

THE MYTHS WE LIVE BY

WHAT is a historian? If he is more than a chronicler, a mere bookkeeper who arranges events in a sequence of time, he is either a metaphysician or a mythmaker, often something of both. That is, he uses the past to illustrate some explanation of what is really happening in the world—to show its meaning.

Historians, we could say, are of two sorts. Those with an axe to grind want you to *adopt* their theory or explanation. The ones who are teachers, in some sense philosophers, want you to *consider* it. There is a great difference between these two purposes, even though they may be mixed in the work of the same person. It is the myth—the vision or the utopian dream—which gives historical writing its power; while its metaphysical content—the appeal to reason—conducts the myth past the guards of skepticism and rational questioning. The imagery of myth speaks to human longing, generating the desire for action. In our day we call this appeal poetry, which uses the language of metaphor, while prose satisfies the need for scientific or logical confirmation, ordering the facts of life so that they fit—or seem to fit—with the mythic vision. Men tend to trust their own myths, becoming careful not to expose them to criticism—unless they decide to risk trying to persuade others to share their feeling and dream. Yeats understood this well. "We make," he said, "out of the quarrel with others rhetoric, but of the quarrel with ourselves, poetry."

Again, what is a historian? He is a man who attempts—who dares—to match his thinking with Reality, and because he publishes his attempt, he means to speak in behalf of the human race; or, if a partisan, for some considerable portion of it. He is undertaking what Emerson called "the highest behavior"—which "consists in the identification with the universe; so that when a man says, I

hope, I find, I think, he might properly say the human race finds or thinks or hopes." This may be a grandiloquent expression, yet at root it seems accurate enough.

This indeed is the role assumed by historians, and the resulting responsibility is enormous. For historians are likely to develop theories of history. They have their vision of the common good, and while they may be shy or uncertain about expressing it, it is always there, except, now and then, for a bleakly skeptical investigator such as H.A.L. Fisher or Charles A. Beard, both of whom confessed that they couldn't see much worth noting behind the tangle of human events. Fisher (in 1934) declared that he recognized no meaningful pattern in the course of history. "These harmonies," he said, "are concealed from me." History seemed to him little more than the succession of one common emergency after another, with "the contingent and unforeseen" playing the major role in the determination of things. Beard admitted at about the same time: "It may be that some larger world process is working through each series of historical events; but ultimate causes lie beyond our horizon."

Karl Marx may be taken as a historian who did not shrink from declaring the meaning of history. In the Winter 1976 *Daedalus* Frank Manuel shows that Marx's *Critique of the Gotha Program* was in fact a deliberate and largely successful attempt (in terms of its influence) to relate a utopian vision to the rhetoric of fact—to what he claimed to be hard-core scientific knowledge about the actual processes of history. He joined the animating emotion of myth with the tough-mindedness of science to collect countless true-believers in his doctrines. Prof. Manuel says:

A full version of Marx's utopia was embodied in the paragraphs of the *Critique* where he distinguished for the first time between Phase I of communist

society, during which real equality could not yet be instituted because economic and cultural resources were too limited, and Phase II, the higher plane of communism. Here Marx also included one of his very rare descriptions of the future communist world. . . .

Once Marx and Engels had come onto the world stage, any utopian survivors had to be repudiated, since they had been transcended by scientific socialism. . . . "Utopian" became an epithet of denigration to be splashed onto any theoretical opponent.

Marxian utopianism, in short, was not utopian because it was implicit in the "laws" of history and would progressively emerge as fact.

Isaac Newton framed no hypotheses and Karl Marx wrote no utopias; that was the official stance. But in neither case was the position in fact maintained. . . . Marx came early to utopia, and the longing never abated, though the language of the utopia changed at various stages of his life. In a letter of 1837 to his father, the adolescent student first raised the curtain on his secret search for a total moral system to replace the "old gods," a pursuit that drove him to nights of relentless study and perhaps a temporary breakdown of sorts. By 1844, the manuscripts show, he had found his way out of the maze with his own economico-philosophical creed for a communist society composed of unalienated men—couched in the jargon of the German Romantic philosophy. These manuscripts, prepared when Marx was twenty-six, are perhaps the most seductive of his texts for our time. The utopia achieved its clearest universal voice in the *Communist Manifesto* of 1848. What could be more in the Romantic utopian spirit of the times than the prophecy: "The old bourgeois society with its classes and its conflicts of classes gives way to an association where the free development of each individual is the condition of the free development of all." . . . Marx combined the underthought of German philosophy in its Hegelian version, the rhetoric of the French utopians, which, unlike German philosophy, was easily adaptable to the styles of popular expression in any country, and the rational argumentation of English economists amended and presented as science to give solidarity to the whole structure. Marxists of later generations could stress one or another of these elements, transforming the whole in accordance with the passing needs of time and place. The amalgam became as flexible and plastic as the original

