VOLUME XXIX, NO. 43
OCTOBER 27, 1976

# A MATTER OF TROPISM

HUMAN communication seems divided between ignominious success and glorious failure. This may be appropriate for an activity that will go on forever, but difficult to bear for beings whose lives are cut up by intervals of time. We like so much to settle things, to put them in their place. We find, however, that the satisfaction obtained from finality of definition is always temporary. Certainty either breaks down or it palls. It is somewhat as Gaston Bachelard said in distinguishing between science and poetry. In poetry, only the first time counts; in science, only the second. Only private self-verification supports the poetic statement, while in science the statement made without outside confirmation is an airy nothing.

But could humans really live in a world ordered solely by outside verification? Consider what this would mean: The abolition of metaphor, the outlawing of ambiguity. It isn't that certainty has no value, but a question of what may legitimately be sacrificed to certainty. If everything else must give way to the modes of public certainty, how, it is necessary to wonder, could we tolerate lives from which all that is questionable has been ruled out?

Would this be a good collective experiment to try? Shall we limit ourselves to a diet of convention-sanctioned "facts"? Can we persuade ourselves that the delusions and abuses of bureaucracy disappear in the case of a *scientific* bureaucracy, from which the "human" element has been removed? No need to ask these questions. The experiment has already been performed. The Western world started the brave attempt in the seventeenth century, and it seemed so successful at first that we called it the "Enlightenment." Now we are no longer sure, and lately we have been trying to add up the costs.

An unhappy outcome for the experiment was predicted by a few prophetic souls, but listening to such warnings was prohibited by the very terms of scientific investigation: You do not pay attention to predictions which have no objective referents. You wait until all the facts are in. This is the method. Some day we shall know. Not now. And don't guess. Just wait. (And while waiting, popularizers added in a footnote, it will be all right to do more or less as you please.)

Ortega called this outlook scientific utopianism. Its finite successes, he declared, could not compensate for the delusive arrogance of its omissions. He wrote in 1921 (and repeated in *Toward a Philosophy of History*):

> Many years ago I was reading a lecture of the physiologist Loeb on tropism. The tropism is a concept which has been invoked to describe and throw light on the law governing the elemental movements of the infusoria. The concept serves, indifferently well and with corrections and additions, to help us understand some of these phenomena. But at the close of this lecture Loeb adds: "The day will come when what we now call moral acts in man will be explained simply as tropisms." Such temerity perturbed me exceedingly, for it opened my eyes to many other judgments of modern science that are guilty, if less ostentatiously, of the same error. So then, I thought, a concept like the tropism, which is scarcely capable of plumbing the secret of phenomena so simple as the antics of the infusoria, may at some vague future date suffice to explain phenomena as mysterious and complex as man's ethical acts! What sense is there here? Science has to solve its problems in the present, not transport us to the Greek kalends. If its present methods are insufficient to master now the enigmas of the universe, discretion would suggest that they be replaced by other and more effective ones. But the science *à la mode* is full of problems which are left intact because they are incompatible with its methods. As if it were the former that were under obligation to subordinate themselves to the latter, and not the other way round!

Ortega is a Socratic dialectician. He shows us—obliges us to admit—what does not work. The enigmatic question of what is right, what we should choose to do, he says, requires other methods, but when it comes to what those "other methods" are, he gives only obscure intimations. Yet his intimations are an improvement on the total silence of science! Man is the being, he tells us, who is condemned to eternal decision-making—who must, from moment to moment, decide what to do next. Science, one could say, instructs us in how to do it well, but it does not tell us what or *why*.

What will tell us why? We have no outside instructors in this question. Yet the books which muse and wonder about the issues of "why" are eternal and timeless works which either last forever as classics or are continually reborn in the thoughts of other men. There is no settlement of this question, partly because of the continuous change in circumstances. The certainties declared by eager optimists always slip away from us through some leak in the arrangements, showing that the world of today is not the world of yesterday. The arrow of life goes only in one direction, while the equations of certainty rely on changeless conditions. Even in science, we have this problem, although it is stepped out of time by judicious abstraction and made to seem reliable—and up to a point *is* reliable—in application to some set of objective circumstances. It is most reliable in physics, since physics deals with the most passive—externally caused—phenomena. The trouble becomes more evident in biology. As Henry Zimmer says in *Hindu Medicine* (Johns Hopkins, 1948):

> . . . that which pleases human reason may be worlds apart from the course that nature takes in weaving its strangely intricate web of devices by which it produces a living organism or brings about the collaboration of the various organs necessary for the continuation of the living process or for its defense against harmful influences. The human mind due to its very faculty of reasoning is apt to fall short of its goal: to grasp what might be called the reality of things, an objective that seems forever to be receding from its grip, even despite the fact that reason at the same time has acquired an ever-increasing hold over nature. The persistent advance into the region of the unknown, into the no-man's land of scientific research, finds its own limitation in the power of reason that is apt to overreach itself by trying to systematize and to simplify the intricate ways of nature.

