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HOW MEN THINK

THOSE who compile inventories of world resources and measure the productive capacities of the industrialized nations say that the best index of a country's economic potentialities used to be the condition of its machine tool industry, but that today it is more important to count that country's computer experts and to study the flexibility and versatility of the cybernetic science practiced there. For computers now represent the ultimate efficiency in production management and control.

Within the scope of the "givers" of the technological civilization, this basis for judgment may be quite valuable; it certainly seems an extremely shrewd means of anticipating broad economic trends. Here, however, it serves only the purpose of providing an analogy which may help to focus a very different sort of investigation: Where, for example, should one look for similar key factors that might be expected to make crucial contributions to the efforts of men to humanize their lives?

The question may be too broad to be dealt with briefly, or at all, but a beginning ought to be made.

First, then, it seems evident enough that the history-shaping activities of men inevitably grow out of a few basic and prevailing ideas—ideas of who and what they are and of where the power lies—the power that can be used for human fulfillment. No one will deny that, whatever other factors were involved, the decisive forces which brought about the revolutions of the eighteenth century were new ideas about the nature, capacities, and rights of man. These ideas supplied the moral energies of the revolution and were the foundation of the utopian vision which inspired at least the greatest revolutionary leaders. Reflecting on the drama in which he had taken part, John Adams wrote in 1818, in a letter to Hezekiah Mles:

> The American Revolution was not a common event. Its effects and consequences have already been awful over a great part of the globe. And when and where are they to cease?
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> What do we mean by the American Revolution? Do we mean the American war? The Revolution was effected before the war commenced. The Revolution was in the minds and hearts of the people; a change in their religious sentiments of their duties and obligations. . . . *This radical change in the principles, opinions, sentiments, and affections of the people, was the real American Revolution.*

The eighteenth-century revolution put an end to the divine right of kings, established the worth of ordinary men, spread the doctrine of human equality, and affirmed the right and necessity of men to govern themselves. That revolution was also strongly anti-clerical, aggressively so in France, but in America with more restraint, the temper of the American leaders being Deist rather than atheist. Yet the age of all-pervasive religious authority was really over by the end of the eighteenth century, not only in relation to social questions, but also as applied to the natural world. Thereafter, men would look to the rapidly developing sciences for access to power over nature and knowledge of its processes. The great skeptics and atheists who helped to make the epoch of revolution might have shocked their contemporaries, but they were nearly all articulate and persuasive men. A century later, their views had become practically the orthodoxy of the educated in both Europe and the United States. It was in realization of this, perhaps, that Alfred de Musset wrote his apostrophe:

> Sleepest thou content, Voltaire;
> And thy dread smile hovers it still above
> Thy fleshless bones . . .?
> Thine age they call too young to understand thee
> This one should suit thee better—

Thy men are born!
And the huge edifice that, day and night, thy great hands undermined,
Is fallen upon us

The outlook which took root in the eighteenth century was essentially a this-world view. Its values were social and material, and morality was defined as the good of all in these terms. Reality was physical and the arts and literature became amenities of life and forms of gracious adornment. Science was the source of power and even politics, as a form of the manipulation of power, attempted to transform itself into a scientific discipline in the nineteenth century. So far as the main current of thought was concerned, it occurred to no one to suspect that large areas of human existence were left unaccounted for by this view. It was indeed but half a philosophy, dealing only with half of life, and quite possibly the lesser half, but the forward rush of material activities generated so much enthusiasm that a youthful, even "adolescent," feeling of wholeness filled up the emptiness of thought. Actually, except for the critical demands of social movements, there was no growth or expansion at all of the eighteenth-century vision. Nothing important has been added to the idea of the self and the meaning of life since that time. And today, while we still insist on the ultimate worth of the individual, and debate endlessly concerning the best means to secure his freedom, both these conceptions have lost substance from lack of development, since the original inspiration is exhausted. Ideas must either grow or die, although they may gain a lethargic continuity through ritual celebration.

Another "huge edifice" now towers over the modern world—the structure erected by technology under the guidance of science, and managed, in its larger aspects, by the politics of self-interest, which is now murderously armed, once again by technology under the guidance of science. And while the foundations of this edifice seem to be crumbling fast, there are no Voltaires or other subverters whom we can honor or hold responsible. The great machines of war and government seem rather to move toward collapse and ruin according to their own irrational drives, although with some minor supervision by a mindless bureaucracy.

