

THE QUESTION OF "PROOF"

SO much of modern thought is today stalled in regions of elaborate technical debate that it becomes important to inspect some of these areas in order to see how much of this complication and obscurity is really necessary. It is of course difficult for the non-specialist to do this. Each of the branches of research has its own advanced language and conceptual structure. A microbiologist, for example, does not find it easy to talk knowledgeably about his work to anyone but a microbiologist. A theoretical physicist can hardly state his views without using a few equations. Science in the twentieth century seems very different from science in the seventeenth or even the eighteenth century, when a single man had some hope of grasping the basic principles of all that modern man had found out about the workings of the natural world. Today the sciences hold little invitation to one who would be a Renaissance man, aspiring to live at the height of his times. The candidate for research must now submit to limitation within a narrow specialty, isolating himself from other branches of even his own field. For the sciences have become citadels of mystery, and men who find the drive and imagination to emerge from these select retreats to speak to the world in ordinary language are rare indeed.

Yet exceptions exist, and will doubtless become more numerous as the whole question of knowledge of the world and of the bearing of science on the idea of truth is reopened for examination. But what we are interested in considering here, is not the fact of this coming change, which seems certain enough, but the obstacles which block its advance.

This brings us to the idea of "proof." An age of history gains its general character from whatever the men of the time believe they can *rely* on. It follows that what we may call *reliable*

ideas form the root-system of belief of the age, and whatever is proposed as true or good or workable will have to have visible support from this foundation of reliable ideas. A change in reliable ideas means the death of an age and the birth of another.

Recent historians of thought have shown again and again how the conceptions of scientific exactitude and empirical demonstration took the place of divine revelation and biblical authority as the basic reliable ideas of modern times. The principal figures in this transition were Galileo and Descartes, Bacon and Hume. An apt summary of the consequences of this change is given in a brief introduction to a recent book, *The Anatomy of Knowledge* (University of Massachusetts Press, 1969, \$8.00), edited by Marjorie Grene. Written in behalf of the Study Group on Foundations of Cultural Unity, and signed by the organizing committee which includes Michael Polanyi, Marjorie Grene, and Edward Pols, the Introduction begins:

Since the seventeenth century the kind of knowledge afforded by mathematical physics has come more and more to furnish mankind with an ideal for all knowledge. This ideal also carries with it a new conception of the nature of things: all things whatsoever are held to be intelligible ultimately in terms of the laws of inanimate nature. In the light of such a reductionist program, the finalistic nature of living beings, the sentience of animals and their intelligence, the responsible choices of man, his moral and aesthetic ideals, the fact of human greatness seem all of them anomalies that will be removed eventually by further progress. Their existence—even the existence of science itself—has no legitimate grounds, our deepest convictions lack all theoretical foundation.

This movement claims to unify all science and to comprehend in it all subjects of study. But, since its ideal is fundamentally mistaken, the result has been to debase the conception of man entertained by the psychological and social sciences and at the same

time to isolate from science the humanistic core of history and criticism. It has displaced the traditional endeavor of philosophy to comprehend the whole domain of human thought and produced instead distortion and fragmentation.

The note continues, declaring opposition to this trend and pointing to various counter tendencies, but remarking, however, that these "strongholds for defying the current scientific outlook . . . do not appear to be equipped for overthrowing and replacing it." The book which follows, consisting of some fourteen papers by physicists, biologists, psychologists, philosophers, and several other scholars, makes an attempt to establish the ground of a basic philosophical reform. Some of these papers were the fruit of meetings sponsored by the Study Group at Bowdoin College in 1965 and 1966.

The gist of the issue lies in the claim that knowledge, and therefore reliable explanation, of what happens in nature and life can be had only by regarding everything in terms of its simplest ingredients or parts. This claim is attributed by many modern thinkers to the Greek atomists and it is found in countless places in scientific polemics, right up to the present, as in Francis Crick, of DNA fame, who said in *Of Molecules and Men*: "Once one has become adjusted to the idea that we are here because we have evolved from simple chemical compounds by a process of natural selection, it is remarkable how many of the problems of the modern world take on a new light." The claim has a beautiful simplicity, and it is even more remarkable how many of the problems—and qualities—of human life and the world around us must be entirely ignored by those who accept it. *The Anatomy of Knowledge* is largely devoted to showing the practical effects of this claim in various fields of knowledge. The coverage is wide. John R. Silber, for example, of the University of Texas, demonstrates the effects of the objectivizing and externalizing tendency in the practice of law through a consideration of the meaning of "responsibility" as revealed by legal decisions. The richness of human individuality

tends to be ignored for the sake of a simplistic precision which outlaws many of the psychological realities of everyday life.