Christian utopia of the ancient world, and it has enjoyed a signal success for much the same reason that Christianity and barbarism triumphed over the Romans. . . . There are elements in this litany that are markedly Saint-Simonian and Fourierist in tone, expressive of the same Romantic temper. Other elements have counterparts and parallels in contemporary German philosophy. But whatever their source, they are now part of one composite confession of faith. A time may come when the sonorous bits of rhetoric strewn throughout the works of Marx will be fused into a unified liturgical chant whose origins are lost in obscurity.

Prof. Manuel is himself a historian, but here, as often elsewhere, he is mainly a historian of the ways in which people write history and make use of it. For a considerable time this may be the most valuable application of a historian's talents, since it is impossible to eliminate mythic appeal from human expression—Romantic movements practically always take command of people's feelings after a cycle of hard-headed rationalism—and, this being the case, we have urgent need to understand how myth can be misused.

What, essentially, is myth? Myth provides images of the world in terms of man's hopes, longings, and fears. Meaning is the content of myth, which must therefore include self-definition. The myth speaks to primordial feeling in the human breast. When we lack myths to live by, we somehow invent them, but invented myths are likely to be inferior to the ones inherited from tradition. The whole of advertising is a mythic construction inviting us to confirm in practice the delighting image of ourselves as getting everything we want—as insatiable consumers. Meanwhile, the traditional images of man have been so weakened and distorted by misuse and exploitation that they have lost their power to influence our lives.

A helpful account of the role of myth is provided by Northrop Frye in *The Stubborn Structure*:

Man's views of the world he wants to live in, of the world he does not want to live in, of his situation and destiny and heritage, of the world he is trying to

make and of the world that resists his efforts, forms in every age a huge mythological structure. . . . Many of those who are engaged in building up this mythopoeic structure—poets, theologians, philosophers, cultural historians—keep eagerly scanning the physical sciences for formulae that they can annex, thereby showing that scientific evidence confirms their world picture. . . . I doubt if any of them would be regarded, in the sciences that suggested them, as founded on a genuine and well-proportioned knowledge of those sciences. I would even risk the suggestion that the physical sciences have never contributed anything to the mythopoeic world-picture except through misunderstanding and misapplication. If that is true, then the moral is clearly that science is its own world-view, and should be distinguished from the mythical one, even though it may be another mythology. Any cultivated person can become acquainted with both without trying to reconcile them, and without suffering from schizophrenia through failing to do so. Doubtless the world we see and the world we create meet somewhere at some point of identity, but keeping the two ideas of knowledge focussed on that point seems better than a Cyclopean single vision.

This, surely, is the outlook of the good historian the scholar who refuses to convert us to a particular fusion of myth and science, fact and value. We each of us accomplish this union in our everyday lives, since every time we act we make a choice about fact in relation to feeling about value. The historian who understands this necessity, and recognizes the danger of meddling with the decision-making of other people, will always try to show the wide ranges of possible decision. And, equally important, he will point out what happens to people in the mass when they allow themselves to be converted to some alliance of myth and fact that they have not themselves understood and consciously adopted.

Prof. Frye links myth and feeling with his use of the phrase, "myth of concern." Myths shape motivation. From our feeling about things, we embrace certain ideas, choose certain goals, and decide upon certain conceptions of human good—good for ourselves and others. These become the *reasons* for all we do. The myth of concern, then, is the explanatory shape of our feeling about what is good or even necessary to do. This source of

motivation should be distinguished from the descriptive account of the world which comes to us from professional observers, telling what is "out there," detached from ourselves, not directly concerned with what we need to do except as furniture and field.

How does this picture of the world—which we name "science"—begin to enter our lives and exert another sort of influence? Northrop Frye says:

Naturally the main outlines of the scientific picture of the world are a part of our general cultural 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 the stock response, as when slums are built over park land because "you can't stop progress," even the sense of reality gets a bit hazy.

