Our approach has been multidisciplinary and integrative throughout. But the concept of integration has also been acquiring a steady deepening of meaning. In discussing the psychology of freedom we found that the self-conscious ego needs more than knowledge for its further development; it needs the integration of its cognitive, affective and volitional capacities. In the present volume we shall find that the self can enlarge its boundaries only by integrating itself with other selves in mind, heart and action. Only thus can society become an environment congenial to freedom and further self-actualization.

It becomes evident that as we learn more about ourselves, we find it necessary to rewrite history. The chief prophet and law-giver of our industrial and commercial society was the eighteenth-century thinker, Adam Smith. In Smith's universe, the only reality is economic process, in which humans play their part as workers and consumers. He thought that the conflicts of self-interest would reach a balance to produce well-being for all. Chaitanya subjects Smith's ideas to analysis:

There are contradictions, but of a wholly welcome kind, in Adam Smith. He says that "wherever there is great property there is great inequality"; and also that "avarice and ambition in the rich," like the hatred of labour in the poor, are "passions which prompt to invade property. But avarice and ambition are what self-interest develops into when it is uninhibited; and Smith, in teaching men the way to economic well-being, had blessed the complete lack of inhibition here: "We address ourselves not to their humanity but to their self-love." An economy founded on the endorsement of such low-level motivation will inevitably turn into an acquisitive society, as Tawney has shown. A basic and most serious weakness in Smith's theoretical system-building is in its inner contradiction. If uninhibited self-interest is bound to turn into anti-social avarice, as has proved to be the case, Smith should not have blessed it as the guarantor of social harmony; on the other hand, once he staked everything on self-interest, he should not have so frankly bemoaned the consequences. It is to his credit that he does bemoan them, despite the fact that this weakens his theoretical stance. And here,

surprisingly, he writes in the same vein as modern critics of his system and the economy founded on it.

The author draws on Tawney to develop his analysis:

The masters of economic resources, in the absence of countervailing measures, secure power and exercise control over the lives of their fellows. The entrepreneur is like a spider whose influence is limited by the size of its web. As the scale of an organization increases, and one field of enterprise after another is conquered by monopolists, the lines of the structure necessarily tend to steepen. It takes the shape of a pyramid in which power radiates downwards from a tiny knot of big business magnates at the top, through intermediate layers of industrialists to the mass of common men, who are twitched this way and that like so many flies caught in the strands of a web or puppets on a wire. Let us now turn back to Adam Smith: "The merchants knew perfectly in what manner it [their entrepreneurial drive] enriched themselves. It was their business to know it. But to know in what manner it enriched their country was no part of their business. Earlier, he had hailed this as the best of all arrangements, but here it is muted musing, almost a lament. Now he sees the antisocial thrust at the very heart of entrepreneurial drive and organization: "The usual corporation spirit wherever the law does not restrain it, prevails in all regulated companies. When they have been allowed to act according to their natural genius, they have always, in order to confine the competition to as small a number of persons as possible, endeavored to subject trade to many burdensome regulations."

It is clear that Smith believes in perfect competition which in turn implies numerous small units of production. But he provides no explanation as to why entrepreneurs actuated by self-interest, which he has fully blessed, should not opt to become monopolists.

We now see what this temptation leads to—the cartels and multinationals which affect the lives of countless people throughout the world. Self-interest is short-sighted and indifferent to far-reaching consequences. When freedom is defined in terms of self-interest, economic freedom grows self-destructive. The author has a further comment:

A basic crime of classical economics was its reduction of men to things, treating of human labor as a commodity whose returns could be casually left to the play of supply and demand on the market mechanism. This has generated the polarity of capital and labor which has brought never-ending conflict to the industrial scene.

As this conflict grows in dimension and frequency, the welfare of the entire social community is threatened.

Therefore, the state has to intervene. But the basic system being one in which selfishness has been erected as the fundamental principle and the prime mover, this becomes a hopeless task, as Folkert Wilken clarifies: "Thus the State is charged with the social responsibility for the realization of social values in an economic system which can achieve the ideal of freedom only in an anti-social way."