Why don't the people rise up and change the direction of all these self-destructive tendencies? The answer, perhaps, is the same as the explanation of how it could be that a great many apparently intelligent people, when they first heard of the revolutionary conceptions which began to spread in the eighteenth century, could not accept them at all. To question the authority of kings was simply unthinkable. So, today, to challenge the course of scientific empire, to question the righteousness of government—one's own—and to propose that a new beginning of a very different sort must be made: these are ideas which will require the nurture of at least a generation before they can capture the imagination of the world.

What are the conditions necessary for this to happen? Just as in the eighteenth century, we shall need a richer, deeper conception of the self, and a truer idea of the source of power. Fortunately, the beginnings of this new conceptual framework can now be discerned. From many converging lines of influence and questioning, new ideas of the self are already in the throes of development, while the anxiety of all the world is pressing the problem of power to the forefront of critical inquiry. Books like Lewis Mumford's *The Pentagon of Power* are compelling attention to the question of how science obtained its almost immeasurable authority, and it is increasingly asserted that scientific knowledge is very different from *human* knowledge. One could say that the whole question of what knowledge is, is in flux.

The mature humanists of the present are revealing a grasp of the meaning of science which should in time contribute materially to a new conception of the source of power, and to a better distribution of the humanly significant meanings of the term itself. For centuries men have thought of science as some sort of infallible truth-machine

thrust into a very imperfect world by the inexplicable genius of a handful of scientific saviors, by means of which the world and man would eventually be made over into whatever is the achievable perfection of each. This is the common man's dream of science, and it has only recently been shattered into bits. Many do not yet realize that the dream cannot be put back together again.

There are a number of thinkers who are now actively engaged in showing that science is an activity of human beings, subject to the understanding, review, and criticism of competent general intelligence; that it represents one of the powers of the mind, having both advantages and limitations. This is a vitally important demonstration, since it has the effect of restoring to individuals large areas of responsibility that have been delegated to other men, as specialists, for more than a century. The birth of a regenerating idea of the self is partly dependent upon this restoration, since an enlarged selfhood grows out of the assumption of wider responsibility and the return to the individual of a sense of capacity that was lost with the establishment of science as an outside authority.

In *The Stubborn Structure* (Cornell University Press, 1970), Northrop Frye writes reflectively on the contribution of science to human life:

> What does science provide for human culture that the arts and the humanities do not provide? The traditional answer, and doubtless the right one, is "nature." What I am saying here is that science gives us nature, not the understanding or conception of nature. This may only be bad grammar, but I mean something more than understanding. The human mind can operate in different ways, but one very obvious way for it to operate is as a subject. That is, it can start by saying: Here am I, and I am here. Everything else is there. As soon as the mind does this, nature springs into being, like Athene from Jove's forehead, and reality appears as objective, as a field. It seems to me that it is peculiarly the function of science to objectify reality. . . .
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> Because science deals with reality as objective, there is no such thing as subjective science. What this means in practice is that science stabilizes the subject. It assumes a mind in the situation that we think of as sane or normal, ready to accept evidence and follow arguments. Thus science assumes a mind to some extent emancipated from existence, in a state of freedom or detachment that we call clarity. . . . What science stands for in human life, then, is the revolt of consciousness against existence, the sense of his own uniqueness in nature that man gets by drawing his mind back from existence and contemplating it as a separated thing. . . . science deals only with It, and can take no part in an I-Thou dialogue.

A critical evaluation of science which Northrop Frye attributes to Blake, and which he would probably adopt himself, is the following:

> Reality is primarily what we create, not what we contemplate. It is more important to know how to construct a human world than to know how to study a non-human one. Science and philosophy are significant as two of the creative things that man does, not as keys to the reality of the world out there. There is a world out there, but science sees it as a world under law, and no vision under law can ever give us the whole truth about anything. Science moves with the greatest confidence, and makes its most startling discoveries, in a mechanical and unconscious world. If we remove science from its context and make it not a mental construct but an oracle of reality, the logical conclusion is that man ought to adjust himself to that reality on its terms. Thus moral law imitates natural law, and human life takes on the predictable characteristics of nature as science reveals it. What begins as reason ends in the conditioned reflexes of an insect state, where human beings have become cerebral automata. The real world, that is, the human world, has constantly to be created, and the one model on which we must not create it is that of the world out there. The world out there has no human values. . . .

Here the ideas with the greatest potentialities for reconstruction are in the statements that science is a mental construct, not an "oracle of reality," and that the real human world "has to be constantly created." Given, in other words, is not the completed product of either human beings or their world, but only the raw materials. Science cannot be expected to complete this world, since,

translated into an active principle expressive of the world it abstracts from nature, science can be nothing more than a machine, and a machine has only one value to produce what it was invented to produce. It has no other program.