Myths, as we know, are an essential part of religion, sometimes coming close to being all there is to religion. Prof. Frye remarks that the impulse which makes the mythology of concern socially effective "is a central part of the religious impulse":

Religion in this sense may be without a God, certainly it may be without a first cause or controller of the order of nature, but it can never be without the primitive function of *religio*, of binding together a society with the acts and beliefs of a common concern. Such an impulse starts with one's own society, but . . . The Force that creates the myth of concern drives it onward from the specific society one is in to larger and larger groups, and finally toward assimilating the whole of humanity to the ideal of its dialectic, its concerned feeling that freedom and happiness are better for everyone without exception than their opposites. All national or class loyalties, however instinctive or necessary, are thus in the long run interim or temporary loyalties: the only abiding loyalty is one to mankind as a whole . . . the sense of

a society of neighbors takes us beyond ethics and values into the question of identity. It would perhaps be a reasonable characterization of religion to say that a man's religion is revealed by that with which he is identifying himself.

Thus the myth supplies the materials for self-identification. This is its primary function. It is no wonder, then, since all human action seeks the fulfillment of identity, that Shelley declared poets to be the "unacknowledged legislators of the world." For poets, according to tradition, were the original framers of myth.

This returns us to consideration of historians, for the first historians were the poets, the reciters of myths. In antiquity there was little or no distinction between poets, historians, and teachers. The wandering bard, the teller of tales, was the transmitter of meaning, the teacher of image-making, the shaper of characters. The process continues in the same way today, although the image-makers are now divided among a dozen professions and commercial callings. They all, from the behavior-modifier who takes charge of people's reflexes to the ghost-writer of political speeches, from the "creative people" in advertising agencies to the inventors of new cults for the unchurched, are authors of the vast, eclectic, tribal encyclopedias of twentieth-century man. This is the text or catalogue which explains how people ought to think of themselves and need to behave.

Here we should recall that it was exactly in this character that Plato singled out the mimetic poets for his most stringent criticism. He saw that the Greeks were so deeply engaged in copying the images of the Homeric heroes that they gave no thought to their own potentialities for independent decision. They made no inquiries into themselves, but imitated models from stories of the past. The poets engaged the emotions of the Greeks at an early age. Their teaching performances combined the imagery of the *Iliad* with the rhythmic fascinations of music, shutting out even the possibility of self-questioning. To break the hold of this massive cultural indoctrination Plato advocated the method of the dialectic practiced by

Socrates. What are your first principles, and what makes you think them adequate and true? This was the question Socrates never tired of asking. He would urge: Never mind what other people say, what do *you* think? It was an invitation to Greek youth to construct their own identities instead of accepting them from tradition, ready-made.

Today, we might say, we have at last caught up with Plato. Plato was both educator and psychologist. He could see the necessity, the inevitability, of myth—he made up a number of his own which still have currency among teachers of the young. But he was careful not to allow any myth to enter the market place of everyday life in some frozen and literalized form. He wanted no codified version of the steps of self-discovery. He fashioned no art for the use of demagogues.

But there is a paradox in Plato. The musical beauty of his prose is undeniable. "Beguiling" is not an extravagant term for the Dialogues. After arousing the critical faculty, inviting it to sharpened usage in independent pursuit of meaning, abstract and pure, he reaches a level of feeling. Discussing this in Plato, Eric Havelock suggests that "a thinker whose historical task was to destroy the effect of one spell should not have reintroduced another, and as it were by the back door." Yet as Havelock points out in *Preface to Plato*, there is a difference:

The poetic type of receptivity gained through imitation was an excited condition emotionally active. The new contemplation is to be serene, calm detached. It is to be like the "inspection" of a religious rite as opposed to participation in a human drama. Plato has changed the character of the performance and has reduced us to silent spectators. But we remain sight-seers. Are we not simply being invited to avoid hard thinking and relapse into a new form of dream which shall be religious rather than poetic?

Prof. Havelock answers this question in his closing passage:

The *Timaeus* is Plato's final tribute to this kind of speculative vision. But it is a vision, not an

argument. Dare we suggest that in the *Timaeus*, for this very reason, he also accomplishes the final betrayal of the dialectic, the betrayal of that Socratic *methodos* which had sought for formulae in order to replace the visual story by the purely abstract equation? There is to be sure a kind of algebra in the *Timaeus*. But it is well overlaid with the dream-clothes of mythology, and precisely for that reason the dialogue became the favorite reading of an age which clung to faith rather than science as its guide. Yet the day would come when the original drive of the Platonic method would revive, and the phenomenal flux would once more be examined and penetrated and subordinated to categories of explanation which possess a wholly abstract integrity. And when this day came, science would awaken again.

Plato tried to guard against the establishment of science as a cultural myth. Science, he said, is a discipline for thinking, not the highroad to truth. But the modern world needed to go through some three hundred years of ardent faith in scientific certainty to realize the truth in this judgment.