In her introductory essay, Marjorie Grene makes Thomas Hobbes the model for an analysis of the consequences of mechanism in thought. Then, commenting on the contribution of a physicist to the book, she gives an account of the present-day contrast between physics and psychology, both of which have come a long way since the seventeenth century. She writes:

The two supports of Hobbesian science, sense and a corporeal language, have split apart and confront one another in apparent contradiction. Physics, far from its earlier confidence in the explanatory power of the "corpuscular philosophy" has, with the dissolution of the classical atom, dissolved its metaphysical claims and puts its trust in "observation" as such. In other words, it reports, not the character of an inferred material world, but observations pure and simple: Hobbesian phantasms of sense. But their only "reality" is our awareness of them: the world is turned back into a non-interpreting, self-enclosed consciousness. Psychology, on the other hand, still caught in a physicalistic metaphysics which physics has long ago transcended, would eliminate "consciousness" as mere seeming and translate the data, Hobbes-like, into a language of matter-in-motion. On the one hand, "mechanical" nature has dissolved into the reporting of the merely sensed, and on the other, sensing is held, if in more sophisticated language than Hobbes', but still in the same spirit, to be no more than motion. We have, on the one hand, the science of motion reduced to consciousness and, on the other, the science of consciousness reduced to motion. Only a new reading of mind and nature, and of mind in nature, can resolve this impasse.

Here, Miss Grene means behaviorism when she says psychology. Her justification for this, despite the strong presence, today, of very different views, may be found in the first paragraphs of the paper by Sigmund Koch, a psychologist with the Ford Foundation:

The predicament of psychology is—in a word—behaviorism. Yes, still. That recent years have seen an increase of non-behaviorists does not matter. Whether neo-Gestaltist, phenomenologist,

existentialist, Zen Buddhist or Reichian, the non-behaviorist is twisted, cheapened by the quirk of history that makes his first calling that of *anti*-behaviorist. He gives too much of himself to protest; too little to constructive performance. Worse—he is forced to promise too much that is too easy to a collegueship and a world that has too long fed on total answers of utter simplicity.

It might here be added that mechanistic physical doctrine and reductionist psychology have become all-pervasive influences, obliging even those who try to establish other currents of thought to use at least some of the language and to abide, even against their inclinations, by the canons of objectivist views of "reality." Sigmund Koch continues:

I have given half a career as psychologist to the detailed registration of scholarly error over the phenomenon—and strange time course—of behaviorism. It has been a tiresome role which I gladly relinquish to my partners in dissidence, even to the philosophers amongst them. I am tired of "demonstrating" that the main thread of continuity in the wildly erratic fifty-year course of this "school" is a misinterpreted version of an epistemology which even in its proper philosophical formulations was monstrously deficient; that philosophers themselves have been regarding this epistemology (originating in the "logical atomism" of Russell and Wittgenstein and achieving its canonical form in the logical positivism of the early 'thirties) as an embarrassment for at least three decades; that though behaviorism in its actual theory and research was never consistent with its "objectivism," it was always biased toward the selection of nonsensical or trivial problems, and indeed solutions, by its efforts to seem consistent; that a fifty-year accumulation of expertise at the accommodation to such constraints has produced a "science" which denies its subject-matter in principle and insults it in practice.

I *now* think it more important to ask: What does behaviorism mean? I mean in a human way. Really very simple: behaviorism is the strongest possible wish that the organism and, *entre nous*, the person may not exist—a vast, many-voiced poignant lament that anything so refractory to the assumptions and methods of eighteenth-century science should clutter up the world-scape.

What is the common affirmative ground of the contentions of all those who maintain that

there must be a reform in the idea of knowledge, that the reductive, atomistic conception of reality must give way to a more comprehensively holistic idea of the world of nature, with full recognition of its many-leveled, hierarchical structure? This ground lies first of all in the idea that man is not a machine, and that he is much more than an animal. There is also growing assent to the proposition that while many vital or organic processes have a mechanistic or physico-chemical aspect, the phenomena of life will never be explained away wholly in terms of either physical or chemical and perhaps not biochemical processes. It is characteristic of thinkers of this persuasion that they approach the study of nature in a respectful if not a reverent mood, and it is surely not unimportant that they often seem to have spontaneous ethical concerns of a widely inclusive nature.

Why is it, then, as the sponsors of *The Anatomy of Knowledge* are convinced, that, taken as a whole, the opponents of scientific mechanism are not "equipped for over-throwing or replacing it?" One may think about this question for a long time without arriving at a satisfactory answer. One contributory factor might be the laggard response of a mass society to indications of the need for change, however urgent. There is also the fact that, once weaned of the supernaturalism of traditional religion, the average man tends to remain a naive realist in the face of all arguments which rest on evidence lying outside his own experience. He likes the sound of, "Yes, but is it a *fact*?"—a question which seems to put him in a class with the hard-headed thinkers whom he has learned to respect. And this general feeling-tone in the thought of ordinary men has the effect of lending strong support to all conservative opinion in the learned professions. Ordinary men, after all, are the patrons of the learned professions.

