VOLUME XXIX, NO. 25
JUNE 23, 1976

THE PUSH OF NECESSITY

ENERGETICS is a way of thinking about our relations with the planet which demonstrates the essential harmony of Energy, Economics and Ecology—a wholly appropriate fusion. This mode of analysis exposes and illuminates the distracting fluctuations of the market and the various self-deceptions which grow out of measuring value in dollars instead of in terms of those primary goods which in our day money has been allowed to represent. There may be certain practical objections to substituting energy flow for dollar flow, but the advantages are obvious enough. If there is no energy, money will not buy it. If there is not enough energy, money cannot increase it. We make energy accessible to ourselves by using the resources we have at hand, and we may do this in either profitable or wasteful ways. Energetics is the study of the laws governing the accessibility and distribution of energy.

Late in 1974, Joel Schatz, then director of the Oregon Office of Energy Research and Planning, told a group of federal energy officials in Portland, Oregon, that the time had come to reconsider the assumption that the stability of the country rests on our capacity to achieve higher and higher levels of energy use. Drawing on the perspectives embodied by Howard T. Odum (University of Florida) in *Environment, Power and Society*, and in particular on the equations presented in Odum's famous paper, "Energy, Ecology & Economics" (first published in 1973 in *Ambio,* Vol. 2, No. 6, journal of the Royal Swedish Academy of Sciences), Mr. Schatz went on to explain:

> We are only now becoming aware that these [higher] levels of energy use are not only unnecessary to the stability that we seek, but are becoming dangerous to it because of our dependency on disappearing resources. Our belief that we need this energy, and the resulting rapid depletion of it is causing increasing economic instability, inflation, and unemployment.
>
> By accelerating the depletion of domestic resources, we only increase our future dependence on imported resources, unless those resources are used for transition to a permanently sustainable domestic base. Merely substituting vanishing domestic resources for vanishing foreign resources only substitutes one source of instability for another, and cannot possibly lead to economic and social independence.

While propositions of this sort have become increasingly familiar during recent months—especially in the work of Amory Lovins—some repetition of their implications should be of value, since the policies of this nation and other nations in the world community are still far from being in accord with the simple common sense that energetics analysis reveals.

First, then, some basic principles as given by Dr. Odum:

> The true value of energy to society is the net energy, which is what's left after the energy costs of getting and concentrating that energy are subtracted.

Most estimates of our existing or potential energy reserves are gross energy calculations, leaving out of account the increasing amounts of energy required to develop them. Our actual net energy reserves are much smaller than current energy calculations imply:

> We are still expanding our consumption of gross energy but since we are feeding a higher and higher percentage back into the energy-seeking process, we are decreasing our percentage of net energy production. . . . As our most accessible resources are depleted, more of our work and its products—and therefore money—go into getting energy and materials instead of producing goods and services [an obvious cause of inflation].

Accounting in terms of energetics requires that we measure all of the hidden energy inputs

devoted to any human activity, not just the obvious energy consumed by the activity. For an example in the area of transportation, the Oregon Office of Energy Research and Planning evaluated in energetic terms a proposed nine-mile stretch of four-lane highway (up the slopes of Mt. Hood) for the city of Portland. It was found that the total energy costs of the highway would involve energy consumption equal to ten per cent of the entire state's present fuel allotment. Armed with this analysis, the Portland city council voted down plans for the road.

Many existing and proposed energy systems require substantial subsidies, just to keep the system running. For example, the production of electricity by nuclear power plants, still widely regarded as a promising source of additional supplies of energy in the future, actually requires continual subsidies not only of uranium, but also of highly concentrated fossil fuels such as oil and coal somewhere along the line. The enrichment of the uranium alone consumes in advance (in the form of coal) up to 60 per cent of the energy eventually to be produced by the nuclear pile. Mining uranium, constructing massive power plants, engineering and maintaining complex safety precautions, transporting and storing plutonium wastes that will remain lethal for thousands of years, and protecting nuclear materials from terrorist hijacking all bear high price tags in existing energy. When all of these largely irreducible costs are taken into account, the nuclear power plants of today may be yielding very little net energy. As supplies of both fossil fuels and uranium diminish—and increase in cost—the point may be reached where none of these plants will yield net energy.

Other proposed nuclear systems are still problematic. No one knows the requirements in fossil fuel subsidy for the "breeder process" or a working fusion power plant.

With these prospects before us, one basic question becomes urgently clear: How should we use our existing reserves of fossil fuels?