So, through science, we have this hold over nature which is always tightening, but at the same time loosening. We can hardly give up our science, but are periodically obliged to admit that it doesn't even *touch* the matters we want most to know. Then we say that science must be reformed, and set about making changes in scientific assumption. If the idea is to convert into the raw materials of certainty what is by nature inherently uncertain, the attempt cannot work. But often it *seems* to work for a time, and the duration of that time makes what we call an epoch of civilization.

It is possible, of course, to pursue this question in another way. At any given moment—by looking at the past we can see that this is so—there are persons who know pretty well what they ought to do. Often, as heroes, they set about doing it even when it goes against the grain of their times and the inclinations of most other people. How do we know they were right? We know it in retrospect. Past righteousness has a scientific aspect. This may be the supreme value of science, although we seldom think of it in this way.

How did these rare individuals know they were right at the time? Well, somehow they knew.

This is dangerous doctrine. Any assumption of knowing is likely to be dangerous. Most dangerous of all is the claim that external confirmation is more reliable than internal feeling and direction. Yet the follies of feeling are as filled with disaster as the tyrannies of fact. The truth of the matter is that such contradictions are never resolved by analysis, but only in human lives. *People* reconcile feeling and fact. *Life*

discloses mysterious balances. A great career is a thread of individual reconciliations. The animating feeling finds its match in the relevant fact, unique to that moment of that life. These are the moments, when described, that make biography unforgettable. When enough of these moments are gathered in a single work—enough to make a splendid symmetry—we have a classic. And when the symmetry arches over the common human life, seeming to touch it at points of crucial decision, the classic may become the canopy of meaning that frames the vision of an age.

But the classic, to exercise its sway, must be rooted in everyday affairs. Its wonder is the revelation of human beings choosing well between what is wrong and what is right. The humans live in an open world and their choices create the issues of the world of tomorrow. Classics are devoted to the drama of inescapable choice. Fortunately, good books deal in this drama, too, if less perceptibly. We could hardly stand a diet of classics alone. Men, being men, have only a few heroic moments. Heroes, being men, are godlike only when pressed by destiny. The epic—in another way the myth—is the bountiful generalization of those moments; it is an abstraction enriched by color and romance, unlike the reductive statements which declare a truth stripped bare of scenery, relying on the assent which removal of differences secures.

One identifying characteristic of a good book is what you remember of its contents. Not what you reach back to get, making strenuous effort, but what thrusts itself into the mind, linking matters that are recurring themes. A book with several such deliveries in it is Rex Tremlett's *Road to Ophir* (London: Hutchinson, 1956), the story of a British mining engineer's African adventures. One reason for remembering this book is its common-sense attitude toward what people call "the occult." There are three examples of this.

At a time when Tremlett was hunting copper and tin in Uganda, his African cook broke into tears in the middle of the night.

> Mopembe was kneeling on the floor of the kitchen tent, beating his palms upon the ground, then raising his head and, with eyes streaming, crying to Allah.
>
> "What is it?" I asked.
>
> "My brother is dead. While I slept my sister's spirit came to tell me so. He has died of a terrible illness, and all Chiromba is weeping and afraid."

By morning Mopembe had become calm. He asked Tremlett to write to the district magistrate near Chiromba, so that a message could be delivered to his family. He would come home, he said, if his sisters needed him, but if not he would finish his work in Uganda with Tremlett, which would last for about a year.

Why didn't Mopembe send this message directly to his sister in the same way? The cook explained:

> "I am not *towezi,"* he replied. "I can only give and receive simple messages when there is great sadness or great joy. The sister who comes to me in the night is *towezi.* To those who are also *towezi* she can speak on any subject, so long as it is in the quiet of the night.

Tremlett reports this matter-of-factly, as of interest but not extraordinary.