Finally, the language of mechanism and its conceptual approach, which leads to endless subdivisions and departments in knowledge, very nearly defeats clear and effective communication.

The reader of *The Anatomy of Knowledge* cannot help but be reminded of this by virtually every paper in the volume. Even though he knows that a contributor to a book of this sort has deep humanistic inclinations and, indeed, intends to do his part to restore something of the lost riches of man's subjectivity, it remains very difficult to grasp his meaning. He writes as a *specialist*, because he doesn't know how else to write. That is why the books of men like Polanyi and Mumford are so precious: it is possible for the ordinary, intelligent reader to *understand* them. We cannot say this about the book Marjorie Grene has edited, except here and there in spots—and the contribution of Polanyi and one or two others.

It is as though all the world were waiting for someone to answer the tense inquiry: "Well, if man is not a machine, what *is* he?"

There must, after all, be a better, more explicit way of expressing Buckminster Fuller's idea that "Man is the only anti-entropic force in the universe." This conception, attractive though it is, obtains its steam from contradicting the second law of thermodynamics. It doesn't say much about man *per se*. It is Mr. Fuller's "therapy" for the mechanistic dogma, not a declaration about man for himself.

Perhaps we are simply not ready to talk about man as *man*. Perhaps we don't know enough to attempt it successfully, and the present is surely no time for false assurances which have only the backing of anxious religious emotion or a shallow, hortatory urge. It seems that we know enough only to inch along, using mainly the negative evidence that we are accumulating that the mechanistic doctrines, when applied to man, have done nothing but get us into trouble.

Polanyi's paper, "The Message of the Hungarian Revolution," is dramatic evidence of this. One effect of the scientific philosophy has been to suppress any awareness of moral impulses and motives in men, restricting all motivations which have this origin to the most rudimentary or

disguised expression. Social scientists, almost to a man, Polanyi shows, ignored the fact that the freedom fighters of the Hungarian Revolution of 1956 openly declared their struggle to be in behalf of truth and justice. They condemned as morally wrong and evil the practices of the communist government in power. But social historians in the West found themselves unable to credit these motives of the revolutionists as "real." Mechanistic explanation of human behavior has no place for the moral ought, which it rules out of existence. Polanyi comments:

If the social scientist can explain all human actions by value-free observations, then none of his own actions can claim to be motivated by moral values. Either he exempts himself from his own theory of human motivation, or he must conclude that all reference to moral values—or any other values—are meaningless: are empty sounds.

Polanyi then adds:

This analysis shows that a science that claims to explain all human action without making a value judgment not merely discredits the moral motives of those fighting for freedom, but also discredits their aims. This is why the Hungarian revolutionary movement, which revived the ideals of 1848 and which claimed that truth and justice should be granted power over public affairs, has met with such a cold reception by the science of political behavior. Modern academic theories of politics give support, on the contrary, to the doctrine which denies that human ideas can be an independent power in human affairs.

This one illustration is enough to show the paralysis imposed by mechanistic thinking on the social sciences, helping us to understand the problem we spoke of at the beginning—the fact that a great deal of modern thought is stalled in technical debate, and that even brave efforts to break out of the strait jacket of objectivism are heavily encumbered by the demands of a methodology belonging to the past.

Why don't people simply free themselves from such confinements? Mainly for the reason that a blue-sky idealism hardly answers the needs of a man who wants to practice the sciences. A man with vision, as every artist knows, is able to

put his intelligence and insight to work only through practical knowledge of *limits*, which is a way of saying that he must work in the world, discover laws or "necessities" which are consistent with his dreams, and evolve a discipline which is recognizable at least to himself. The difficulty with an unleashed idealism is that we don't know how to curb and shape to useful purposes the extravagances of the moral emotions. All real achievement, we know, is based upon relentless control, and at the beginning of all high enterprises men need models as the basis for their first, faltering efforts at ideal growth. The lack of adequate models may be the real explanation of why there are so few helpful answers to the question, "Well, if man is not a machine, what *is* he?"

The satisfaction found by so many in the writings of Abraham Maslow is probably best explained by the fact that his conceptions of the self-actualizing man and the peak experience are a fine start for working out a generalized model of human fulfillment, and unlike a great many other theories, Maslow's explanation of motivation took into account the major levels of human potentiality, excluding no aspect of life.

But Maslow was only one man, and what is needed is an entire cluster of individuals who are doing this kind of thinking, and who recognize, as he did, that the area of uniquely human discourse, of essentially human affairs, is itself a work of the imagination. Authentic civilization, true community, high culture, are fulfillments of vision which is sustained by a concert of wills, expressed as social discipline. Only the shell of this dynamic constellation of causes is identified as institutional, to which, in some measure, the equations of the mechanists can be made to apply.