Now we are, so to speak, back at the beginning, becoming fully aware of both the necessities and the misapplications of myth. We have also learned that hidden behind the imposing mathematical structures of modern science are metaphysical assumptions of a decisive character—meanings which we either put into or subtracted from the world during our theorizing, observation, and experiment. And we know, too, from our cultural historians, what happens when myths are nailed down as hard historical theory and reason, with science drafted in the theory's support.

REVIEW

HEALTH—A POSITIVE VIEW

AT the end of a book highly recommended by Ivan Illich—*Health Is for People*—the author, Michael Wilson, offers some concluding reflections:

Health is a concept like truth which cannot be defined. To define it is to kill it.

Nor can it be possessed. It can only be shared. There is no health for me without my brother. There is no health for Britain without Bangladesh. . . .

Like happiness there is an element of unconsciousness about health. When you know you are healthy you are not. . . .

Health always enlarges the context of whatever situation we are considering. As a grain of sand reflects the cosmos, health reflects wholeness. Health is a foretaste of wholeness to come. Health is both great in conception and detailed in practice. It must answer to the pull of both vision and action: of both the "not yet" of the future and the "now" of the present. Health therefore contains sorrow: the sorrow of not being whole.

Dr. Wilson has worked as a physician in Africa, Britain, and elsewhere. His experience of hospitals led him to write a critical study of them five years ago, and the present book is an inquiry into the meaning of health, no doubt provoked in part by the misconceptions of human well-being which many hospitals reflect in their practice. (*Health Is for People* is published in England and probably the only way to get it is to write to the publisher, Darton, Longman & Todd Ltd., 85 Gloucester Road, London SW7 4SU, U.K. The price is £1.95 or a little over three dollars, to which, on a paperback, 25 cents postage should be added.)

The polarities examined in this book are Cure and Care. Many doctors think only of curing specific diseases or ills. Some of them, Dr. Wilson remarks, boast of the fact that they can cure diseases without even knowing the patients' names! Years ago Carl Jung remarked that clever intellectuals make good specialists but bad nurses,

and this is a theme of Dr. Wilson's book. He thinks that the emphasis should be reversed—that curing should be subordinated to caring; that nurses, in terms of their natural function, may be more important than doctors (unless the doctor is also a good nurse). "Nursing is seen to be a profession in its own right, not simply a paramedical profession: it is as true to say that medicine is a paranursing profession."

The specialist's approach may distort or conceal the meaning of being "well." Dr. Wilson would like to abolish the word "patient" as a term which conveys supreme authority to the doctor. This makes the doctor responsible for far more than he is able to do. Research of the doctor-patient relationship has shown that the two "may shape the nature of the illness between them." The doctor's zest for "objectivity" leads him to look at the patient as a biological mechanism. As a result, the patient may look at the doctor as a technical "fix-it" man who relieves him of personal responsibility. Dr. Wilson says:

The patient offers certain symptoms which the doctor may accept or reject. The doctor expresses more interest in one direction than another, and the patient may agree or refuse to follow. The relationship is like a dance.

Doctors may therefore collude with a patient's desire to be ill. The patient may mislead the doctor or refuse to acknowledge that the doctor is right (perhaps) in asking him personal questions about his style of life. Patient, or doctor, or both may refuse relationship. There are, in fact on the side of both doctor and patient healthy and unhealthy ways to respond to the illness.

Dr. Wilson's extended discussion of the social implications of medicine recalls the dramatic career of Dr. Norman Bethune, the Canadian surgeon who developed the collapsed lung treatment for tuberculosis after being cured himself, at Saranac, by this method in a scant two months. He became a missionary for this treatment, inventing a number of valuable surgical instruments. Because he cared only for healing, Bethune devoted much time to the sickly poor. As a result, he realized that despite all his efforts,

"The rich man recovers, the poor man dies." He saw "the close embrace of economics and pathology " and wrote in the *Canadian Medical Journal*:

We as physicians can do but little to change the external environmental forces which predispose to infection and reinfection. Poverty, poor food, unsanitary surroundings, contact with infectious foci, overwork and mental strain are beyond our control. Essential and radical readjustments of these are problems for the economists and sociologists.