> I was in the presence of an occult power accepted as natural and normal by most Africans, yet seemingly denied by us. Although this was the first time I had had actual experience of it, I did not for a moment doubt Mopembe. There were too many stories, told by too many reliable people, to doubt that thought transference, especially at moments of distress, was practiced by Africans hundreds, and, indeed, thousands, of miles apart.

After a time the magistrate replied, saying that the brother had indeed died on the day named, but that the family was otherwise happy and well. Tremlett repeated this to Mopembe, who said that since that night he had "heard" again from his sister. She had told him to continue the work with Tremlett. With all the money he was earning, he would eventually be able to buy a fine young girl in Chiromba she had picked for his wife!

Soon after this event one of the porters fell seriously ill. Beneath the skin of his thigh was a scarlet weal nine inches long and a quarter of an inch wide—evidence of a parasitic worm that grows from an egg (in this case deposited under the toenail) and invades the body. Trying to remove it, inch by inch, the porter had broken the worm, and now its poison was killing him. A greybeard African had failed to extract all the poison and the porter accepted his doom. "When a harrabene worm broke, you died." But Tremlett learned of an extraordinary woman healer not far off, Mohé by name. If she could be reached by nightfall, the porter, Arruya, might survive.

Just at sundown Tremlett and the bearers of the now dying man arrived at her village. She replied to his dialect greeting in excellent English, having been, she explained, for five years a nurse at King's College Hospital in London. Tremlett described the emergency, remarking that he thought Arruya's state of mind more serious than the dead worm's toxin. She began by talking in an unknown tongue to the porter, who replied for a time, grew hysterical, but soon fell into a deep sleep. Then she lanced the swollen weal, removed the remains of the worm, and washed and dressed the wound. The next day Arrnya was walking around with only a stiff leg.

Tremlett saw that the healer's village was a model community, orderly, clean, with no mangy dogs to scatter vermin. Her own household and farm were practically self-sufficient, with surplus crops used to buy a few necessary tools. Her healing powers were known to all in the area. She explained to Tremlett that she had trained herself to diagnose according to "the electrical impulses emanating from others," and could then apply a remedy.

> "You see, each one of us (and each animal, too) is a complex electrical apparatus which constantly emits and receives vibrations. . . . To most of us this reception is as subconscious as are the impulses we ourselves emit. We are merely unaware of unexplainable feelings and instincts—that is, if we think about them at all. We like or dislike people without apparent reason. We have unaccountable urges to do, and not to do, things. The wave-lengths on which we operate vary so much that, like a poor radio set, it is impossible for most of us to receive and translate messages other than those broadcast within a limited range. . . . Your own impulses, for instance, are quite different from those of African people: not so earth-bound, nor distorted and muffled by fear and superstition. *Your* emissions, as a matter of fact, are exceptionally clear."

When, the next day, Tremlett was preparing to leave, he asked Mohé what he could do to repay her. Ten miles off, in another small village, she said, was a rock formation. He would pass it on his way. If he would use some of his miner's dynamite to blast deeply enough, a spring would flow out of the rock. The whole village population, whose only water supply was brackish stuff from a swamp, gathered to watch them drill. Then, after the explosion, when the dust had settled, everyone saw clear water gurgle up between the broken stones.

The end of the book offers a curious anti-climax. Digging somewhere between Lake Edward and Fort Portal, one of Tremlett's men, the completely recovered Arruya, found a small, well-shaped paving stone. More digging disclosed a section of a paved road—a road which, if straight, would run from the Belgian Congo to Abyssinia, the Sudan, and Egypt. Was it King Solomon's road to Ophir? A feeling of horror grew with the sense of this possibility. "Then something inside me said: cover up the road."

> "But I can't just cover it up and say nothing," I protested weakly within myself. "The archxologists . . ."
>
> The answer came clear and strong: after the archeologists there will be businessmen with bulldozers. With a million pounds they will come, subscribed by the avaricious; and with stinking diesel fumes tear the earth apart, uproot the shy Batoro and make a hell of the quiet land. Cover up the road.

So they filled the trenches which had exposed the road, one of them six feet deep, and went away. "There must be no trace of what we

found," Tremlett told his diggers. "I believe it is evil."

How did he know? Just a feeling, he explained: "On my fingers, up my arms and through my body, I could feel the dried, cold blood of a hundred thousand slaves." He didn't believe that very great treasure—or very rich mines—could do anyone good! The idea of limit comes from humans, not from their technology.