After these reserves are gone, or have become negligible, we shall have left only certain familiar sources of safe and continuously available energy—wind and water power, solar energy, thermal energy, self-contained agricultural systems, and methane generated from various organic wastes. If we are going to rely on systems of power production from these resources—systems that operate efficiently, whether large or small—they will require a certain amount of energy from fossil fuels to develop them as self-sustaining technologies. Even intermediate technologies need initial pump-priming investment of energy at the beginning.

One vast area of natural energy supply has been more or less ignored, although not entirely. We receive enormous free energy subsidies from the natural environmental systems around us, as from the ability of natural lands to perform tertiary sewage treatment. As net energy decreases, we must neither duplicate nor hinder such beneficial natural processes, while finding more ways to cooperate with their purifying and self-maintaining cycles.

One far-reaching decision that diminishing energy resources present to us is whether we should bend every effort to increase our available energy, or, instead, exercise all our ingenuity in learning how to use less. In terms of energetics the answer is plain enough. Howard Odum has put it with abstract clarity:

> The potentials for achieving balance between energy supply and demand through demand reduction are technically, socially, and economically more feasible, and entail much less risk, than supply increases. In addition, demand reduction will provide continuing rather than temporary economic and social benefits and will automatically reduce environmental stress. . . .
>
> Those who attempt continued growth as net energies decline are merely creating the conditions for sharper and more disruptive economic transition for themselves, the longer they wait to adjust their consumption to what will inevitably be required of them.

> Large-scale organization can only be maintained with high energy use. Transition will have to be made to smaller scales of organization appropriate to available energy levels.

This is easy to illustrate with an example within everyone's experience. The high-density living patterns of our cities were made possible by energy-rich fuels such as coal and oil. When these fossil fuels were cheap and plentiful, it seemed common sense to use them to develop efficient transportation systems to supply the cities with food and material, and for people to move to the cities in droves to get jobs and enjoy the cultural and other supposed advantages of urban life. But when fuel goes up in price, the concentration of population in urban areas becomes an economic disaster. The fuel costs of urban life-support systems can no longer be easily met. Meanwhile people who live in the city are wholly dependent upon its complex technological services. They can't readily fall back on their own resources and ingenuity—the resources (of land to grow food) don't exist, and the ingenuity (unpracticed and forgotten) is at low ebb. Obviously, people will be forced to adapt—many to disperse and go back to the country, others to find ways within the cities themselves of putting their own energies to work in the place of disappearing, high-priced fossil fuels. Plainly in order is a vast program of rediscovery of simpler patterns of living, involving low-energy requirements which enable people everywhere to become more independently self-sustaining. Again quoting Joel Schatz:

> Wise use of human resources is more important when less energy and material resources are available, and full and rewarding employment is more easily achieved under such conditions than when plentiful and inexpensive energy is available to replace human skills.

Now we are moving from the economics to the psychology of energetics. A point is reached in the substitution of purchased energy for individual resourcefulness when the exchange produces diminished feelings of self-worth. The balances are subtle in character, yet the general helplessness of the city-dweller when compared to the self-reliance of many country people is a lesson that comes home to us all. Meanwhile, the alleged advantages of the higher "standard of living" of current urban existence depend upon a rhetoric that ignores the very substance and texture of the good life. In the United States we most commonly associate the good life with a high level of energy use, but studies are now revealing that just the opposite is true. The higher the level of energy use, the lower the quality of life. As E. F. Schumacher has said in one of his *Resurgence* articles:

> The lifestyle of the modern world is characterized by a very high rate of what we might call economic *metabolism,* that is to say, an enormous through-put of resources to obtain a standard of living which still is, for most people, deplorably low. . . . If fuel and material resources should make further growth impossible, or even enforce the reduction of certain activities, people fear that nothing but misery can be in store for them.

Quite evidently, we need to learn new ways of thinking about these questions and problems. Continuous buying and selling—large and endless exchanges of money and energy for goods and services—has little or nothing to do with the essential quality of our lives. In Dr. Schumacher's words:

> All this stems from a confusion of thought which takes the metabolic rate for the equivalent of the standard of living. Is our standard of living really determined by the rate at which we manage to consume, that is to say: *to destroy and use up,* valuable goods and services? We know families which consume very much and live very badly: both husband and wife have to go out to work; they return from work exhausted and disgruntled and have no strength left in them for anything but watching television; the children feel neglected and present their parents with endless problems which are as insoluble as they are costly to cope with; expensive holidays fail to undo the damage done during the rest of the year. . . . Yet we also know families who consume relatively little and live rather well. How do they do it? The rate of metabolism, economically speaking, of the former is high; that of the latter is low. Whose is the higher standard of living?

We have not left the subject of Energetics—only transposed the discussion to another key. There is a rhythm of life which results from human beings choosing to balance their needs and desires with the physical capacity of the earth to supply such wants over a long period of time. Such an attitude does not attempt to take more than the earth can give and structures personal habits around the natural cycles of replacement and restoration.