As related in *The Scalpel and the Sword* (Prometheus Books, 1952) by Ted Allan and Sidney Gordon, Bethune declared to his associate, Dr. George Deshaies, that while tuberculosis could be wiped out by known methods, it was actually increasing; and to his wife he exclaimed:

We patch an arm, a leg, the way a tailor patches an old coat. We're not practicing medicine, really—we're carrying on a cash-and-carry trade. I'll tell you what's needed: a new medical concept, a new concept of universal health protection, a new concept of the functions of the doctor. . . . Doctors will band together in a community of medical practitioners. We'll go into the slums, into the districts where the need is greatest. . . . We'll live on what we can get . . . nickels and dimes, dollars. It will be enough. Whatever people can afford will keep us. Medicines, supplies, equipment—all these are technical details. If necessary we'll shame the government into giving them to us."

Dr. Bethune was not able to achieve what he hoped. Angry and disgusted, he sought a political solution. He went to China to help Mao's armies, and died there, heroically, at the front during World War II. The supply of antiseptics was exhausted, causing his own death from infection.

This book about Bethune would be a good one to read in connection with *Health Is for People*, since it illustrates so dramatically the part played by the community and the total environment in the health of all the people. Dr. Wilson shows the web of interdependent relationships on which health depends:

It is the pioneers of community development who are beginning to change our ideas about how

medicine fits into the movement of a people toward health.

When I was in Northern Nigeria in 1946 I visited a rural development scheme at Anchau which was directed by the Colonial Medical Services. The scheme began with the eradication of sleeping-sickness from the area. Because the tsetse fly which carries the disease breeds in the shade along river banks, a systematic slashing of the undergrowth was undertaken. It was essential to maintain this work, when completed. But in order that the work of regular scrub clearance each year might not become too great a burden on the local farmers, it became necessary to concentrate the population in certain areas. This meant that it would then be possible to maintain the clearance by doing two days slashing a year—a reasonable burden of work for a farmer.

In order to concentrate the population various villages were moved, and this set in train a whole series of activities which affected every aspect of the villagers' lives. Soil and water surveys were done, crop tests, and new designs for houses within the traditional style. By a simple construction of the new well heads, people were prevented from walking in the water hole, and so Guinea Worm was also eliminated from 600 square miles of territory—a parasite of particular malignancy to farmers because it incapacitates them during the wet season when they should be tilling the farm: consequently it impoverishes their families.

In order to help people to understand the changes, schools for literacy were begun so that health education could be carried out. The Anchau rural development scheme is a good example of enlightened preventive medicine (the curative element was small) which took seriously the pattern of a people's life as promoting illness or wellness and health. The directors also took seriously local responsibility for the village communities maintaining their own progress, and the need to change attitudes, customs and beliefs about diet, farming, marketing meat and many other aspects of their lives.

This is the practical side of Dr. Wilson's conception of the necessities and laws of health. The philosophical side comes out most clearly in a quotation he provides on the relationship between health and culture among the Navajo Indians of the American Southwest. Margaret Read says that for the Navajo, health results from balanced

relationships with the rest of the world: "Health is associated with good, blessing and beauty—all that is positively valued in life," while illness "bears evidence that one has fallen out of this delicate balance." The Navajo makes no distinction between religion and medicine, which for him are "aspects of the same thing." Dr. Wilson notes the contrasting view of the Minister of Health in Great Britain, who shows by his annual report a concern with "diseases, handicap, death and ugliness."

In his first chapter Dr. Wilson lists the assumptions of modern medicine which he writes about in order to reverse. They are (1) that the cure of disease is more important than the care of patients; (2) that hospital staffs should assume power over patients; (3) that individuals are separate from one another; that the provision of health is a task for experts; (4) that every problem has a solution; and (5) that death is the worst thing that can happen to a human being.

This book is a splendid example of the changed ways of regarding the human situation which are gradually coming to the forefront of thought. It could easily serve as a manual for the numerous groups of doctors and others who are planning to spend their lives working in behalf of the welfare of the social community.

COMMENTARY **THE LINK OF MYTH**

ALL through this issue we come across the puzzle of the difference between feeling and knowing, or between being something and thinking about it. The usual way of describing this difference is to contrast the "cognitive" with the "affective" mode of perception, but it may be well to avoid use of these "definitive" terms lest we suppose we know what we are talking about.

Feeling is certainly a kind of "knowing," but why, then, should deliberated definition so often reduce the feeling and even dissipate its knowledge? "Like happiness," says Dr. Wilson (see Review), "there is an element of unconsciousness about health. When you know you are healthy you are not."

Yet as humans, we can hardly bear to "know" something without knowing it intellectually. Children are all the time taking things apart and not being able to put them together again. What is it that compels us to analyze the objects of experience to the point of stultifying the wondrous capacities of innocence? Invading the voiceless functions of instinct?