In another part of the book Tremlett tells about a job he had with a company in Broken Hill, in Northern Rhodesia. The story begins with these reflections:

> During the few hours I had spent in Broken Hill there had been little time to learn the history of my employers, for the name of the company gave nothing of its antecedents or affiliations. This was something I needed to know, for my recent trip to Europe had given me, for the first time, a sight of large-scale industrialism at work; and the more I saw of it the more I hated it.
>
> Bigness, it seemed to me, was the root of evil. I knew the arguments in favor of huge enterprises: union creates strength in adversity; amalgamations cut overheads and unify direction; mass production needs capital beyond the reach of individuals. If that was true, then I believed that the cure was worse than the disease. When industry becomes so large that it dominates the private lives of its workpeople and the politics of nations, then it is evil; no matter how benign the intention of its masters.
>
> Anything which destroys individual responsibility and initiative is, to my mind, wrong.

Then he found out from an associate who he was working for:

> Our company, he told me, was another name for Rhodesia Broken Hill Development, which was another name for Rhokana Corporation, which was another name for De Beers, which was another name for Anglo-American Corporation of South Africa, which was another name for Sir Ernest Oppenheimer. And Sir Ernest Oppenheimer, with his Kimberley Diamond Mines, his Johannesburg and Orange Free State gold and uranium plants, his Northern Rhodesian copper and cobalt networks, and his finger in almost every other South African pie was, to me, another name for just the type of industrial empire I most detested.

Nothing personal—Sir Ernest was by common report a good employer. But—

> To me, who valued above all material things independence based upon, and sustained and controlled by, the personal ownership of small units of property, this was a very evil thing, however useful it might be to the general revenue.

Tremlett, who had a contract, read over the small print and managed to get himself fired. He went on to other things. One activity that began for him about that time was writing. "How do you know you can't write if you've never tried?" a famous editor asked him on his train ride to Johannesburg to look for another job.

Apparently, there are several ways to recognize and know that small is beautiful, and various ways of acting on it, once you know. How do you get to know? Some self-induced "tropism" of a superior sort, perhaps.

# *REVIEW*
## HISTORICAL RENEWAL

IN *The Promise of the Coming Dark Age* (Freeman, $8.95), L. S. Stavrianos, who teaches history at the University of California in San Diego, maintains that the present decline of Western civilization is creating the matrix for another sort of rebirth in which Third World countries may soon take the lead. Participation of the West in this new cycle of history, he thinks, may depend largely on overcoming the delusive power of certain myths which block the way to intelligent action. "Three of the most basic and widespread of these myths will be considered here: the perversity of human nature, the uncontrollable population increase, and malignant technological growth."

This writer attacks the low-grading of human nature from both ends of history. Ancient, "primitive" man, he shows, lived lives of spontaneous sharing. Even modern tribal life is one of sharing. The acquisitive instinct is not an instinct but an acquired habit. A present-day American Indian says: "Going back as far as I can remember as a child in an Indian community, I had no sense of knowing about the other people around me except that we were all somehow equal; the class structure in the community was horizontal. There was only one class. Nobody was interested in getting on top of anybody else."

There is this passage on present-day China, Prof. Stavrianos' most frequently cited showcase of the transformation of human nature:

> It is symptomatic that foreign visitors to Chinese factories usually express surprise at being unable to distinguish managerial personnel from workers in dress or comportment during meetings. Official titles and other status symbols are scrupulously avoided. Those in leadership positions are introduced simply as the "responsible persons. And each of these "responsible persons' spends a full day each week performing manual labor on the work floor. "The practice, observes Louis Kraar (associate editor of Fortune), "thrusts managers into continuing contact with the realities of the production process.
>
> Pay differentials have also been minimized with the Cultural Revolution. The old incentive bonuses and overtime pay have given way to wage rates determined by workers' committees. The guiding principle in determining wage schedules is the same as that for the communes. Not only technical skill and length of service but also social service to the community are taken into account. The result is that the income differential within a factory rarely exceeds 5 to 1. "As to whom the production is for," concluded John Kenneth Galbraith after a 1972 visit, "there is a quick and easy answer. It is for everyone in about the same amount."