One thing more might be said on this broad question. It is that the only possible way to regain the quality of the Renaissance Man, the Universal Man, is by seeking an understanding of man himself. The unmanageable diversity and smothering detail of modern specialization—called

the "knowledge explosion"—is not so much a knowledge explosion as it is an obsession with the infinitudes of externality, of the not-self. It is a macro-symptom of the neglect of the proper study of mankind—the being who has been systematically excluded from the universe by the techniques of scientific investigation.

REVIEW A GREAT AGE

WE live in a time when the leaders of nations behave like barbarians and brigands, yet speak of their policies as though civilized peoples could tolerate them; when learned men exchange theories which have been made sterile by dehumanizing assumptions; and when the professions concerned with human welfare fill volume after volume with "plans" and "projects" that seem, when applied, never to touch the real disaster areas of life. Meanwhile, with hardly any notice of these practical failures, a growing band of specialists has found it extremely profitable to compose sophisticated treatises on the "future," often by methods which, as critics occasionally point out, have been borrowed from practitioners of market research. Sometimes, in these studies, one sees the heading "quality of life," under which there is discussion, not, as might be expected, of the moral and philosophical or aesthetic elements of human experience, but of what could be termed the purchasable refinements of material life.

All this, when it comes to a consideration of the actual genesis of great civilization, only illustrates the almost total ignorance of our times concerning the true processes of human culture. In evidence of this we are going to quote a substantial portion of the Preface to a book which first appeared in France in 1929, and which is now for the first time available in English translation—*In the Footsteps of the Buddha*, by René Grousset (Grossman, 1971, \$12.50), translated by J. A. Underwood. In substance, the book is mostly the story of one extraordinary man, a scholar and student of Buddhism, who spent most of a long life in a pilgrimage from China to India, where he gathered precious manuscripts recording the Buddha's teaching, carrying them back to China for the instruction of his countrymen. This volume is appropriately illustrated with examples of Buddhist art, both Indian and Chinese, and the text is obviously the work of a man who found his historical researches both fascinating and

inspiring. Grousset's Preface suggests both the meaning and the scope of the undertaking:

The theory of the "great ages" is no mere literary fiction. The thousand years of Greco-Roman classicism, not to mention its later "renaissances," undoubtedly had their source in the century and a half between the first Persian War and the battle of Chaeronea. During this short space of time all the potentialities of the Greek genius found their realization, the centuries of Hellenic and Roman civilization that ensued drew their life from this brief period of creative activity. Similarly was not the greater part of the heart and spirit of France distilled in its glorious thirteenth century? Perhaps the ancient Indian tradition of the *kalpas* or cosmic cycles really does correspond to the hidden nature of things. Every now and again humanity, by dint of infinite gropings, achieves greatness and realizes its *raison d'être* in a brief period of outstanding success before sinking back once more into an infinitely slow decline.

It would seem that the Buddhist world too enjoyed one of these privileged periods. It occurred in the early Middle Ages, around the seventh century. Our world, the West, lay in a kind of twilight, still unaware of the coming Romanesque dawn, in Byzantium the great "Macedonian" *basileis* had not yet made their appearance. But in the Far East, India and China were experiencing a period of intense political intellectual, religious and artistic life. Buddhism, by drawing them into contact, had created a vast current of humanism flowing from Ceylon to the northernmost islands of the Japanese archipelago. The desiccation of Islam, the impoverishment brought about by Neo-Confucianism, and the retrogressive effects of Hinduism, though unfortunately at hand, had not yet made their presence felt. Buddhist mysticism, bred through a thousand years of meditation, had reached hitherto undreamed-of regions of the soul, and the Indian aesthetic had been thereby renewed. China—receptive, open to innovation, and then at the height of its strength—allowed itself to be touched by this sweetness. And there the human spirit lived out one of its privileged hours, an hour worthy of Athens and Alexandria. This was the period of the Chinese epic in central Asia and of the great pilgrimage to the holy land of the Ganges, the period of Mahayana idealism and of Gupta sculpture.

It is this period of high culture that I should like to evoke in this book. I should like to sketch the portraits of some of the leading characters of the

period, the founders of Chinese imperialism and of the T'ang dynasty and their contemporaries Hiuan Tsang and Yi Tsing, those pious pilgrims whose journeys across the Gobi desert and the Pamirs or down through the southern seas are as fascinating as those of the most intrepid explorers of our day; and finally the philosophers and sages whose speculations in the realm of metaphysics reached horizons even more vast. And our background, as we cross the Himalayas and sail down through Malaysia, shall be the whole glorious heyday of Buddhist art, from the "Romanesque" statues of the Wei dynasty at Yunkang to the supernatural apparitions of Ajanta, Horyuji and Borobudur.