These ideas, put into practical terms, raise specific questions in evaluating any geographical/political region. There is for example the concern for *people:*

How many people are there (in a given region)? How much energy and material do they require to maintain their current level of living? Are they unhappy or are they satisfied with the way they live? What are their dreams for the future? What measure of energy—what *kind* of energy—will be needed to fulfill such hopes?

Obviously, exploration of such questions will produce new thinking, which is at this time surely more important than merely statistical conclusions. Who can ignore the subjective factors wrapped up in all considerations of energy supply and use? Figures alone in reply to such questions could easily chain us to a doomed status quo.

Other questions relate to *land.* What are the existing land-use patterns? How much of the land is natural and presently self-sustaining? how much agricultural? how much urban? What are the energy flows needed to sustain the natural and human metabolic patterns in each of these areas? What changes in proportion of area distribution are likely to occur?

Finally—*Energy.* What are the sources of renewable energy in the entire region? How much present access is there to solar energy, wind energy, hydro-power, timber, and agriculture? What variables apply, or might be made to apply, to energy accessibility and use? What are the non-renewable sources of energy, and what costs apply to its extraction, transport, and use?

The Oregon Office of Energy Research in 1973 provided the state with the outline of a "conceptual guidance system" based on energetics analysis. It said in part:

> . . . state government still tends to view and deal with the real world as though it were a partial assortment of disconnected elements and processes. Each agency of government has a well-defined jurisdiction, specialized language and parochial function. While this partitioning of perceptions and decisions enables individual agencies to work with manageable units of "reality," the general consequence of this orientation is that specific decisions involving one sector of the real world are usually made in the absence of dependable information about likely ramifications in other sectors of the real world.

Each of these agencies in any government makes decisions which affect a particular flow of energy in the society. There is little or no coordination among such decisions, and little awareness, except in a few instances, of their wide-ranging effects on the total flow of energy in the society. Energetics analysis offers a means of putting all these decisions within an intelligible context. As the Oregon outline explained:

> Social decisions affect the way in which certain portions of the Earth's energy budget will flow. While there are virtually no limits to human imagination, there are definite limits to the way the physical world can behave. Many of these limits, or "house rules," are defined and well-documented by the physical sciences. With the use of energetics, it is possible to reveal, for a particular time and place, when particular social decisions are incompatible with these "house rules."

Such proposals lead naturally to wider and no less important questions. It seems evident that by the end of the century, possibly before, the people of the United States, and no doubt the rest of the world, will be forced to make serious adjustment to patterns of living that are now broadly described as "steady state." What will be the dynamics of steady-state economics? What attitudes will support it? What information is now

available concerning the transition from growth to steady-state economies? What guidelines ought we to be preparing for this extraordinary change? How can we make its conditions bearable, perhaps even desirable, despite the fact that they appear to be inevitable?

How can we prepare our children for growing up to face that new kind of life? And how can we convince the majority of people that such a life is indeed on its way, and that it need not be feared as the end of "civilization"?

These are very large questions, calling for replies from a level of personal and institutional maturity that may not be reached in practical terms for several years to come. Meanwhile, some modest approaches to this sort of thinking can be applied almost immediately. Both state and private agencies, for example, could establish clearing houses to facilitate on a massive scale the flow of "householder information" and involvement in such matters as waste recycling, the energy patterns of society, general energy conservation, backyard gardening methods, and the basic elements in self-sustaining energy and heating systems. Such clearing houses would function as natural ground-breakers and idea-spreaders, suggesting what individuals, wherever situated, can do in relation to the energy crisis.

How urgent are activities of this sort? Wouldn't they be likely to spread alarm and fear? The simple answer to such questions is that do-it-yourself activities are one of the greatest specific remedies for alarm known to man. A further necessary answer is that even if we remain unpersuaded by the ambiguous reports of governments and oil companies, the predictions of economists having no commercial alliances should claim our attention.

> It has been calculated [writes E. F. Schumacher] how much oil would be required if the whole world, some 4,000 million people, forgetting any increases in world population, were to be fed by means of modern agricultural technology. The answer is that on such assumptions all proved oil reserves, as currently known, would be exhausted *by agriculture alone* within less than thirty years. It would seem that the modern system of agriculture has no long-term future, and that there is a somewhat urgent need for the development of alternative systems, systems much less oil-intensive. The answer one normally obtains to such a proposition is that these alternatives, even if they were possible would be relatively more labor-intensive than the modern systems. In other words, the proportion of the people working on the land would have to rise, which means that the proportion of the people living and working in the cities would have to fall.
>
> It is precisely this possibility, or rather, this possible necessity, that ought to engage our most serious attention. If more people are going to be needed in agriculture, it will be necessary to upgrade and redevelop the life of rural communities. This is a very tall order. For more than a century all the emphasis has been on city life, and the brain-drain at the expense of the rural areas has been devastatingly severe. To reverse the century-old trend will not be easy but neither will it be impossible. There are many signs among the young that a push of necessity in this direction might even be welcomed.