So men can expect nothing of science except as a tool. A tool has no ensouling intelligence, but the delusion that it has produces an obsessing demon. This is the ill diagnosed by Jacques Ellul in *The Technological Society.* The remedy lies in the Blakean conception of selfhood and human potentiality.

The idea that the human world has to be constantly created gains emphasis from a consideration of what happens when men are satisfied with themselves as they are. John Schaar gave a quick survey of the effects of this delusion as it has affected the United States since the time of the Revolution:

> At the time of the founding, the doctrine and sentiment were already widespread that each individual comes into this world morally complete and self-sufficient, clothed with natural rights which are his by birth, and not in need of fellowship for moral growth and fulfillment. The human material of this new republic consisted of a gathering of men each of whom sought self-sufficiency and the satisfaction of his own desires. Wave after wave of immigrants replenished those urges, for to the immigrant, America largely meant freedom from inherited authorities and freedom to get rich. . . . We have no mainstream political or moral teaching that tells men they must remain bound to each other even one step beyond the point where those bonds are a drag and a burden on one's personal desires. Americans have always been dedicated to "getting ahead"; and getting ahead has always meant leaving others behind. Surely a large part of the zealous repression of radical protest in America yesterday and today has its roots in the fact that millions of men who are apparently "insiders" know how vulnerable the system is because they know how ambiguous their own attachments to it are. The slightest moral challenge exposes the fragile foundations of legitimacy in the modern state.

This at once exposes the static character of the ideas inherited from the eighteenth-century revolution and shows the weaknesses this lack of development brings to the existing form of society. The extremity of the ill is suggested by the extraordinary hunger for community, felt by people of all ages, but manifested and acted upon mostly by the young, which is a symptom even more revealing than the repressive tactics referred to by Mr. Schaar.

There is a passage in another part of Mr. Frye's book, relating to how scientific thinking works its way into the everyday ideas of the people, which should have some attention. As he points out, it is not easy for scientific ideas to penetrate the dominant idea-systems, since science is not anthropocentric, yet the way this works out is especially interesting. He writes:

> Naturally the main outlines of the scientific picture of the world are a part of our general culture picture, and naturally, too, any broad and important scientific hypothesis, such as evolution or relativity, soon filters down into the myth of concern. But scientific hypotheses enter the myth of concern, not as themselves, but as parallel or translated forms of themselves. An immense number of conceptions in modern thought owe their existence to the biological theory of evolution. But social Darwinism, the conception of progress, the philosophies of Bergson and Shaw, and the like, are not applications of the *same* hypothesis in other fields: they are mythical analogies to that hypothesis. By the time they have worked their way down to stock response, as when slums are built over park land because "you can't stop progress," even the sense of analogy gets a bit hazy. If a closed myth like Marxism does not interfere with physical science, we have still to remember that physical science is not an integral part of the myth of concern.

What does Mr. Frye mean by "myth of concern"? He means, he says, a general view of the human situation which accumulates a body of information or knowledge. A man may read history. History is not myth, but he may feel in some sequence of history a confirmation of the myth in which he believes, and then what he reads ceases to be history. It comes alive as part of the flesh and blood of his myth. It is no longer "fact," something that happened in the past, but is transformed into living conviction. This is the

passage of the objective to the subjective, and each time it happens there is an illustration of how matter is transmuted into mind. "Concern," for Mr. Frye, is the human sense of the difference between what is and what ought to be. "If," he says, "there is no moral concern for all humanity, and only concern for one's own society, then concern is reversed into anxiety, which is the vice of concern, as indifference is the vice of detachment." Concern, very broadly, is what men live by, and traditions of concern shape their intellectual and emotional lives until they, as individuals, begin to take a selective hand in the matter. Mr. Frye says:

> The language of concern is the language of myth, the total vision of the human situation, human destiny, human inspirations and fears. The mythology of concern reaches us on different levels. On the lowest level is the social mythology acquired from elementary education and from one's surroundings, the steady rain of assumptions and values and popular proverbs and clichés and suggested stock responses that soaks into our early life and is constantly reinforced, in our day, by the mass media. In this country most elementary teaching is or is closely connected with, the teaching of "the American way of life." A body of social acceptances is thus formed, a myth with a pantheon of gods, some named (Washington, Franklin, Lincoln), others anonymous (the pioneer, the explorer, the merchant adventurer). This body of acceptances gradually evolves into a complete mythology stretching from a past golden age to future apocalypse. Pastoral myths (the cottage away from it all, the idyllic simplicity of the world of one's childhood) form at one end of it; stereotypes of progress, the bracing atmosphere of competition, the threat of global disaster, and the hope of preserving this life for one's children form at the other. Such a popular mythology is neither true nor false, neither right nor wrong: the facts of history and social science that it contains are important chiefly for the way in which they illustrate certain beliefs and views. The beliefs and views are primarily about America, but are extended by analogy to the rest of the human race. Such social mythology expresses a concern for society, both immediate and total, which may not be very profound or articulate, but which is a mighty social force for all that.