During the days of Hiuan Tsang's youth, China was torn by civil wars. It was the time of confusion and lack of central authority which preceded the foundation of the T'ang dynasty. In 618 A.D., when the future emperor was launching a series of campaigns which would eventually win him control, the young Buddhist monk, then about fifteen, took flight from the north and found refuge in a peaceful valley in Ssu-ch'uan. Hiuan Tsang had been a monk since the age of eight, which was very early to be accepted in a Buddhist order, but his precocious wisdom had gained him admission. In the monastery at the capital of Ssu-ch'uan, he studied the various Buddhist systems, learning the doctrines of each school. There had been Buddhist teachers in China for at least five hundred years, and as long ago as the year 65 a Chinese mission had gone to India, bringing back Buddhist writings and a priest. Then, in the sixth century, Bodhidharma, a great arhat, taught in Canton. But in Hiuan Tsang's time, there were diverse and contradictory interpretations of the Buddha's doctrines, and the young monk, who was already widely respected for his learning and insight, as well as for his skill in exposition of the doctrines or claims of all the schools, resolved to journey to the Western lands where the Buddha had originally appeared, there to question the sages "upon those points which had so disturbed his spirit." Grousset is often able to quote from the Chinese pilgrim's own words, since upon his return to China, sixteen years later, he was

requested by the emperor to write an account of his travels.

In 626 T'ai-tsung, emperor-to-be, defeated the last of his enemies and his father abdicated in the young victor's favor. It was shortly after this event that Hiuan Tsang made his vow to go to India for further knowledge of the teachings of the Law. Several other monks were to accompany him, but the emperor refused the party permission to leave the country, in the form of an imperial decree. The new ruler's power was by no means consolidated and he would allow no venturing abroad save on official missions. But in 6~9 Hiuan Tsang had a dream in which a lotus flower, rising from the sea, transported him to the summit of the sacred Mount Sumeru, where he could see clearly in all directions. Filled with the inspiration of this vision, he quietly left for the West a few days later.

Much of the book is given to the adventures of this great journey, which took him through waterless deserts, dangerous mountain passes, and across lands unfriendly to China. The personal appearance and qualities of the traveler probably had much to do with his success, for it turned out that he made an impressive ambassador for China as well as for the Buddhist cause. He stopped in many places along the way, visiting especially those to which the Buddha had come, or where some sage then dwelt, but his final destination was the ancient kingdom of Magadha, in southern Bihar. There, not far from the capital city where Asoka had ruled, the Chinese pilgrim found the sacred site where the Buddha had achieved Enlightenment. Much time was spent by Hiuan Tsang in devotion at this spot. Grousset writes:

What makes the figure of Hiuan Tsang so vivid and so true—it is difficult to read his biography without loving the man—is the fact that in this formidable metaphysician the most tender piety went hand in hand with a deeply speculative bent. Take the scene which occurred at the end of his pilgrimage to the Bodhi Tree: "After contemplating it with burning faith he prostrated himself upon the ground with sighs and groans and abandoned himself to grief: 'Alas!' he cried, 'when the Buddha attained

perfect understanding I know not in what conditions I was dragging out my miserable existence. And now that I am here in this place in the latter age of the statue I cannot contemplate the depth and enormity of my faults without a blush coming to my face!" "

Grousset does not fail to support what he had said in his preface. Throughout, he shows how the Buddhist philosophy enriched not only the thought but the entire culture of the times, lifting artists to moments of supreme inspiration and tempering the measures of rulers with civilizing impulses in many directions. As to the intellectual content of Buddhism, a concluding chapter considers "The Soaring Metaphysics of the Mahayana," in which the author shows how fully Western speculative conceptions were anticipated by Buddhist philosophers—as for example:

Hinan Tsang, in his treatise on absolute idealism, follows the example of his masters in refuting the atomic theory as elevated to the position of a dogma by the Brahminical Vaisehika school. Even the Chinese philosopher's proof is the same as that of his Indian forebears: "If atoms possess extent they are divisible, like an army or a forest. If they do not possess extent, like mind and mental acts, then they do not partake of the nature of real entities as distinct from mind and mental acts. Moreover, having no extent they are incapable of agglomerating and matter does not exist." In other words if atoms possess extent they are divisible and are no longer atoms. And if they are without extent they are still not atoms but "mental acts" and cannot produce matter.

Hiuan Tsang concludes as follows. "The Yogachara, using not a knife but thought, divides and redivides solid matter to the point at which it can no longer be apprehended. This ultimate fraction, the existence of which is entirely imaginary they refer to as an atom. They believe moreover that the atom possesses extent and is susceptible of spatial division, yet that at the same time it cannot be divided for were one to attempt to do so the atom would appear as space or as gap (*akasa*) and could no longer be termed material. Wherefore it is said that the atom is the limit of matter. We conclude, therefore, that matter is an extension of mind and does not consist of atoms."

This is only one small sample of the maturity of Buddhist thought; Grousset's readers soon

realize that he is dealing with the living process of the creation of humane culture, in terms of the individual intensity in which it finds its highest expression. For comparison and discussion of a period which is the very antithesis of the epoch Grousset describes, the reader might give attention to Peter Schrag's article, "What's Happened to the Brain Business?", in the *Saturday Review* for Aug 7.