There has always been a strong tendency in China—as in other "advanced" societies—to saddle the people with bureaucracy. China has been afflicted with two sorts—the old Mandarin and the new Communist bureaucracy. Prof. Stavrianos gives Mao high marks in deliberately stemming this tendency: "By the end of the Cultural Revolution, the number of bureaucrats in the central government had shrunk from 60,000 to 10,000, and there was a corresponding reduction in the managerial ranks in the factories and communes." Perhaps as final evidence that the Chinese have indeed found a way to "change human nature," the historian quotes a Jesuit Father's report on "the richness and depth of the virtues of the new Chinese people." He found them "warm, friendly, courteous, cordial, cheerful, happy, content, gracious, helpful, sincere, patient, serene, relaxed, confident, diligent, industrious, intelligent, thrifty, clean, sober, naive, unsophisticated, abstemious, curious, ascetical, stoical, puritanical, just, kind, purposeful, intent, dedicated, disciplined, self-sufficient, self-possessed, honest, reliable, trustworthy. . . ." Since the quotation breaks off in ellipses, one may assume that these adjectives go on and on! The conclusion of the priest is equally interesting:

> Since religion is of no consequence in China today, it is obvious that it has had nothing to do with the development of the virtues in the new Chinese people. This fact presents the theologian with a baffling problem: how to account for so numerous a people engaging in such a widespread practice of virtues which in the West have been traditionally associated with religious belief and religious motivation.

While this Catholic scholar is persuaded that "religion had nothing to do with" the shaping of

character in China, in 1974 some scholars met in Washington, D.C., "to analyze Maoism as a major new world religion." A journalist from Canada remarked that Mao seemed to be "trying to make a Christian out of every person," and James Reston felt that the Chinese were making "a tremendous effort to bring out what is best in man."

Commenting, Prof. Stavrianos observes that Western critics seldom take into account the possibility of "a gradual internalization of moral values oriented toward community welfare rather than personal gain." He suggests that, "if Maoism prevails, China will profoundly influence future global trends, not as a blueprint for others to copy but as a precedent indicating what is possible for human society."

The threat of starvation by impending population growth, Prof. Stavrianos maintains, is largely a matter of socio-economic mismanagement. Citing for authority the September 1974 *Scientific American*, entirely devoted to population problems, he says that "less than half of the potentially arable land of the world is under cultivation, and that if all of this arable land were actually cultivated with modern techniques it would support over ten times the present world's population." Moreover, birthrates normalize in countries where there is a just distribution of income and economic security: "Hence the substantial decline in birthrates in Taiwan, Sri Lanka, and China, as against the soaring rates in India, Indonesia, and South America." Misuse of the land, the author suggests, is the root evil:

> South America has a far lower population density than the United States and possesses the largest amount of arable land among the continents, with 60 per cent of this arable land lying fallow. And yet most of South America's food is imported at heavy cost to this poverty-stricken continent. The explanation is that most of the land is controlled by a few families who choose to grow profitable "cash crops" such as coffee and sugar for export rather than food crops to feed their own people. Furthermore, the large estates, though more productive per worker than the family farms, are less productive per acre because they use machinery rather than hand labor. Machine farming is more profitable for the owner but socially disastrous for South America, with its high unemployment rate. The root cause of Latin America's economic ailments, then, is not the birthrate but the inequitable system of land ownership and the coalition of domestic and foreign vested interests that buttresses this system. Neither South America nor any other region is caught in an inescapable population-explosion trap, as is so often asserted. The basic problem is not some iron law of human perversity but the need for social and economic restructuring, which has already been undertaken in diverse forms by various governments around the world.

China is again the shining example. In 1948 William Vogt predicted mass starvation for China, whose population was expected to reach 430,000,000 in 1950. The China of today has a population of 800,000,000 and is "self-supplying in its food needs (since wheat imports are balanced by rice exports), and enjoys health standards comparable to those of Western nations."

Prof. Stavrianos' defense of a reformed technology leading to another sort of growth will seem familiar to most MANAS readers. He sees already under way a trend to what he terms "self-managed" technology—versatile, light, and suitable in decentralized applications. His champions in this development are pioneers such as John Todd of the New Alchemy Institute, and Karl Hess of Community Technology, Inc., in Washington, D.C. In one chapter Barry Commoner is quoted on the need to replace chemical fertilizer with organic nutrients, and small midwestern and California farmers testify on the high yields of organic methods. Tanzania's Arusha program of self-sufficiency is described, and the deliberate balance between industry and agriculture in China's communes has detailed attention.