The value in this is its instruction in the way men think, and the part played by even "exact science" in the psychological life of all human beings. It is not the progress of science that matters, but the use we make of it, and of all the other bits and pieces of "knowledge" that come our way. The roots of a man's mythic thinking lie in his ideas of himself, his powers, his responsibilities. If we are able to improve these, and become more aware of how our attitudes are made, and accept the necessity for changing them, all the other factors which go to make up our lives will begin to change for the better, too.

REVIEW
THE FRAUD IN IDEOLOGY

IN *The Ideological Imagination* (Quadrangle Books, 1972, $6.95), Louis J. Halle excludes liberal democracy from the ideologies, confining the meaning of this term "to bodies of doctrine that present themselves as affording systems of belief so complete that whole populations may live by them alone, that are made known and interpreted by leaders ostensibly possessed of special genius or organized by elites not unlike priesthoods that claim exclusive authority as representing something like revealed truth, and that consequently require the suppression of whatever does not conform." Implicitly, he says, such belief systems are totalitarian. He finds liberal democracy to be their opposite:

> For liberal democracy is based on the assumption that none of us mortals has a privileged knowledge of truth, that equally honest and intelligent men will disagree in their identification of it. Therefore, instead of undertaking to abolish diversity it seeks to accommodate it, providing an open marketplace in which men of varying beliefs may compete in offering their intellectual wares to the public. Such a marketplace, in order to accommodate diversity, requires freedom of speech and mutual tolerance.

The book traces the assumptions and course of ideological thinking from the time of Hobbes' *Leviathan* to the present, achieving what seems a remarkable clarity in isolating the articles of faith which depart from the realities of human experience as we know it. After Hobbes, the principal figures involved in this development are Rousseau, Marx, and Lenin. Attention is given to the Nazi and Fascist systems, but since these movements can hardly be said to have serious intellectual foundations, only a few pages are required.

It seems important to say three things about this latest book by Mr. Halle. First, as with other of his works, it has an essentially Platonic inspiration, making the level of its conclusions especially appealing to readers of like mind. Second, the documents cited, while few in number, are shown to be basic, and the author has made a special effort to illustrate to the reader what the individual quoted really thought. Third, the book could be widely used with students as a fine example of how a responsible scholar uses the materials of his field. In general, then, this book has so many excellences that it ought to be read with particular attention. It would make a superb historical introduction to a social psychology of the modern mind which, unfortunately, has yet to be written. The jacket accurately reports that *The Ideological Imagination* gives an account of "the rise of mass bigotry in our time, and its roots in the thought of Hobbes, Rousseau, and Marx."

Limiting himself to ideologies which have played a dominant role since the French Revolution, Mr. Halle sees in Hobbes the beginning of the fictions invented by ideologists to fill the vacuum left by failing belief in the divine right of kings. A believer in absolute monarchy, Hobbes found the authority for kingly rule in the practical necessity for it; and this authority, he maintained, was established by contract with the people, who would ever after be obliged to submit. This was a mere pragmatic sanction, and as unstable as all such justifications. Rousseau also used the foundation of the social contract, but the rule was by the "general will" of the people, which, being in behalf of the common welfare, obtained its legitimacy in this way. The general will is claimed by Rousseau to be always in the common interest, whether the people know it or not, and if they do not understand this, they are to be reconstituted in their nature by the legislator so that they *will* understand it. The legislator simply knows what is right, but how such men are to be found and recruited is a question left unanswered by Rousseau. As Halle says:

> In the Social Contract, then, Rousseau provided an ideal model of society in what was to become the totalitarian tradition. The charismatic leader who presides over that society, having the attributes of a god, decided what the will of the people is, while the actual people who constitute the society are allowed

> no choice but conformity to his decision and consequent obedience to his command.
>
> This lack of choice is what our common sense would call lack of freedom. Rousseau, however, calls it enforced freedom. "Whoever refuses to obey the general will," he writes, "will be constrained to do so by the entire body politic: which means simply that he will be forced to be free." . . . There is here a parallel with the . . . device satirized by George Orwell in his novel, *Nineteen Eighty-Four*. . . . The slogans of the state, . . . are "War is Peace," "Ignorance is Strength," "Slavery is Freedom."

Yet there is also the romantic, anarchist side of Rousseau, who attributes all his own ills and those of mankind to the cruel abuses of institutions—to the State, one may say—which need only to be abolished in order for man's natural goodness to emerge. Here begins the theme of alienation in Western political thought, along with the self-pity that is almost spontaneous when all evil is identified with outside forces.