COMMENTARY

IDOLATRY OF INSTITUTIONS

LACKING a copy for review of Ivan Illich's *Deschooling Society* (Harper & Row, \$6.00), we borrow from Ronald Gross's notice of it in *Book World*. Mr. Gross begins with an account of Illich's extraordinary influence on present-day thinking concerning what needs to be done in education. As this week's "Children" article suggests, Illich maintains that "We have succumbed to the idolatry of our institutions," and that the only remedy is to reconceive "all of our institutions from a radical humanist perspective." This means starting with the schools. Mr. Gross writes:

This assault on our conventional wisdom, launched from Illich's Center for Intercultural Documentation (CIDOC) in Cuernavaca, Mexico, is having a sharp impact on American social thought, and an astounding one on educational reform. Illich has attracted to his seminars just about every important re-thinker of education. Often they have come back stunned: Both John Holt and Jonathan Kozol admit to being dramatically changed by their intercourse with Illich. The profiles of him which have appeared in *Saturday Review* and *The New Yorker* (the latter conveniently available in Francine du Plessix Gary's superb book *Divine Disobedience*) portray a synoptic and combative intellect, comparable in scope to Buckminster Fuller, Marshall McLuhan, and Lewis Mumford.

The summary of Illich's charges is succinct:

According to Illich, schools teach some far more important things than the skills and facts they purport to transmit. Their principal teachings are the attitudes, values, and habits which undergird a consumer-oriented, materialistic, bureaucratic "schooled" society.

Schools teach, first and foremost, the value of schooling itself in establishing invidious social distinctions. One's status is defined by one's diplomas. Secondly, schools instill the idea that learning is something that comes only from attendance—that non-school learning doesn't count. Further, schools instill the client-like dependency on institutions which makes the graduate a sucker for all the other bureaucracies which will subsequently

"supply his needs." That is the real function of the schools: to teach us to accept dehumanization through a life of alienated work, joyless leisure, and political impotence. For these reasons, Illich concludes that "deschooling is at the root of any movement for human liberation." Only a deschooled society can dismantle its other dominant institutions and recast them.

Illich is for repeal of compulsory education laws and for legal guarantees to prevent discrimination against persons who have qualified themselves for jobs by unorthodox means. Whether it is possible to accomplish this by legislation is a question; but it is certainly possible for teaching and learning to go on by the means Illich proposes to take the place of conventional schools. It is here that the reform can begin at once.

CHILDREN ... and Ourselves

ON UNDERSTANDING IVAN ILLICH

BECAUSE, for about two years, and perhaps longer, Ivan Illich has been denouncing the role played by schools in modern, technological societies—a role that has been accepted by nearly everyone, regardless of ideological or political persuasion—it is sometimes assumed that he is not only an iconoclast but in fact a nihilist; that he wants, in short, to do away entirely with existing educational institutions. There may be a sense in which this is precisely the case, yet to stop here in understanding him would be a very great mistake.

Ivan Illich is not against education. He is against the domineering *sovereignty* of the educational process as it has been institutionalized and sanctified in the Western world. His problem in being understood is something like that of the intelligent sort of anarchist in being understood. We mean the anarchist who recognizes that some sort of ordering of human society is necessary, and that this ordering process may be termed "government," but who regards any assumption of power or authority beyond the minor regulatory function of its *raison d'être*—as presumptuous, tyrannical, and unnecessary. For Illich, schools have become embodiments of the abuses of the authority of the educational process, which now, he shows, has reached to theological dimensions. His advocacy of "deschooling" is a dramatic means of trying to get people to recognize how far their beliefs about education have departed from the concrete reality of the natural learning process.

For nearly two hundred years of American history, the schools have been the symbols of the highest common aspirations of the American people. Now comes a man who says they aren't any good, that they are instruments of propaganda in behalf of the acquisitive society, and that, as presently used, they make knowledge scarce instead of spreading it around. This is equal to

declaring that the philanthropic impulses of a good many generations of wealthy Americans have contributed to a great betrayal of the young.

Illich is saying that, true enough, but what he is *really* saying is that the whole of Western culture is subject to a basic, externalizing, materializing delusion, and that this delusion has affected education in specific ways which can now be marked for identification, exposed, and condemned.

To talk about "deschooling" has proved an effective way of doing this, even though this is only the external version of the psychological changes that he is endeavoring to bring about. To "deschool" is to correct the delusion that schooling is the same as learning. It is not to destroy or leave educational facilities without use. The "hidden curriculum" of the school, of which he speaks, is designed to impress every student with the idea that unless he puts in the hours at a "recognized" institution under the supervision of a teacher with the correct license or credentials, he cannot gain an education. Thus self-serving institutional propaganda has become more important than the actual content of the courses. The message of this hidden curriculum is so generally accepted that its intention is not recognized even when it is exposed.