The defense rests.

BRUCE WILLIAMSON

Denver, Colorado

REVIEW
THE TUMULT OF TRANSITION

FREUD'S admission to Binswanger, that if he had another life to live he might find a place in his thinking for the spiritual aspect of human beings, has a curious resemblance to the academic stipulation by T. H. Huxley, made a few years earlier, that the universe *might* be pervaded by transcendent intelligence. Huxley devoted the closing years of his life to controversy with orthodox theologians, and in *Essays on Some Controverted Questions* (London: Macmillan, 1892), a book containing various polished polemics, he explained his own position at the start:

It is important to note that the principle of the scientific Naturalism of the latter half of the nineteenth century, in which the intellectual movement of the Renaissance has culminated, and which was first clearly formulated by Descartes, leads not to the denial of the existence of any Supernature but simply to the denial of the validity of the evidence adduced in favour of this, or of that, extant form of Supernaturalism.

Nature, for Huxley, included everything. He added in a note:

> I employ the words "Supernature" and "Supernatural" in their popular senses. For myself, I am bound to say that the term "Nature" covers the totality of that which is. The world of psychical phenomena appears to me to be as much a part of "Nature" as the world of physical phenomena; and I am unable to perceive any justification for cutting the Universe into two halves, one natural and one supernatural.

Having thus made the "supernatural" an extension of the natural, Huxley unleashed a generous rhetoric to declare the transcendent possibilities of the natural:

> Looking at the matter from the most rigidly scientific point of view, the assumption that, amidst the myriads of worlds scattered through endless space, there can be no intelligence, as much greater than man's as his is greater than a black beetle's; no being endowed with powers of influencing the course of nature as much greater than his, as his is greater than a snail's, seems to me not merely baseless, but impertinent. Without stepping beyond the analogy of that which is known, it is easy to people the cosmos with entities, in ascending scale, until we reach something practically indistinguishable from omnipotence, omnipresence, and omniscience. If our intelligence can, in some matters, surely reproduce the past of thousands of years ago and anticipate the future, thousands of years hence, it is clearly within the limits of possibility that some greater intellect, even of the same order, may be able to mirror the whole past and the whole future; if the universe is penetrated by a medium of such a nature that a magnetic needle on earth answers to a commotion on the sun, an omnipresent agent is also conceivable; if our insignificant knowledge gives us some influence over events, practical omniscience may confer indefinably greater power.

What greater open-mindedness could one ask? Yet effectively, in terms of his practical influence, Huxley was almost wholly on the side of the machine interpretation of the phenomena of life. He regarded mind or the activity of mind as an epiphenomenon—a purely derived, almost accidental and wholly dependent by-product of the bodily machinery; he was persuaded that plants are devoid of consciousness, and even doubted its presence in the lowest animals. "I have frequently expressed my incapacity to understand the nature of the relation between consciousness and certain anatomical tissue, which is thus established by observation." He added that "so far as observation and experiment go, they teach us that the psychical phenomena are dependent on the physical."

It is a measure of the authority of scientists like Huxley that a contemporary brain specialist, the late Wilder Penfield, felt obligated to give space in *The Mystery of the Mind* to the objections of a colleague (of Huxley's persuasion) to Penfield's argument for the mind's autonomy. After a lifetime of practice as a neurological surgeon, Dr. Penfield had concluded:

> Because it seems to me certain that it will always be quite impossible to explain the mind on the basis of neuronal action within the brain, and because

> it seems to me that mind develops and matures independently throughout an individual's life as though it were a continuing element, and because a computer (which the brain is) must be programmed and operated by an agency capable of independent understanding, I am forced to choose the proposition that our being is to be explained on the basis of two fundamental elements.

The point of interest, here, is that T. H. Huxley's open-mindedness was rhetorical, not functional. He proudly insisted that he was no materialist, even advocated "Bible-study" for moral guidance, yet at the same time gave currency to beliefs that emptied morality of meaning. An article by Ronald Sampson in the *Nation* for April 3 throws light on how this happened:

> The present is not so much a time of cultural transition as a time of cultural breakdown when the assumptions of the last 400 years are beginning to be called into question. Those assumptions concern the religious life of man, out of which emerged the great and continuing conflict between religion and science. Historically the debate has been largely misconceived as one between the pseudo-Christianity of organized religion on the one hand and the right of the free intellect to pursue empirical inquiry whithersoever the truth might lead. In this classic conflict history triumphantly vindicated Copernicus, Bruno, Galileo against ecclesiastical obscurantism. And this drama, re-enacted many times, particularly during our era in the ecclesiastical attacks on Darwin and Freud, has distracted attention from the truly relevant debate which despite faint rumblings has never really gotten under way. I refer to the conflict between the spiritual values of genuine Christianity and the metaphysics of materialistic experimental science.