Plato may be of some help here. Quite evidently, he thought that there are two levels of feeling: the partisan kind that deludes and the holistic kind that confirms. In between come the painful labors of the dialectic, which at first bewilder and frustrate through questioning and doubt, then tantalize with the superficial certainties of logic, eventually to be exposed by a series of contradictions. Always the knowledge gained through definition, by reason, is incomplete. Always there is "more to be said." And when you really know, *nothing* can be said. Who speaks with any success of the truth of actual being? One is reduced to poetry.

In terms of human longing, we are caught on the prongs of this dilemma. But besides our indispensable longing, we have what is called common sense. Although the longing remains, we

are living in the world where there is wood to chop, coal to be mined, and electricity to be generated. The man of skill and efficiency in doing these things has no embarrassments. He knows, and knows that he knows, and can practically forget about it. You see this from watching a good carpenter or any craftsman. We truly know, as Vico says, what we make.

The myth, it may be, supplies a link of feeling between the knowledge of making things and the knowledge of making a life.

CHILDREN ... and Ourselves VICO AS EDUCATOR

LONG ago, Herbert Read pointed out that the comparatively sudden imposition of abstract studies during the pre-adolescent years—from, say about eleven on—has a stultifying effect on children's creative capacities, in all but the most exceptional or stubborn cases. No one, we suspect, could have dried up the image-making resources of a William Blake, or reduced a Lafcadio Hearn to writing dull and literal prose, but such rare individuals do not represent the problem of education. For these, conventional schooling is an obstacle they will eventually push out of their way. They need only the tools of self-education, which they are likely to invent for themselves, anyway.

Read's point has to do with a curriculum which ignores the natural rhythms of learning in children. Paul Goodman said something similar in reminding us that the ancient Greeks gave no instruction in "heavy" or abstract subjects until the young had reached the age of responsibility—had had some experience with life and knew how to make practical applications of theoretical conceptions. Rousseau's ideas, of course, were much the same. The difficulty seems to be that adults feel obliged to pour into children whatever they happen to think is important to know, regardless of what is natural for children to learn.

This habit was regarded with outrage by Giambattista Vico nearly three hundred years ago. Vico had a theory of human development which he applied to societies and individuals alike. The earliest sort of learning, he maintained, is "poetic" in character. He saw the rage for Cartesian mathematical abstraction which began to dominate learning in his time as dulling and blinding to the human side of life. In a chapter in *Giambattista's Science of Humanity* (Johns Hopkins, 1976), Howard Gardner summarizes this central theme in the writings of the Italian genius:

Vico inveighed against the rationalist tradition, most particularly against those who came to regard the

formulations of Descartes as the sole acceptable view of knowledge. Beyond mathematical laws, external to the study of natural or physical phenomena, inaccessible to deductive methods, was an enormous domain of human activity. . . . because of a natural tendency to turn outward, to project feelings and thoughts onto the physical world, scientists had long concentrated on the world of objects. They had unconsciously neglected the personal-social realm, which was actually much more susceptible to their understanding. Comprehension of these institutions would come about through a sensitive examination of their origins and their development; human imagination, personal experience, empathy, and searching examination of surviving texts and practices were all acceptable methods for the new science. . . .

Boldly he analogized the development of society with the evolution of the child. In the young child Vico found exemplified the same tendencies for discerning metaphoric links, expressing oneself poetically, relying on imaginative, mnemonic, and perceptual powers rather than on analytic, critical, and deductive skills. These youthful proclivities, critical for the full development of the child, needed gentle but persistent cultivation. Yet scholastic institutions at the start of the eighteenth century were emphasizing just those rational modes which were destined to undermine poetic thinking.

After reviewing present-day research into child development Mr. Gardner remarks cautiously that its conclusions "provide at least tentative support for Vico's claim that the young child has special proclivities in the realm of memory and perception and possesses aspects of a poetic or artistic character." In addition, "they suggest that the older child is better equipped for and probably more favorably disposed toward manipulating logical and scientific symbolic materials." Accordingly, Vico's recommendations "are consistent with what is known about the normal course of development of the child." Yet Vico did not propose neglect of the sciences. He wanted them to come at a time when they would not distort the symmetry of the child's developing intelligence. In *On Study Methods* he said:

Young men should be taught the totality of science and arts, and their intellectual powers should be developed to the full . . . let their imagination and memory be fortified so that they may be effective in those arts in which fantasy and the mnemonic faculty are predominant. At a later stage let them learn criticism so that they can apply the fullness of their personal judgment to what they have been taught.