As we use the term, education has two meanings. One is that if you have an education you can get a good job, and the more education the better the job. The other meaning is that through education a man has opportunity to gain wisdom and insight into the meaning of life. After years of observation of the educational process as pursued in schools, Illich is convinced that both of these meanings are better fulfilled by other means than "schooling." Learning, he maintains, is not a commodity cut up into units which correspond to hours spent in a place called a school. Learning is an unpredictable happening which takes place in the learner mainly because of his motivation and his participation in some activity which he enjoys and *wants* to be part of, and because he has access

to sources of knowledge, either in things or persons. The more decisions he makes about what he learns, the better he learns.

So Illich would abolish all compulsory education. This frightens a great many people. But in a society with health in it, the young would *want* education. Compulsion is a medicine for a sick society. A sick society cannot be made well by compulsion, but we don't know what else to do. Yet abolishing compulsory education is not a desperate remedy, but merely a natural one. It is one of the necessary steps toward the creation of an education that would be wanted and *sought* by the young.

Education without "schools" does not mean the elimination of meeting places between teachers and learners. It means facilitating in all practicable ways the simple transfer of information and skills. So far as jobs are concerned, it means getting the skills from the people who know them best. All sorts of basic reforms are implied by the following from one of Illich's papers:

For the interested learner, it does not take much time to learn how to perform most skills or to play most roles. The best teacher of a skill is usually someone who is engaged in its useful exercise. We tend to forget these things in a society where professional teachers monopolize initiation into all fields, and disqualify unauthorized teaching in the community. . . . Access to skills is not only restricted by the monopoly of schools and unions over licensing. There is also the fact that the exercise of skills is tied to the use of scarce tools. Scientific knowledge is overwhelmingly incorporated into tools which are highly specialized and which must be used within complex structures set up for the "efficient" production of goods and services for which demand becomes general while supply remains scarce. Only a privileged few get the results of sophisticated medical research, and only a privileged few get to be doctors. A relatively small minority will travel on supersonic airplanes and only a few will know how to fly them. . . .

In order to facilitate more equal access to the benefits of science and to decrease alienation and unemployment, we must favor the incorporation of scientific knowledge into tool components within the reach of a great majority of people. These tools

would allow most people to develop their skills. Any peasant girl could learn how to diagnose and treat almost all the infections which occur in rural Mexico if she were introduced to use of the techniques which are now available but which were undreamt of by the doctor of a couple of generations ago. In poor countries most people still build their own houses, often using mud or the covering of oil barrels. Now, we want to give them low-cost, pre-packaged housing—thus "modernizing" them into regarding housing as a commodity rather than an activity. We would better provide them with cement mixers.

Illich was moved to launch his present campaign for this entirely fresh way of thinking about education by his realization that the poverty-stricken areas of Latin America could not possibly be helped, but only reduced to deeper misery, by the export to South America of the cultural ideal of "schooling" as the means to self-improvement. He saw that the scale of values introduced by the standards which prevail in the United States would benefit only the elite in Latin American lands, since only they could afford the higher education giving access to privilege and power, while the ineffectual exposure of the rest of the population to a little schooling would do no more than "enlighten the poor about their predestined *inferiority*." In an address he gave recently in Lima, Peru, Illich said:

In the liberation of the world from the idols of progress development, efficiency, Gross National Product and Gross National Education, the Third World has a crucial responsibility. Its masses are not yet totally addicted and dependent upon consumption, especially the consumption of service. Most people still heal, house, and teach one another, and could do it better if they had slightly better tools. The Third World could lead the rest in the search for an environment which would be both modern and humane.

Actually, there are close parallels between Illich's ideas and Tolstoy's conception of education. In an article which he published in his magazine, conducted in connection with his school at Yasnaya Polyana, Tolstoy proposed a very simple definition of education—the equalization of knowledge. The task of the teacher is to make the student equal to himself.

This is the true purpose of education. But, he said, this purpose has been displaced by various other intentions, which involve learning on the basis of obedience, on the basis of egotism, or in order to gain personal advantage and position. Tolstoy comments:

By admitting that the equality of knowledge is the aim of the learner's activity, I see that upon reaching this aim the activity itself stops; but by assuming obedience, egotism, and material advantages as the aim, I see, on the contrary, that however obedient the learner may become, however he may surpass all others in worth, no matter what material advantages and civil rights he may have obtained, his aim is not reached and the possibility of the activity of education does not stop. I see, in reality, that the aim of education, by admitting such false bases, is never attained, that is, the equality of knowledge is not acquired, but there is obtained, independently of education, a habit of obedience, an irritable egotism, and material advantages. The adoption of these false foundations of education explains to me all the errors of pedagogy. . . .

This is at root the sort of criticism that Illich is making of the schools. What he says has the same far-reaching implications, and he should always be read with his basic purposes in mind.