The question turns on whether or not the anti-metaphysical bias of science (actually a rival metaphysical system having the machine as its principle of explanation) destroys the ground of meaning for ethical conviction. If, for example, Huxley is right, and "psychical phenomena are dependent upon the physical," then the laws of matter represent the only order there is in the universe, and ethics must come begging, hat in hand, to physics for guidance and instruction.

Yet all the basic questions in life arise from our *feelings* about things—from the subjective side of our awareness. Unless we have reason to think that there is reality—or validity—in feeling, moral ideas, which are rooted in feeling, are likely to be discounted or rejected. And neglect of feeling leads directly to alienation—to denial of the very sources of value in human life. The assumption that the subjective is not real amounts to shutting out all serious conceptions of selfhood, and also those sensibilities upon which the true excellences of human life depend—the sense of justice, of concern and sympathy, of aspiration, brotherhood, and responsibility. Not one of these deeply significant feelings has any meaning except to subjects, to *minds.* When Ronald Sampson speaks of the metaphysics of science, he means the restriction of "reality" to the physical universe. He attributes this truncation of meaning to Galileo, who found it convenient to deal only with those aspects of nature which could be subjected to mathematical representation and calculation. As Mr. Sampson says:

> It was one thing to grasp that nature is the domain of mathematics. . . . But it was quite another to assert, as Galileo did, that the mathematical qualities, namely number figure, magnitude, position and motion are the real or primary qualities of Nature; and that the sensible qualities of Nature, namely, the feel, smell, sight, taste, sound—all that constitutes the purely aesthetic wonder of Nature—are purely subjective, have no real external existence and are therefore secondary to the real mathematical qualities. In the case of Descartes, the rigid dualism between mind and matter that lay at the heart of the Cartesian metaphysics required him to make the assertion—from which he did not shrink—that animals were no more than machines without consciousness the absurd falsity of which must be evident to any child, if not to the father of modern philosophy. It is true that the Church of Rome (the Protestants acquitted themselves no better) condemned itself forever by its persecution of Galileo for speaking the truth, but conservative metaphysicists of the time were right to be filled with apprehensions regarding Galileo's metaphysics as distinct from his mathematics, dynamics and astronomy.

What are we to make of these great swings of the pendulum of thought? Always accomplished, as it seems to their protagonists, on the high ground of human welfare and need? A century ago Huxley was popularizing conceptions that would dominate the Western mind for long generations. He was a man of massive intellect, ardent and eloquent in his concern for public education, fearless in the face of attacks by orthodoxy, deliberate in his effort to allow a fair hearing to all points of view. Yet his selectively constructed arguments became rigid confinements to the minds of men in the twentieth century, who gave no more attention to his speculative asides than they did to William James's similar declarations of metaphysical possibility.

Today the tide has changed. We seem to have worn out the assumptions of materialism. But is our *reasoning* any better than Huxley's? Is it as good? And have we as much open-mindedness as his at least seeming impartiality suggests? There may be equal possibility for overreaching mistakes in the direction thought is taking today.

COMMENTARY
PRINCIPLES OF BALANCE

AS the quotation in Review from Ronald Sampson shows, there is particular value in studying the bumptious progress of science and technology during the past two or three hundred years. The pioneers such as Galileo, Descartes, and Newton were dramatically right in some ways—right on questions concerning which the traditional authorities were quite wrong—but the emotional exhilaration of the Enlightenment fed the common opinion that they were right in *all* ways, that nothing more of importance remained to be said. This was a grave and disastrous mistake.

What is the lesson to be learned?

In a time of redressing balances and correcting for past mistakes, a review of basic assumptions is called for. The offense of the reformers of the nineteenth century—"earnest atheists," Bertrand Russell named them—was to dig the ground away from under the very integrities from which they drew their strength. They took their own moral excellences for granted, never supposing that they needed rational support or defense. Feeling they read out of the universe, in punishment for its ambiguities and blandishments.

Now feeling is back, its return hardly encumbered by discredited "reason," while random impulses are acquiring honorific labels. Is a disordered "spirituality" any better than an ordered materialism? The ad hoc philosophies which emerge from the tumult of transition have the distinction of easily becoming fashionable, but will they do more than transfer us from the deserted prisons of rationality to an emotional bog? Needed more than anything are reference points of balance in a time like this.