This is what happens when freedom is identified with privilege, and obligation—which incidentally will not be felt as a constraint if man takes some interest in his self-actualization—is forgotten.

In a later chapter the author quotes from Harvey Wheeler, showing how Adam Smith's "invisible hand" theory works in reverse in a civilization which makes the automobile a practical necessity of everyday life. The following is from an occasional paper issued by the Center for the Study of Democratic Institutions:

Streets, highways, and parking lots must be changed and expanded in perfect unison, as if they were the last stage in Detroit's assembly lines. This means that cities and suburbs must be of a certain type. Houses must have half as much room for cars as they do for people. Air pollution intensifies and with it the death rate from respiratory diseases. In making individual purchases of personal automobiles Americans are engaging in actions that add up to a "decision" to have an auto-based culture. This was a decision that no one made. It is the other side of the "unseen hand." Ours is an economy that produces a chaotic cultural system automatically "as if misguided by an unseen hand."

More and more people are realizing that they make their own problems and confinements. But at first we say that our "institutions" are at fault, and that we must change them, through revolution and war if necessary. Commenting on this

tendency, Mr. Chaitanya says in a chapter on Politics:

But institutions are projections of men and, if they are to change, men have to change; forcing them to change through violence is to treat them as bondmen and at best it merely punishes them for having treated others as serfs in the past; it does not redeem them and it does not redeem those who were oppressed in the past because they too begin to rely on coercive power. If the goal in social change is the realization of community, in the richness of its meaning as relevant both to the being of man and the nature of institutions, the goal has to be conceived and carried out through community. Coercion, whether we are talking of repression or revolt against repression, does not produce community. Abuse of power exists in all societies, in one form or another. The style of politicalizing the community by angry rhetoric which hurtles into violence through its own uncontrolled momentum only helps to sharpen latent polarities into clear adversary roles; we have to resist repression firmly but with as little hostility as possible. The infrastructures of better social institutions have to be built up in the minds and hearts of men, and they have to do this themselves and in freedom.

COMMENTARY SINE QUA NON

A FEW years ago, essayists often remarked that the skeptics of the modern age were becoming "skeptical of their skepticism." This was a way of declaring or admitting that the quality of being human had rebelled against the deadly materialism resulting from the simplifications of scientific explanation. The objection was to the conventional sort of scientific explanation, which insisted on defining "reality" in terms of the abstractions of a limiting method.

The quotations from Ortega and Camus in this week's lead illustrate the course of this changed attitude. To all the negations of science—as summarized by Whitehead: "Science can find no individual enjoyment in Nature; science can find no aim in Nature; science can find no creativity in Nature; it finds mere rules of succession"—Camus declared himself an exception: "I know that something in this world has a meaning, and this is man; because he is the only thing that demands to have a meaning." In other words: What we know in and of ourselves is not to be rejected because of the theories of specialists, whatever their competence and accomplishments in the areas where they work.

Camus couldn't explain what the meaning he sought was, but he wouldn't stop looking for it. His humanity required him to try. He knew that the lessons of skepticism were valuable—the history of Europe was undeniable evidence of this—but he also knew that skepticism itself is barren of meaning. Skepticism corrects mistakes, it does not instruct.

Camus' friend and critic, Jean-Paul Sartre, found this meaning-seeking quality to be the definition of the human being. Inevitably, to look for meaning is to make choices. What is the nature of man? Making choices is the very substance of his being. His reality is originally and eternally subjective. His objective reality is the

result of his choices. Human nature is the fabric of decision-making.

Sartre wrote in 1944:

. . . everyone in the eighteenth century thought that all men had a common essence called *human nature*. Existentialism, on the contrary, maintains that in man—and in man alone—existence precedes essence.

This simply means that man first *is*, and only subsequently is this or that. In a word, man must create his own essence: it is in throwing himself into the world, suffering there, struggling there, that he gradually defines himself. And the definition always remains open-ended.