Needless to say, such massive contradictions as exist, say, between the *Social Contract* and *Emile* are not resolved by Rousseau; they are not even considered. Mr. Halle points out that Rousseau was not a sufficiently serious social thinker to have merited the countless critiques that have been composed about his work. He wrote very casually at times, and often substituted sentiment for disciplined thinking.

Mr. Halle begins his examination of Marx with a comparison of the "Economic and Philosophical Manuscripts" of 1844 with the "canonical" Marxism that was born in 1848 with the *Communist Manifesto.* In the earlier work, man was for Marx a single "species being" with a dual nature. He has a creative, productive side, but he is also spurred by a greedy beast within whose pursuit of money alienates him from the excellences of which he is also capable. Halle says:

> It was surely Marx's dramatic instinct that prompted him to adopt the simple device by which the Marxism of the philosophical manuscripts became the Marxism of the *Manifesto.* In place of the inwardly divided species being, man, he put two characters: the proletarian and the capitalist. The proletarian represented creativity, the capitalist greed. What had been an inner conflict thus became a mortal combat between two characters who stood, respectively, for good and evil.

Halle finds this artificial personification of good and evil the root error in the Marxian doctrine of revolution, and at least a partial explanation for the abortive results, in terms of humanist values which Marx had cherished earlier, of actual Communist revolutions:

> His original view of mankind as one "species being," the individual members of which are torn by inner conflict, represented true understanding, the understanding that has been the basis of our greatest humanitarian literature from the ancient Greeks through Shakespeare to Dostoyevsky and Tolstoy. In the end, however, his Manichean disposition overbore his philosophical insight. His departure from the reality of one human nature is summed up in the single sentence of the *Manifesto* in which he attacked the German socialists for taking pride in the thought that they were "representing, . . . not the interests of the proletariat, but the interests of Human Nature, of Man in general, who belongs to no class, has no reality, who exists only in the misty realm of philosophical phantasy." The basis of the difference between the philosophical Marxism in the manuscripts of 1844 and the Marxism of the *Manifesto* is in the conception of social classes as constituting distinct species. In the society that he saw as divided between "two great classes directly facing each other" there was no such thing as "human nature." Instead, there was bourgeois nature on the one hand, proletarian nature on the other.

Mr. Halle tracks the effect of this misconception in the career of Lenin, who "appears never to have doubted that any petty considerations of self-interest would be unknown to 'the armed workers,' who would show themselves perfect in wisdom and judgment." He found it necessary to put off the "withering away" of the State, simply to retain personal control through a plainly minority party, and when, worn out and sick, he had to relinquish leadership, and then died, Stalin, "the man who was the most adept and unscrupulous in playing the politics of

power, came out on top and established his personal dictatorship."

What is the defense of liberal democracy against the methods of ideology? It has not changed. Liberal democracy is founded, in its conception of the uses of power, on the admission of ignorance—common, human ignorance. The fraud in ideology is that it pretends to a knowledge it does not possess. Hence an inevitable concomitant of ideology is intolerance and the drive for conformity. Liberal democracies begin to fail as they succumb to ideological tendencies and appeals. Socrates, in short, is the model citizen of a truly liberal democratic society. Meanwhile, as Mr. Halle says:

> It is as if all mankind were engaged in a conspiracy to cover up the fact of its ignorance. For the doctor does not let the patient see how little he actually does know, the priest does not turn a member of his flock away with the answer that he has no answer, the professor does not reject the authority that those who sit at his feet attribute to him, a prophet like Karl Marx does not announce that he may be wrong about the future, and the President of the United States does not tell the American people that he is at a loss to know how to deal with the problems that confront the nation. . . .
>
> All of us develop the skill, in discussion, of dissembling our ignorance. Among those of us with the least cultivation, the least intelligence, the least knowledge, the custom is to compete in false displays of special knowledge. Listen to the conversation of young bucks gathered together on a street corner anywhere and one is likely to pick up such rare bits of information as what the President of the United States has secretly in mind, or what the communists are really up to in Vietnam.
>
> On the other hand, the more highly developed a man's mind and education, the more he will recognize how hard it is to be sure of anything.

This book concludes with a luminous explanation of how it is that the practice of voluntary discipline and self-limitation is the only safeguard of a free society.