Where does one look for reference points of balance? The scientists had theirs in the observed facts of nature, in the impersonal proofs of experience of the objective world. Are there corresponding points or principles of balance for the inner life? Is it possible for the "spiritual values" Mr. Sampson speaks of to obtain the same sort of compelling presence that the laws of physical nature have had for the discoverers of science?

CHILDREN
. . . and Ourselves
BETTER THAN SYSTEMS

DISCUSSING the results of the Russian system of education in *Inside Soviet Schools*, Susan Jacoby says that the city schools there seem to do a better job of teaching reading and writing than the American schools. The Russians give these subjects more time, more emphasis. The Russian language is difficult, so is Cyrillic script, and the teachers push the children very hard in the lower grades.

How does this influence adult life? Apparently there is no simple answer to this question. While some tourists report that construction workers read Dostoevsky and Tolstoy on their lunch hour, Miss Jacoby never noticed any factory worker devouring *Crime and Punishment* in free moments. Yet the classics sell out when they appear in Soviet bookstores. The reason, Miss Jacoby thinks, is not really the educational system:

> One morning in Leningrad, a rumor spread through a university dormitory that a new edition of *The Brothers Karamazov* had appeared in a well-known bookstore on the Nevsky Prospekt. Many of the students pulled on their coats and boots and hurried off into a snowstorm, only to be told when they reached the store that the book was already sold out. That particular edition of *The Brothers Karamazov* had a *tirazh* (printing) of 100,000 copies. It is difficult to imagine an equivalent American enthusiasm for a new edition of *Moby Dick* or *The Scarlet Letter*. However, both the Soviet censor and the chronic shortages of the Soviet economic system—which include books—play more of a role in the passionate interest in the classics than the educational system. In American and British bookstores, all of the classics are consistently available in paperback editions, there is no reason for students to rush out into the cold to pursue a new hardback edition. In the Soviet Union, bookstores do not have consistent stocks of the classics or of interesting contemporary literature. Soviet consumers know through bitter experience that *The Brothers Karamazov* will not necessarily be on sale next week because it is in the stores today. Heavy-handed censorship and the political considerations which affect book publishing are the main causes of the intense response from the public when anything interesting appears in print. There is little relationship between the kinds of books published in large quantities and what people want to read; volumes of essays by and about Lenin and inspirational biographies of collective-farm chairmen pile up on the shelves while Gogol, Tolstoy, and Pushkin are sold out.

However, a young painter told Miss Jacoby:

> "Dickens and Tolstoy wouldn't be so popular with educated people if they could go into a bookstore and buy Solzhenitsyn. A modern Gogol or Tolstoy or Dostoevsky couldn't make it past the censor. In a country where so little genuine literature gets past the censor, a thoughtful person will naturally turn to the older classics as the older classics are the only alternative to the literary works of mediocre hacks. And of course, there is *samizdat* [underground literature]."

Miss Jacoby's comment is of particular interest:

> Joseph Brodsky, a brilliant poet who left the Soviet Union under pressure from the secret police in 1972, experienced a culture shock when he began teaching comparative poetry to American university students. "In this society, where every kind of book is available, there is quite an absence of respect for literature," he said. "I wasn't completely surprised, because certain kinds of freedom are always taken for granted when the freedom is the result of previous generations' work. But it is still a sad thing to see. Books are taken much more seriously in Russia than they are here, because they're so difficult to get." In a sense, he was echoing a remark made by the poet Osip Mandelstarn, who said that "Russia is the only place where poetry is really important. They kill people for it here." The fact that Russians take their literature seriously is, I suspect, a triumph *over* an educational system which tries to instill a taste for mediocre socialist realism in twentieth-century writing along with an appreciation of politically acceptable classics. It goes without saying that not all classics are politically acceptable. Most of the young Russians I know were completely ignorant of the Bible, which is not even used as a literary reference point in elementary and secondary schools. The political inability, or unwillingness, to deal objectively with religion as a factor in cultural history was a major deficiency in the "humanities" side of the school curriculum. Censorship has simply removed huge chunks of human knowledge as legitimate objects of study; one of the most appalling realizations for an American is that indifference (and

television) has done the job almost effectively in the United States.