The position is heroic—and necessary. Whatever we say of the human being—however contradictory of this stance the ordeals and obstacles encountered in life if we say that we "have no choice," we abdicate as humans. The problem of philosophy is the reconciliation of our inward sense of freedom with "the facts of life."

Camus tried, and failed, but he refused to quit. He might be taken as a symbol of our entire civilization in the present. Sartre extracted from the bleak outlook of existentialism one paramount conception: we are *responsible* because we choose. It needs no weighty demonstrations to show that if this single idea could be widely adopted, the world would be transformed into a virtual paradise in comparison to what it is now. Socially, then, the problem is to give sound plausibility to the idea: *We are responsible*. It is a difficult task, but thinking humans can attempt nothing less.

CHILDREN

. . . and Ourselves

NEWS FROM BOSTON

IN *All Our Children* Kenneth Keniston says: "Until policy makers and planners shift their focus to the broad ecological pressures on children and parents, our public policies will be unable to do much more than help individuals repair damage that the environment is constantly re-inflicting." We don't say much about "public policies" here. We are more or less convinced that public policies are little more than private policies, writ large, and that the real changes will always result from the growing influence of private attitudes.

An article by Jonathan Kozol in the *Boston Globe* for Sept. 4, 1980, causes no retreat from this view, but it shows what can happen in a large city when enough individuals are aroused to action and there are individuals in public service who are able to respond.

Kozol's article is titled "Making Desegregation Work." He tells what now awaits a considerable number of Boston's children at the end of their daily bus ride to school. He says:

It was never the bus ride that intimidated people in the first place. The real fear, from the start, was what the child would find after the bus ride ended.

What did that child find? More to the point, what does a child find today in Boston's once-embattled public schools?

First, despite a number of unforgivable moments of race conflict (conflict of the kind that has existed forever in Boston, feeding itself on the ethnic insularity and fear guaranteed by decades of racial isolation in the neighborhoods and schools), Boston has been able to survive the period of desegregation with greater unity and more sense of common purpose than at any time in the past twenty years.

There is a reason. That reason consists not in endless inter-racial dialogue, but in the vast upgrading of the schools themselves.

When the federal court sent down its first desegregation order, in June of 1974, it did not simply order the busing of young people; it also

ordered a massive effort to accelerate the pace of academic progress in the Boston schools. Included in Judge Arthur Garrity's order was the rapid creation of 22 magnet schools in Boston. Garrity also invited an unprecedented level of parent participation in those schools—and created the vehicles by which to make this possible.

It is of help to look at these two aspects of Judge Garrity's plan: first quality, then participation.

For decades, the catch-cry of those who represented the tough and aggressive opposition to desegregation was almost always a variation on a single theme. "Why waste money busing children all over no place when, with the same money, we could have quality instead?"

There was unconscious irony in the phrasing of these words: The truth was that, up until 1974 in Boston, the city had neither excellence of education nor desegregation. Now, with the ruling of a federal court, there was a chance we might have both.

That, one might say, is *all* that passing a law or obtaining a court ruling can achieve, in matters where human qualities and concerns are at stake—a *chance* at something good. Legislative action can remove obstacles, but the goodness itself comes from the abilities and will of human beings. Why did the ruling of Judge Garrity lead to the things Jonathan Kozol reports as happening in Boston? That would make an interesting piece of "research"—tracing what happened after the judge said, "Do so and so." Whose desk did his mandate reach first? What did that person do? And who organized the movement for parent participation and why did that participation prove so fruitful? Answers to these questions might be illuminating.

Where did Judge Garrity get the idea of having "magnet schools"? Why did he think they would be a good idea? And was the talent needed to establish them just waiting in the wings for an entrance cue? Who pulled it all together? There was a man, Robert Dentler, appointed by the Judge to help with these things, and he must have done a lot.

Kozol answers some of our questions in his account of what the magnet schools are like.