Prof. Stavrianos believes that interaction between the Western and non-Western worlds will lead to a fresh vivification of people everywhere, on a self-determined basis, "owing to the active participation of *all* peoples of *all* cultures and of *all* social origins."

# *COMMENTARY*
## BOOKS FOR AMARILLA

THERE are parts of this country which remain little known to anyone except the people who live there. Several months ago MANAS was visited by some workers in La Clinica del Pueblo, Tierra Amarilla, in northern New Mexico. The account of what they are doing and attempting to do was so engrossing that we asked to know more about their project. It grew, we were told, out of a cooperative venture begun by the Chicano people of the region. More recently we received the following description of their activities, along with an appeal for books.

* * *

LA COOPERACION DEL PUEBLO, founded in 1969, operates in the remote northern mountains of New Mexico. Its immediate goals are to provide model health, legal, and social services projects, staffed and run primarily by local residents. These efforts are seen as training for leadership, since residents of this community and other areas of New Mexico are descendants of land-grant heirs who should under U.S. law now be occupying and using their land grants complete with economic progress as well as health and legal programs.

Soon after the Treaty of Guadalupe Hildago was signed in 1848—as such treaties often go—there began a systematic robbing or erosion of the grant-land, water, and other rights of the original population. Today the young people leave simply in order to live. For these reasons, in 1968, sixteen of the families of the region banded together to form the Cooperacion as an organization which would, so far as possible, show the grant heirs how to develop a system of community self-help.

The Cooperacion has four programs—a clinic, a law office, a community services project, and a silk screen workshop. There are between twenty-five and thirty employees, most of them local people. Most have completed high school and have been trained for such skilled jobs as project manager, bookkeeper, legal secretary, and social services worker. La Clinica del Pueblo has an obstetrical technician for its maternity delivery program—a unique rural model of decentralized maternal and infant care which has cut infant mortality in the region from 36 to 17 per thousand.

We have had to devise our own training programs since there seem to be no existing instructional facilities to prepare community people for such skilled jobs. Part of our training program seeks improvement of reading skills, which means development of a good library. Our library needs—

Books and other materials in such fields of study as history, literature, anthropology, herbal medicines, and health. Good fiction is also desired, especially historical novels. (We have no need of old *Readers Digests* or "condensations.") Good books on Latin and American history, Latin historical figures and cultural movements, and revolutionary philosophy are particularly wanted.

Either books or the money to purchase them will be welcome. Gifts to La Clinica's reading library are tax exempt (please put your own evaluation for the IRS on books and other reading material sent). Send books to—

Pedro Antonio Archuleta, III
La Clinica del Pueblo
Box 104, Tierra Amarilla,
New Mexico 87575

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La Cooperacion del Pueblo
Box 96, Tierra Arnarilla
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# CHILDREN
## . . . and Ourselves
### GIFT OF THE WORLD

SINCE it was written many years ago, Maria Montessori's book, *From Childhood to Adolescence* (Schocken, $2.75), may sound old-fashioned in spots, but reading it makes plain why the work of Madame Montessori has had great impact on child education. She understands so much about how children think and how growth of mind and character takes place. She says:

> When the child was very small it was enough to call him by name for him to turn around. Now we must appeal to his soul. To speak to him is not enough for this; it is necessary to interest him. What he learns must be interesting, must be fascinating. We must give him grandeur. To begin with, let us present him with the world. . . .
>
> When details are presented as being parts of a whole, they become interesting. The interest increases in proportion to the gain in knowledge. In addition, the knowledge presented now must not be purely censorial any more. Now the child must have constant recourse to his imagination. . . .
>
> The child's imagination is vague, imprecise, without limits. But from the moment he finds himself in contact with the external world *he requires precision.* This requirement is such that the adult would be unable to impose it. When a child's interest is aroused on the basis of reality, the desire to know more on the subject is born at the same time. At such a moment exact definitions may be presented. . . .
>
> The mind bases itself on the imagination, which brings things to a higher level, that of abstraction. But the imagination has need of support. . . . A study outline here presents itself: *to bring the whole by means of the presentation of detail.* . . . And each detail holds the child's interest by reason of its strict relation to others. We may compare it with a tapestry: each detail is a piece of embroidery; the whole constitutes a magnificent cloth.

How do you give someone "the world"?