This writer's point is well-taken, but we wonder a bit about the idea of dealing "objectively" with religion. Is it possible to discuss any important area of human life without making certain assumptions about value, purpose, and meaning—and wouldn't these assumptions have a philosophic if not a religious significance? Is Joseph Campbell "objective"? What about Huston Smith and Joseph Needleman? Theodore Roszak? It may be possible to be "objective" in the sociology of religion—to recite the crimes of the Holy Inquisition or describe the struggles and migrations of the Puritans—but when it comes to fundamental questions of meaning, such as whether reality begins in consciousness or matter, whether the word "spirit" can have rigorous meaning, or whether there are underlying truths in all the great religions, without which civilizations wither and die, the adoption of a now quite shaky theory of knowledge as the ground of evaluation may be not objective at all. Yet one can *try* to be objective in some sense, and this may be about all we can expect from one another. The most attainable objectivity might lie in never supposing that absolute objectivity is possible to achieve. This seems the mood of Miss Jacoby's account and criticism of Soviet education (Schocken paperback, 1975, $3 95).

Her book also suggests that it is never a good thing to delegate responsibility for education entirely to state institutions. Even if we have no choice but to send our children to public schools, the parent is still the responsible party. A letter from a man who is doing time in a federal prison—a fourteen-year sentence, of which he has served nine—illustrates how a parent may fulfill his responsibilities under harshly restricted circumstances. This reader writes:

> I was visiting with my eleven-year-old son during the Christmas holidays and discussing "freedom" with him. We agreed that there were similarities between my position and his. My solution has been my writing and my "jailhouse lawyer" activities which have given me . . . the feeling that I am doing something meaningful, that I am defining my life and have some autonomy—can make some decisions and take some chances, some risks.
>
> Children and convicts with less background in using innate abilities, with little self-discipline, little initiative, high hopes for their lives but low frustration points and little outside opportunities for expression . . . turn to drugs or other forms of deviant behavior. Older people probably tend to internalize these frustrations—suffer strokes and other physiological insults.
>
> What's the solution? The small farm? . . . For some I suppose. But how about those who are already in the trap: men with six kids, a wife, medical bills, house payments, a tedious job in a time when jobs are hard to come by? How about the quarter of a million prisoners in state and federal institutions? How about the children in the ghettos?
>
> For some, the solution may be the one I have found. As Ivan Illich would put it, *Tengo trabajo con el estado pero por yo.* No matter what kind of place one lives in, no matter what kind of work one has, there are still opportunities *to work for oneself* and to live fully in that place. . . . What education should accomplish is to give children opportunities for self-reliance, self-initiation. You can't count on the schools to do this. My son is bussed to a racially integrated school 120 miles from his home. There are 60 kids in his classroom and the teacher is lucky if she can maintain order. It's five o'clock at night by the time my son gets home, physically and emotionally exhausted. He's bright and he's strong and during my visits with him we constantly explore the possibilities of his situation and mine. His most recent project is a taped interview with the driver of his bus and most of the kids, which relates how bussing affects their lives. Soon we'll talk about how to get it on a local radio station. He is alive and happy. He is into something which has value and purpose in my eyes as well as his.
>
> Needless to say I'm not a "good" father or I wouldn't be in here while my son is out there. But the fact that I'm here has not prevented me from being a father, from loving my son, and from getting together to explore the possibilities of both our lives. . . . Education is a process and parents must be fully a part of that process. Our institutions haven't let the kids down, we've let them down by trusting too much to institutions.

It seems at least possible that this eleven-year-old will remember these talks with his father for most or all of his life.

FRONTIERS

The Inscrutable Chinese

ONE constructive effect of reading *The Wind Will Not Subside* (Pantheon paperback, $4.95) by David and Nancy Milton, English teachers who lived and worked in Peking from 1964-69—the time of the Cultural Revolution—is that all temptation to make easy generalizations about the Chinese people and the Chinese revolution is removed. These writers end their first chapter by saying:

> As we adapted ourselves to the currents of life generated by a people making up one-fourth of humanity, we found that the Chinese lived and thought on two planes. One was the lively workaday existence of ordinary people concerned with practical economic, political, and personal problems. The other involved an almost cosmic consciousness of China's place in the global scheme of things—an awareness of the historic past, the present as a product of that past, and the emerging future. We were often struck by the timeframe thinking of our friends, who, when we discussed the student, worker, or minority movements in our country, wished to know in what stage we thought that movement was. Stages were important to them, because they felt what was appropriate at the beginning of any historical or political process might not be appropriate in a subsequent stage. And so we, too, gradually began to think in the Chinese way of a beginning, a middle, and an end to each historical process, slowly absorbing the knowledge of China's past political and historical development in order to understand the present.