(They are called magnets because they not only attract students but also draw out the potentialities in people.)

Admittedly, these schools have special offerings which are not found throughout the system. They are examples, then, not of the Boston schools as they exist in their totality, but of the system as it might *become*.

Madison Park, an ultra-modern sprawling but surprisingly attractive magnet school "of music, the theater arts, media and communication," draws students of all races, on a voluntary basis, by the power of its excellence in basic academic areas, while boasting a spectacular music program, closely tied (by "externships" and other link-up plans) to the New England Conservatory, the Boston Symphony and Northeastern University.

The "theater magnet," less generously funded but even more impressive in a number of respects, involves a team of professional actors from the Theater Company of Boston, who work, under a variety of state and federal grants, to develop theater arts not as the social property of rich or gifted children but rather as a vigorous ingredient in every pupil's life.

The program has access to the excellent drama center of Northeastern University, an arrangement rendered possible by the court's insistence that the local universities ought to team up with the desegregated Boston schools to help make desegregation work. Northeastern is one of the universities that have participated far beyond their formal or implicit obligations.

The media center at Madison Park is equally impressive. Students turn out a top-notch monthly paper with computerized typesetters that have yet to be installed in all but a few of the outstanding daily papers of the country. . . .

Madison Park, situated on the edge of heavily black and Puerto Rican neighborhoods, is forced to turn away significant numbers of applicants each year. The school has been successful in drawing large numbers of white students from all sections of the city. It is an excellent example of voluntary choice within a context of mandated racial balance.

The students who come from other neighborhoods because they *want* to don't complain about busing; they're probably glad they can get to the school at all. This seems a sensible

resolution of the busing issue, perhaps the only one. Jonathan Kozol says:

Blacks had for fifteen years been pedagogic vigilantes in the Boston schools. Whites, by and large, lulled by the promise of their elected politicians, took without question whatever it was their children got. And what they got was an abysmal education.

It took desegregation to awaken the city to its pedagogic needs. Once people *knew* their children were going to have to ride that bus, for the first time a heightened curiosity arose as to what was waiting in the classroom at the other end. For the first time, with a 20-minute bus ride to disturb their morning's musing over coffee and newspaper, not only black and Hispanic parents but white parents too began to look hard at what was going on within their children's schools.

When the school was "in the community," to be quite blunt, there was very little community at all. Now, with the school and children at a 20-minute distance, the idea of "community" all at once came to be real.

Because of the insight of a federal judge, desegregation has become acceptable in Boston. Why? Because the judge "had the sense to know that if you mandate 'racial justice,' you had better try to mandate excellence and parent participation too."

FRONTIERS

An Interesting Decision

AN article by Jim Harding in *Not Man Apart* for last December lists the devastating facts on how much it costs to "decommission" worn-out nuclear installations. Some estimates of the cost of dismantling go as high as a hundred million dollars, and others "put the cost as high as the original construction cost of the plant." Of equal interest is the short life of these expensive and dangerous sources of electrical energy. Jim Harding begins:

All over the country and around the world nuclear plants are dying. This is not a political metaphor but rather a technological fact that is basic to all nuclear power plants. A nuclear plant has a lifetime of only 30-35 years and plants built before the mid-sixties will not even survive until the end of this century.

After 30 years of service, the steel walls of a reactor vessel become embrittled by radiation. Valves and U-shaped pipes create homes for corroded, radioactive steel particles. At this point, the reactor becomes difficult and expensive to repair and less safe to operate. By the year 2010, all of our 75 operating nuclear power plants will be ready for the grave. Three commercial nuclear power plants—Indian Point 1, Humboldt Bay 3, and Three Mile Island 2—are ready for dismantling today. . . . In the one and a half years since the TMI 2 shutdown, replacement power costs have surpassed the original cost of the plant. And, bought at high rates from nearby "competitors," the replacement power was never considered in the original cost estimates for the plant.