COMMENTARY
THE "POPULAR MYTHOLOGY"

THE last quotation from Northrop Frye in this week's lead article (see page 7) provides a graphic account of the "popular mythology" by which the vast majority of people in the United States guide their lives. The expression "popular mythology" has both advantages and disadvantages. One advantage is that myth can be seen to supply vital moral convictions as well as a conception of what ought to be. Good or bad, right or wrong, myths can be and are lived by. The phrase "popular mythology" helps this to be understood. A disadvantage is that a "myth" is also thought to be a fanciful story, an infantile inheritance to be outgrown in maturity. So, in consequence of this view, when we read about the "myths" people believe in we have a tendency to say, *"They* believe in such things, but I of course don't.'

Another designation for what Mr. Frye is talking about could be substituted—Ortega's law of "binding observance," which he calls "the alpha and omega of all sociology," pointing to two especially marked characteristics:

> (1) that binding observance, whatever be its origin, does not present itself as something that depends upon our individual adherence but, on the contrary, is indifferent to our adherence, it *is there,* we are obliged to *reckon with it* and hence it exercises its coercion on us, since the simple fact that we have to reckon with it is already coercion; (2) contrariwise, at any moment we can resort to it as to an authority, a power to which we can look for support.

This is from Ortega's study of sociology, *Man and People,* a book that ought to have more attention than it gets.

Our point, here, is that *everybody* is in some measure subject to the stream of assumptions and beliefs which Northrop Frye terms the popular mythology. And we use it, consciously or unconsciously, in our relations with others, because we must. This is as true of scientists as it is of anyone else. Scientific knowledge is not a replacement of popular mythology, and it gets into that mythology only in the way that Frye describes. There is no living, choosing, acting subject in scientific theory. Subjects have no role or place in scientific theory. Science is a picture of the universe with man left out. It is natural, therefore, for scientists to behave more or less like other men—most other men. As Edwin Grant Conklin said in a now forgotten address before the A.A.A.S. in 1937:

> In spite of a few notable exceptions, it must be confessed that scientists did not win the freedom that they generally enjoyed, and they have not been conspicuous in defending that freedom when it has been threatened. Perhaps they have lacked that confidence in absolute truth and that emotional exaltation that have led martyrs and heroes to welcome persecution and death in defense of their faith. . . .

A wise scientist once remarked to his colleagues, "Except for our specialties, we all belong to the masses." The truth of this is shown by the fact that the weight and prestige of value-free science is usually found on the side of the status quo and the powers that be.

What Northrop Frye says, then, in *The Stubborn Structure,* may be most of all an indication of the need to look again at "mythic" thinking, without assuming it to be necessarily either "childish" or "primitive," but as representative of the kind of thinking men do when they take action in relation to the issues and decisions of their lives. This kind of thinking cannot qualify as "scientific," partly for the reason that it is more than scientific thinking. This, however, would not prohibit the adoption of some of the virtues and the temper of some sorts of scientific thinking. Science itself began as a rather wonderful myth, and might do well to try to regain the moral integrities it was once held to possess.

CHILDREN
. . . and Ourselves
LEARNING FROM THE ENGLISH

A BOOK that goes well with John Blackie's *Inside the Primary School* is *Schools Are for Children* (Schocken, 1971, $6.95) by Alvin Hertzberg and Edward F. Stone, both principals of elementary schools on Long Island, N.Y. Blackie wrote about the English primary schools in and for which he had worked all his life. Hertzberg and Stone write about them as Americans, with a view to applying what the English have learned and been able to do in the United States. Reading their work, we reached two simple conclusions. The first is suggested by a passage in the introductory chapter:

> In visiting schools throughout England, the authors met with children in the residential suburbs of London, in rural university towns, and in the coal-mining regions of the north. We observed teachers and headmasters working in over sixty classrooms with more than twenty-five hundred children. We had contact with children coming from affluent surroundings, the middle class, and the working class. We spoke to children who were mentally retarded, emotionally disturbed, and disadvantaged. Everywhere we went, we formed the same strong impression of what we experienced. Everywhere we encountered a deep feeling for children. We found a pleasant atmosphere where children could learn. We found a genuine concern for the individual development of each child, a trust and a conviction that children are eager to progress and to understand themselves and the world. We found a new spirit, a sense of children as children. We felt a mutual respect between adults and children, and a willingness to share in the enrichment of each other's lives. We did not see children attending school—they were *living* there.