The Miltons' book is a blow-by-blow account of the Cultural Revolution instituted by Mao to erase bourgeois and elitest tendencies. No doubt they learned how to think in a Chinese way, since they seemed to adapt to the impenetrable complexities of abstract reasoning which proceeded from day to day. This was a time when the Red Guards were parading Party officials wearing dunce caps through the streets, and exacting self-criticism from them and other suspected functionaries. Mao seems to have presided over these disorders with a watchful eye, calling a halt if they went to extremes. When, early in 1967, Chiang Ch'ing (Mao's wife) told a group of young Peking rebels that in the future no "chiefs" would be needed, that the people's communes would make all decisions, Mao objected, saying that chiefs are always required, and that if the word "chief" is offensive, call them something else. The communes, he pointed out, could not replace the Party. "There is little to indicate," the Miltons say, "that he ever wished to do more than again root the Party in the social forces which it was designed to represent, but its resistance to this new social movement threatened the Party's very existence." Mao wanted a purified Party, not the rule of anarchy for China. But fixing blame for bureaucratic offenses or bourgeois behavior became almost impossible:

> In a Party structure in which the implementation of central directives was the responsibility of all cadres, it was extremely difficult to assign blame for cadres who had carried out instructions from above. Had the cadre carried out "revisionist" policies "enthusiastically" or merely "obediently," Mao's line "actively" or "passively"? In many places, arguments continued for years on such matters without reaching a clear determination.

If this is not sufficiently bewildering, here is an account of a meeting where two groups of opposing cadres were permitted to conduct a debate:

> It was one of the few meetings we attended which conformed entirely to official instructions, which stated: "When there is a difference among working masses of a unit or a locality or among workers' organizations, discussions should be held by presenting facts and persuading through reasoning . . . without creating a situation of confrontation." Because of our own political and philosophical background, we undoubtedly saw it to some degree as a revolutionary application of the great traditions of Anglo-Saxon law, but the rest of the audience seemed as impressed as we with this novel meeting. Within a few months, however, it was to be denounced by both sides as a "black" meeting for having permitted each other's enemies the right to speak. The definition of the Cultural Revolution as a class struggle negated the possibility of a social movement conducted through debate.

The Miltons propose that since China is an agricultural land, its revolution a peasants' revolution, Mao's hope of establishing a "perpetual revolution" materialized in the Red Guard rebellion as an anti-bureaucratic movement, since China has had centuries of experience with the bureaucratic state. But whether bureaucracy can be reformed remains a major question. And whether any sort of national state, communist or capitalist, can do without bureaucracy is also very much in doubt.

Finally, as the Miltons say: "It is the contradiction between the universality of revolutionary ideas and the separateness of national revolution that constitutes a great dilemma of modern times." Again and again, modern nations have deluded themselves into thinking that they were the sacred chalices of the revolutionary spirit, but always it has been the nation and the national idea which survived, not the revolution and the universal revolutionary spirit.

As either supplementary or preparatory to reading *The Wind Will Not Subside*, C. P. Fitzgerald's *The Chinese View of Their Place in History* (Oxford University Press, 1965) is almost a necessity. This brief essay helps the reader to understand at least some of the attitudes of the Chinese people, even if it will not explain contradictions such as the Miltons describe. For one thing, China has never had a "dark age" in her long and impressive history. The old classical language never became "dead," so that Chinese culture has lived on century after century with little interruption. The Chinese have always believed that the universe is governed by moral law and denied personality to the ruling power. "The conception of the jealous God, the exclusive truth, was unknown to them." The Communism of China is a Communism passed through the filter of Chinese conceptions and Chinese recognitions of need. Mao, the Miltons remark, had little use for Marxist determinism, since the traditional Chinese view is that "good people, ethical citizens, are created not so much by the external forces of society as by conscious thought and moral education." This helps to explain the initiative of the peasants who, after the victory of the revolution in 1949, formed teams which pooled their resources. As the writers say:

> These teams, encouraged by party leaders and aided by state loans, soon evolved into farming cooperatives in which each contributor was repaid for his contribution out of joint funds. By the winter of 1956, much of the countryside had been organized into cooperatives, most of which, by the spring of 1958, had paid off their debts. . . . At this point, the movement to establish communes began. This remarkable stage-by-stage revolution in the world's largest peasant country, although a tumultuous and stormy process, appears, when contrasted with the agony of the Russian peasant under Stalin's policy of collectivization, as a relatively smooth transition to the creation of a stable, socialized agriculture system. . . . Suddenly, the Chinese method of agricultural development, despised for so long by those technologists who put industrial growth before the organization of people, is the newly discovered model which starving nations will have to emulate in order to survive.

The puzzles remain, but so do the achievements. While the Miltons are obviously sympathetic reporters, they do not hide the contradictions in Chinese thought. One final reading suggestion: Robert Jay Lifton's *Revolutionary Immortality: Mao Tse-tung and the Chinese Cultural Revolution* (Random House, 1968).