In one place Mr. Gardner offers a needed comment on the modern tendency to do a "study" and then introduce some far-reaching curriculum reform. He says:

Finally, such a legislative approach toward study methods underplays the vast individual differences among individuals. Some children are so highly figurative in their approach that they possess eidetic imagery in the visual realm or equivalent facility in the auditory realm. Others are highly operative from an early age, mastering chess, or even music at a time where other children are tone deaf, mathematically illiterate, content to parrot rhymes or learn the names of automobiles. Surely these enormous differences in early abilities reflect different hereditary proclivities and neuroanatomical organization; presumably such diverse children respond optimally to different pedagogical techniques.

Whether or not such "enormous differences" will ever be accounted for in this way remains an open question. We prefer the "x" factor suggested by Philip Ainsworth Means, standing for some scheme or nucleus of inner causation about which we know little or nothing. Meanwhile, Mr. Gardner's idea of not "legislating" educational methods according to a single pattern of development seems an especially good idea.

In another paper on Vico—whose ideas fascinate today's professional educators—George Mora draws a comparison between Vico and Piaget. One could hardly imagine two persons more different in temperament than these two. Piaget is the model scientist, always offering evidence, careful not to overstate anything. Vico is an enthusiast, a tempest of a man who rides on a vaulting imagination. He is given to brilliant insights, strong antagonisms, and occasionally extravagant assertion. Yet there are close parallels between the conclusions of Vico and those of Piaget concerning education. Doubtless Vico would be called a "structuralist" today. Mr. Mora says:

Unquestionably, Vico was aware of developmental stages in human life. He also believed that there was a correspondence between the development of cultures and the increasing sophistication of the art of reasoning. As a contemporary critic put it: "Vico believes in the existence of a *psychogenetic law*, by which the individual develops through a certain series of phases, the sequential order of which is immutably fixed by nature. These stages parallel an equally immutable set of "culture stages"

which the whole of mankind has traversed in its growth from infancy to adulthood, from primitivism to civilization."

In *On Study Methods of Our Time* (1709), his only exclusively educational treatise (written to counteract the supposed dangers of Descartes' rationalistic emphasis in education), Vico's main thesis is that "since young people are to be educated in common sense, we should be careful to avoid that the growth of common sense be stifled in them by a habit of advanced speculative criticism." The following year he said:

"Geometry should be taught not analytically, but synthetically, so as to arrive at the demonstration by combining; which means *to create the truth instead of finding it*. To find, is a work of chance, to create, of industriousness; for this reason I have asked that geometry be taught not with the help of numbers and genders, but of forms; so that, in learning it, the fantasy, which is the core of talent, rather than talent itself, be strengthened." [The italics are Mora's.]

Central to Vico's thinking, as is known, is his conviction that the true (*verum*) and the made (*factum*) are convertible; that is, we can know for certain only that which we ourselves have made or created. . . . Vico continuously emphasized that teaching should be based on synthesis rather than analysis. It is impossible to thoroughly know physics because we do not "make" it; on the contrary, geometrical propositions can be demonstrated because they are made by men. Consequently, it is important "to guide youngsters in mathematics not through 'species,' as they are called, but through 'forms,' that is, not through algebraic symbols but through geometrical forms." This is one way to help the child "not to find the truth but to make it." All this is quite close to some of the main tenets of contemporary education which have resulted from Piaget's investigations.

And these are only a few of the parallels found by George Mora between Vico and Piaget. It seems worth while to add that Vico had a bad fall when he was seven years old, and as a result he did not attend school but taught himself for some three years. Later he studied by himself for nine years, "continuing to be, in his own word, an 'autodidact,' and proud of it," as another contributor to this book reports.

FRONTIERS

Questions and Answers

ECONOMIC theorists admire and defend the market system of price control—and therefore of balancing the supply and demand of goods—because it is self-regulating. No bureaucracy is required to make it work. This extraordinary advantage is immediately persuasive, especially to persons who have had experience of the effects of bureaucratic interference when they attempt to do something good and needed both intelligently and well. If, then, there is something basically wrong with the market system, a great deal of searching criticism will be needed to replace it with another arrangement.

Lately, the market system has come under fire from some of the best minds of the time. Probably the most effective critic was Karl Polanyi, in his book, *The Great Transformation*, in which he demonstrated the devastating effects of converting the market system into a general credo or philosophy. Other critics have more recently pointed to the massive technical failures of the market system. Now Donella Meadows, co-author of *Limits to Growth*, looks at the market system with two questions in mind: Is it fair? Does it work well only under certain definable conditions?