In short, these schools revealed the freedom and involvement of an active home life. So the "open classroom" is a way of de-institutionalizing and de-regimenting the lives of children of school age. It is a way of allowing the interest of the children, within a framework of over-all intentions, to determine the activities which take place. So these schools, you could say, are in fact a return to natural life for the young, but a return which is watched over and guided by the *art* of the teacher. The open classroom is not doing something "new," but a restoration of something very old and very good. Fundamental to this change is faith in children. The writers say:

> The environment in a British open classroom reflects an outlook that values the diverse qualities and capabilities of children. An outgrowth of this philosophy is the *integrated day*. Often the terms *unstructured day*, *unscheduled day*, or *open day* are used interchangeably. This type of organization comes from a philosophy of openness, and influences the entire atmosphere of the school. In essence, an integrated day is an enormous block of time devoted to children pursuing individual tasks. The child works in a physical setting that is flexible and in which time limitations are minimized. In this atmosphere, changes are made in individual and group plans depending upon the needs of the day. There is a sense of movement and of continuous progression. There is a sense of well-being and serenity.

This may not be "incidental" or "random education," but it has many of the qualities which have led thoughtful observers to point to the fact that nearly all the important things that human beings learn are learned outside the formal educational setting.

One of the conclusions we reached from reading this book, then, is that the open classroom is a restoration of natural and spontaneous human relationships in which the unpredictable sparks of discovery fly without inhibition. A lot of implications follow naturally. Teaching in an open classroom obviously must depend upon intelligent concern rather than any sort of "system" or plan made by experts. Two kinds of dignity must grow or be present for this system to work: the dignity of children as human beings and the dignity of *teaching*. From all the reports we have read, including this one, both sorts of dignity exist in these English schools. It took time for them to flower, which helps to explain why time is required for the successful development of open classrooms. This is not a "method" but a way of being natural and caring about others and nurturing their growth. These authors can't say enough about the "commitment" required and the real affection felt for the children.

Yet more than just "feeling" is involved. Teachers who want to teach and have this feeling develop truly extraordinary skills. Reading about what they do makes an ordinary person without experience in teaching believe that managing a three-ring circus would be a lot easier.

This brings us to our second conclusion, which is rather humdrum. It is that books by teachers addressed to other teachers have a missing element in them—something both writer and teacher-reader know but that the non-teacher reader cannot know except by the experience of teaching himself.

In other words, it should be recognized that such books are about the transmission of an art, and as Polanyi says, you can have maxims about the practice of an art, but you can't ever set down what must be known before the maxim can be applied. Two swimmers can talk very articulately about what they do in the water to improve their style, but a non-swimmer can't possibly understand either of them. He has to get into the water and splash around, learn at least the elements of staying on the surface, and then begin to sense the relation between the movement of his limbs and his progress down the pool—or across the lake—before maxims about swimming well can begin to make any sense to him.

So with this book. It is by teachers for teachers, and about teachers. But there is a sense in which any reader who is a parent or has something to do with children can profit by it. A parent often has children around him a lot of the time. A teacher who understands how the open classroom works would be able to recognize learning situations everywhere, and be able to use them without seeming didactic or pedantic. Many parents waste countless golden opportunities to teach their own children, and miss entirely the delights of watching their minds open up and grow. A book like this might help such parents to become better educators, or rather better parents.

As we said, this book is by a couple of principals. Probably they are very unusual principals, and the children in their schools lucky ones indeed. They are principals who *teach*, and doubtless wish they could teach a lot more than they do. This idea of principals who teach would be basic to getting more open classrooms started in the United States. One of the great things about the English primary schools is that everybody teaches—the headmaster or headmistress is the head *teacher*. Schools are for teaching, so everybody teaches. Hertzberg and Stone have a chapter which starts out comparing English heads with an American principal. First there is an account of four head teachers of schools in England, where they visited and saw the action first hand. The English heads spent their days pitching in to help the teachers, taking over on remedial reading problems, and working in the art department with the children and the teacher. The American spent a morning in an "administrative meeting" called by the district superintendent, discussing fire drills, safety regulations, teacher supervision, purchasing procedures, the budget, regulations about attendance and visitors, and negotiations with the teachers' union. In the afternoon he had a few brush fires to put out, people to see, including a book salesman, and reports to read. He had no personal contact at all with the educational process on that day.

The English are dropping the expression, "headmaster," for "head teacher," as a more accurate description of the person responsible for the school. And the head teacher is responsible for the school.

Schools Are for Children is filled with practical suggestions for American teachers and principals on how to develop open classrooms in this country. There are sections on art, math, language arts, social studies, and science, and other chapters with general suggestions for guidance. For people wondering about how to move in the direction of open classrooms, there is probably no better book.