FRONTIERS A Better Abundance

THE *New York Times* series dealing with the nation's energy crisis (quoted in the lead article in last week's MANAS) was mainly concerned with threatened shortages of electrical power. Two writers in the *Saturday Review* for Aug. 7, Paul R. Ehrlich and John P. Holdren, consider the problem of power more generally. They begin:

Many Americans, when they think of energy or power, think only of electricity. Actually, the generation of electricity accounts for less than one-quarter of all United States energy consumption. The electrical part of the energy budget has been doubling roughly every decade since 1940, but total energy consumption for most of that period was increasing less than half that fast. Since 1965, however, the growth rate of total energy consumption has increased, and at the present rate it would double in about fourteen years.

These writers summarize briefly the various reasons why it will not long be possible to supply increasing energy at the present rate of growth, except at the risk of "a degree of environmental deterioration barely hinted at today." Then, after presenting the claim of industrialists that ways must be found to match the greater demand of the future, if the people of the United States are to continue to enjoy "a decent standard of living," they ask the fundamental question: "Do we really *need* twice as much electricity every ten years and twice as much energy of all kinds every fourteen?"

Ignoring the warning that any cut in power consumption will throw Americans back to a more primitive way of life, Ehrlich and Holdren propose a program of reduced consumption that includes several measures. One is the development of mass transport systems for the major cities, to reduce fuel consumption by private cars, and, of course, the resulting smog. Another is better construction methods for residences and other buildings, with adequate insulation, so that less energy will be required for air-conditioning and heating. They also suggest banning the flashing signs which make our cities into bizarre spectacles at night and

consume countless kilowatt hours. Finally, they would prohibit sales promotional activities by the utility companies, designed to increase the demand for energy.

These all seem sensible things to do. However, why not take more seriously the alternative of a "more primitive existence"?

Already there are rumors that the strike against acquisitive consumerism on the part of a large segment of the coming generation is making itself felt in reduced sales around the country. A great many youngsters stop buying clothes in fashionable outlets when they get to be thirteen or fourteen, and those a little older show a determination to find ways to raise their own food. In any event, they're buying as little as possible. Jean-Francois Revel thinks there might be a "gigantic dropping out" before very long, with a slowing effect on economic growth. "One can conceive," he says, "of a sort of suicide of technological society, an asphyxiation of American power from within, an immense boycott that would weaken and disorganize production." He hopes this will not happen, or that it will be balanced by the birth of new integrating energies.

The point, here, however, is that a return to a simpler life is by no means out of the question when there are so many with strong inclinations in this direction.

But is it *practical* to simplify when we have so large a population to support? Don't we really need mechanized agriculture and all our present efficiencies in production to meet the needs of the people?

Much depends on how "efficiency" is defined. If you read Barry Commoner on the use of inorganic nitrate fertilizers and what they do to the soil, or if you know a little about what California's enormous farms have done to farm labor, you want to know a lot more than a few production figures in order to answer such questions. You might, for example, want to start at the other end, and say: Well, everybody agrees that there are too

many people in the cities; and a lot of the people who came to the cities recently from the South—say, the Delta region of Mississippi—would much rather be back home working some land of their own, if they could have it, instead of being on welfare in Los Angeles. The mechanization of farming drove them off the land and it seems stupid to call that "efficient."

Just as there are many cars on the highway with only one person in them, so there are hundreds and maybe thousands of acres of good land now being farmed by only one man, or with a helper or two. This seems very inefficient, no matter how much he produces, or could produce, except for the government checks he gets for *not* producing.

The fact is that even small well-populated areas could produce their own food supply, with simple but intelligent planning and arrangements. Take England. England is a small, crowded country and people have been saying for years that the English don't have room to grow food for themselves but must buy from Denmark and elsewhere. This may not be so at all. Writing in his book, *The Anarchist Prince*, in a section devoted to Kropotkin's *The Conquest of Bread*, George Woodcock says:

From a conscientious consideration of agricultural potentialities, he [Kropotkin] comes to the conclusion that it is in fact possible for countries like Great Britain to feed their present populations in abundance. His calculations are based on the actual results of intensive methods used regularly by market gardeners, and even by ordinary peasants in some countries. . . . Some years ago one of the authors of the present book carried out an investigation of the potential agricultural production of Great Britain, and his conclusions fully confirmed Kropotkin's, since he found that if the arable acreages of 1870 were recovered, if the pastures that have declined into rough grazing and waste land were reclaimed, if the ordinary standards of cultivation of Denmark, Holland and Belgium were equalled, and if grass were cultivated as in Switzerland, all the basic foods used at present in this country could be grown with ease, and without even resorting to the more intensive

methods of the laboratory. (See *New Life to the Land* by George Woodcock, London, 1942.)

"Primitive"—"natural"—"intelligent"—these words all seem to be no more than synonyms, today. Efficiency, in days to come, may mean little more than determining the best levels of self-sufficiency and economic independence and self-control for all members of a population group. Then the highest standard of living would be found in the example of those who benefit the most from the least consumption. Nature would be the friend and collaborator of people who practiced this ideal.