Not all free-enterprisers claimed it was "fair" during the years before the disaster came of supposing an economic process could be made into a *philosophy of life*—a development which required pulling everything else—people and society, and even nature—out of shape to make it fit with the way the market system works. Eminent nineteenth-century capitalists, as a social historian has remarked, saw quite clearly "that there was nothing inherently moral about the accumulation of wealth and that the basic sources of morality needed to govern the process of accumulation needed to come from outside the process itself." Today, however, it has become necessary to demonstrate what was plain enough

to, for one, Andrew Carnegie—that fairness is not a built-in attribute of the market economy and industrial system. So, Mrs. Meadows asks her two questions: Is it fair? How well does it work today? Her replies are given in an article in the October *Not Man Apart*, to appear later in *Alternatives to Growth*, a book edited by Dennis Meadows.

Mrs. Meadows sets her questions in various ways. In one place she says:

Critics have observed the real market allocating grain to some people to feed cattle, to feed fancy purebred dogs, while other people can't afford to buy grain to feed their children. They see the market rewarding with a pittance the man who works all day in the field to produce that grain, while greatly enriching the man who does nothing more than buy it and hold it off the market until the price is right. Two questions are raised by these observations. First, is the market really rewarding productive efficiency, as it must to function well? Second, even if it is, would a society that allocates its output that way be stable, and would it be one we would like to live in?

To get at answers she studies two "nearly perfect" market situations—dairy farms in Vermont and wheat farms in the Punjab of Northern India. She came across these examples while examining a quite different problem: "Why is the number of dairy farmers in Vermont decreasing so precipitously? Why is the rural-urban migration in the Punjab so high?" The "normal" operations of the free market turned out to be the explanation in both cases.

In Vermont dairying, Mrs. Meadows found, the market system did exactly what it was supposed to do. The trouble was that there has been no increase in the demand for milk, although the real cost of producing it has gone up steadily. When costs go up but demand doesn't, then the only way to break even is by increased turnover—you have to sell more without an equal increase in overhead. This means taking business away from your competitors. If *you* are to survive, they *can't*. So, between 1950 and 1975, the number of dairy farms in Vermont fell from 22,000 to 6,000. The bigger, expanded farms survived. And to do

it they had to mechanize all their operations. From 1962 to 1973, the average value of farm machinery among dairy farmers nearly doubled, while "the average indebtedness per farm has increased since 1950 by a factor of six." The market system forced these and other unpleasant changes. For the majority of farmers, the result has been neither efficient nor fair. And it now takes a quarter of a million dollars to start out in the dairy business in Vermont. Young man, *don't* go Down East!

Production of Punjab wheat is one of the highly advertised success stories of the Green Revolution. Production increased by 300 per cent between 1960 and 1968. Wages for labor doubled while the price of land quadrupled. The successful farmers bought out the smaller ones. The market for wheat in India has no limit. Unlike the Vermont dairymen, Punjab growers of grain can sell all they produce. Instead, land is limited. The Punjab wheat farmer who needs more land must buy it from another wheat farmer.

Since figures showed that the smaller dairymen and wheat farmers were about as efficient as the larger ones, Mrs. Meadows wondered why they had to sell out. She found that financing was likely to be the answer. The big farmers obtained loans more easily. Lending institutions regard the big operators as better risks. Moreover, "bigger units generally possess more social power, contacts, collateral, information, and political strength." The writer comments:

John Kenneth Galbraith claims that 50 per cent of the American economy has already entered the oligopolistic [monopoly by a few] category. One wonders why more notice hasn't been taken of this self-destructive characteristic of the competitive market system. . . . What we need to do is understand better the strengths and weaknesses of the market system and look for ways to emphasize the strengths while eliminating the weaknesses. As Joan Robinson has said "a pricing system based on supply and demand, though a bad master, may be a useful servant."

The market's tendency to generate inefficiency and inequity, the weakness I have explored in this paper, arises directly from the competitive character of the market interactions. The market rewards successful competitors with the means for further successful competition. If the market is limited, and if technology permits the substitution of capital for labor, the competition is enhanced. The competition need not be ethical or even very efficient, it need only permit one producer to expand faster than another. On the one hand, competition is the keystone supporting the whole theory of the market, and on the other it is the source of its destruction.

Mrs. Meadows suggests some remedies that need close examination. She concludes by noting that while setting the conditions of a "steady-state economy" would limit some of our traditional "freedoms"—to make a profit, to gain and wield power somewhat as we choose, and to expand—the real question is: "What kind of freedoms do we want—what kind of society do we want?"