Why haven't people known more about such things? What else is there to know that we don't know now? Vince Taylor recently made this explanation:

It ought to be easy to explain why nuclear power is irrelevant to solving the energy crisis facing the United States. Nuclear power is a minor source of electricity, a form of energy that is currently in substantial excess supply and that can be produced from coal, America's most abundant resource. Of all the oil consumed in the United States, only about 8 per cent is being used to produce electricity, a percentage that is declining rapidly as utilities move

to take advantage of coal's threefold cost advantage over oil. No new oil-fired electric generating plants will be built, and most existing ones will be replaced within ten years, whether or not more nuclear plants are built.

Nuclear energy, thus, will not help to reduce oil imports, but will only substitute for coal in the production of electricity. This central fact is well known to government energy planners, executives of electric utilities, and those who manufacture nuclear plants. Yet, for reasons of their own, these groups have chosen to ignore the facts and instead to issue misleading arguments and information about nuclear power. Because the average person considers these groups to be the best authorities on the subject, and because they have the money and position to publicize their arguments widely, this campaign of misinformation has left many people confused about or believing in the critical importance of nuclear energy.

Now and then, however, a person or company in one of these groups sees the light and announces a decision that will strengthen the tide going in the opposite direction. For example, the chairman of the board of the Southern California Edison Company, William R. Gould, last Oct. 16 sent a letter to all employees of the company (published in *Not Man Apart*) to inform them of a decision to be made public at a press conference the following day. He said:

We will be announcing that it is the policy of Edison to devote our corporate resources to the accelerated development of a wide variety of future electrical power sources which are renewable rather than finite. These include wind, geothermal, solar, fuel cells, small hydroelectric, and continued emphasis on co-generation, conservation and load management.

As a result of some significant successes in a number of research and development areas, we now believe that some forms of power generation which a few years ago were speculative and unproven have progressed to the point that they can be aggressively developed and relied upon to provide a significant part—perhaps about 30 per cent—of the electricity to supply the additional needs of our customers later in this decade. We are convinced that our society in general, our customers and our Company will benefit from the success of renewable and alternate energy sources. This policy shift should both improve the

environment and reduce our dependence on expensive foreign oil.

I want to emphasize that this is a *real* change. It is not only a change in image outside the Company, but also, as I said, a significant change in the way we will be doing business.

Commenting, an editorial writer for *Not Man Apart* said:

Cynical optimists can point to SCE's partial ownership of one operating [nuclear] reactor, plus four more that are nearing operation, and say that the Gould decision doesn't go far enough. We believe Gould's decision is earthshaking, and should be heralded in the environmental camp. At the same time, Friends of the Earth [the publishers of *Not Man Apart*] will continue to do its best to work with the company to show that the potential of the sources SCE has identified for its future may serve to displace past decisions.

The writer stresses that this was an independent decision by Southern California Edison, not the result of pressure from the California Public Utilities Commission, which is strongly in favor of developing alternate sources of energy. John Bryson, Chairman of the Commission, said in an interview:

Nobody's building any big new power plants. We didn't tell SCE they couldn't finish San Onofre or participate in the (Arizona) plants. They found the future all by themselves, and we're all for it.

With pardonable pride, the Friends of the Earth spokesman related:

For some time, SoCal Edison has pioneered in the investigation of renewable and unconventional sources. SCE's announcement did not spring full blown from fallow earth, as Athena from Zeus's head. In 1977, when the California Energy Commission and Friends of the Earth jointly recommended construction of a coal/heavy oil gasifier as an alternative to nuclear, a skeptical state assembly called the proposal futuristic and risky. SoCal Edison announced plans to build one a month later. . . . In 1978, . . . SCE signed a contract with a wind energy technologist we'd praised. At the time, the project was the cheapest largest wind machine in the world designed without any federal support. It shows initiative and wisdom and we commend them for it.

While this decision to develop renewable sources of energy may seem only obliquely related to the nuclear issue, the positive results that may be expected should at least cool the urgency of the nuclear program.