FRONTIERS

Scientists Speak Out

IN a recent issue (No. 8, 1971) of the *Newsletter* of the Society for Social Responsibility in Science, Albert Szent-Györgyi, Nobel Prize winner in 1937 for discoveries involving the isolation of Vitamin C, speaks of the present as a time of cultural inversion, when America is "all upside down." As one who lived through the inversion brought by Hitler, when, in the country of his birth, Hungary, "most of the decent people were in jail," he writes with pain about the changes he sees in his adopted country of the United States:

> We were a life-oriented country. Then we turned around and went ten thousand miles away from home, to spend our treasures in a senseless and criminal war, destroying with our technical superiority an under-developed nation which never attacked us. . . . Our leaders do their scheming behind closed doors, leaving the people out of their confidence. We neglect our priorities and deny decent respect for the opinions of mankind. Our greatest office buildings are the Pentagon and the new F.B.I. buildings symbolizing the directions in which we are going. We are allies of all dictators and provide them with arms against their peoples. We prosecute Dr. Ellsberg and make a national hero of Lieutenant Calley. We talk about conserving the environment and deforestate millions of acres irreversibly by poisons. The inversion is complete.

Once a process of inversion gets started, he says, its logic gains strength and finally seems entirely reasonable to many people:

> It seems logical that we and the Soviet should arm as madmen, to have spent a trillion dollars on armaments while half the world's children went hungry to bed, not having enough protein to build sane minds and bodies. . . . This is what an inversion can lead to: a death-oriented society spending all its means on self-destruction instead of self-elevation. The inversion took place so gradually that we did not notice it. So we, the richest of nations, put up with inflation, crime, unemployment, poverty and even hunger, ghettos and slums, drugs and war, and quietly watch our dollar become a soft currency and start its slide down the inflationary spiral. We find it natural that we cannot go out at night without fearing to be mugged and feel unsafe even at home. . . . We must urgently start Americanizing America instead of Vietnamizing Vietnam.

More and more of the intelligent men of science are feeling this way, although they are not all as outspoken as Prof. Szent-Györgyi. Last May the "Mentor Message," a statement signed by 2,200 environmental scientists, was presented to U Thant, Secretary-General of the United Nations, in which the problems of pollution, depletion of natural resources, and the immeasurably destructive weaponry of technological warfare were shown to constitute both an immediate and long-term threat to the human race. The Menton Statement concluded by recommending a halt in technological development involving unknown consequences, abolition of war, and other measures of control.

This impressive formulation of scientific opinion is named the Menton Statement because it was first drafted at a meeting in Menton, France, called by a new peace group known as Dai Dong, which is sponsored by the Fellowship of Reconciliation International. "Dai Dong" is an ancient (pre-Confucian) Chinese expression which means that a man's family includes all the world and all the children in it.

Signers of the Menton Statement include four Nobel Prize winners—Salvador Luria, Jacques Monod, Albert Szent-Györgyi, and George Wald. Among the other signatories are such eminent scientists as Jean Rostand, Sir Julian Huxley, Thor Heyerdahl, Paul Ehrlich, Margaret Mead, René Dumont, Lord Ritchie-Calder, Shutaro Yamamoto, Gerardo Budowski, Enrique Beltran, and Mohamed Zaki Barakat. Three paragraphs from the "Problems" section of the Statement will indicate the temper of this document:

> . . . there is only one environment, what happens to a part affects the whole. The most widely recognized example of this process is the penetration into food-chains all over the world of poisonous substances such as mercury, lead, cadmium, DDT, and other chlorinated organic compounds which have been found in the tissues of birds and other animals far removed from the origin of the poisons.

> Oil spills, industrial refuse, and effluents of various kinds have adversely affected nearly all fresh and inshore waters around the world as have sewage and organic wastes released in amounts too great to be taken care of by the normal recycling processes of nature. Cities are overhung with heavy clouds of smog, and air-borne pollutants have killed trees hundreds of miles from their source.
>
> Even more alarming are our continued and reckless ventures into new technological processes and projects (e.g., the supersonic transport and the planned proliferation of nuclear power plants) without a pause to consider their long-term effects on the environment.

The Menton Statement was the first project undertaken by Dai Dong. A further activity is the organization of an independent conference on the human environment, to be held concurrently with the first UN Conference on the Human Environment scheduled for Stockholm in June, 1972. The Dai Dong gatherings are not intended to conflict or in any way oppose the UN conference, but rather to feed in material and to perform the needed services of a stimulant in relation to a meeting that will of necessity be attended by spokesmen for national interests. Informal Dai Dong meetings will be held before and after the UN Conference on June 5, with workshops in a nearby suburb of Stockholm. Evening meetings of the voluntary and unofficial Dai Dong group of scientists will be in downtown Stockholm. Some thirty to forty participants, mainly biologists, including also some economists and generalists, are expected to attend.

Copies of the Menton Statement and further information about the activities of Dai Dong may be obtained by writing to this group's headquarters, Box 271, Nyack, New York 10960.