One way of doing it has been developed by Hank Patton, who has an "urban homestead" in Portland, Oregon. In 1973 he started something called the "Bridgehouse Voluntary School of Homesteading Arts," where students can come of their own accord, and by investing an hour of concentrated attention—learning and working—earn one square meal. The program is described by Nancy Lee in *Rain* for last May:

> One hour earned a square meal in Bridgehouse's communal kitchen; 2 hours earned a night's shelter; 100 hours, a 10-speed bike. Apples, honey, produce and tools were exchanged as well. Kids who refuse to attend public school regularly earned their square meal exchanges at Bridgehouse. Dropouts dropped in, logging s,ooo exchange hours in the first nine months. Hank financed the exchange system himself until the YMCA provided funds for exchange items earned in beekeeping, gardening and greenhouse projects by their summer program participants.

Joe Williams, principal of the Portland Sacajawea Elementary School, saw what was going on at Bridgehouse and invited Hank Patton to come to his school and do likewise for the public school system. Apparently, it worked:

> There Hank developed a living systems resource center complete with microscopes, algal cultures, chickens, an aquaculture tank. The conscious use of waste materials pervades the room: geometric shapes constructed from recycled industrial waste, an aquaculture tank that knew a previous life in a brewery, a garbage can composter.
>
> Philosophy gears the program toward finding the very tangible balance between the needs of the child and those of society. Given the basic premise that all children are curious and will naturally probe, push, question, think, what remains is merely to encourage him/her to invest the energy in a productive manner. Energy invested in living systems bears fruit.

Could there be a better way to give some children "the world"?

Reporting on what goes on at Sacajawea Elementary School, Nancy Lee says that 180 children (from first to sixth graders), by working hard at their regular assignments, earn time to devote to projects they like:

> A basic resource center agreement holds that no one works on a project that he or she does not enjoy. Commitments to subject area are made slowly and carefully, for once made, the project must be

> completed before any other work can be undertaken. The heart of each child's study is his field book, an individually created loose leaf book bound with Chicago screws, containing observation, documentation, transcriptions, drawings, collected materials and periodic handouts from the staff.

The "transaction" idea is applied throughout. The unit of currency is the hour of "concentrated effort" that earns a square meal.

> Quantum econics (ecology/economics), the energy currency of the program, is an attempt to create a model economy which promotes the kinds of habits, attitudes and usership which enable human kind to pass resources on to succeeding generations increased in value.
>
> *One Q equals an hour of concentrated effort invested in increasing the usefulness of the earth.*

This, we might note in passing, was the heart of Thomas Jefferson's principle of *usufruct.* We have, he said, the right to use the fruits of the earth, but only if we pass the earth's resources on to the next generation undiminished, or richer than before. Jefferson expounded this principle to James Madison, but with little effect. Only Tom Paine among Jefferson's contemporaries shared this vision and grasp of human obligation.

The Q, Nancy Lee explains, is "an elementary unit of human enterprise, an expression of worth which stresses the interrelatedness of man with nature in an economic way." It makes the point, you could say, without preaching.

> Thus it is an attempt at a real growth economy whose growth is confined to systems that are alive. The Q may be exchanged for young plants, living fish specimens, more time in the resource center or a field trip. Seven concentrated hours (7Q) completes a project earning one full school day in the field, exploring the student's research topic. The fourteen subject areas include: birds, trees, fresh water, insects, the farm, weather, and a natural information service. Exercise in the basic skills becomes an ongoing process, as kids must read their sometimes technical transcriptions, learn unfamiliar vocabulary and compute mathematical records of their research.

Out of this program have come plans for a rural work/ study school on the Columbia Gorge—The Cold Spring School for Elementary Agriculture and the Performing Arts. The school will be residential and offer a "living systems" curriculum, teaching the use of renewable resources and labor-intensive production and distribution of food. The plans include growing produce sufficient to supply cooperating schools in other areas and to provision a school-managed restaurant:

> The Crest Trail Inn, nestled snugly on the shore of the Columbia, provides a study facility for food-related problems. As a student-run, school-managed, natural foods restaurant utilizing fruit and produce from the farm, the Inn will offer trail foods, fresh and smoked fish, rattlesnake jerky (oh, yum!), and eventually specialize in cheeses, homemade baked goods and elderberry mead.

The performing arts sector, Nancy Lee says, "will need the least structure, and its growth will therefore be a function of the individuals involved and will evolve accordingly."

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# *FRONTIERS*

## The Trap and the Way Out

IN a magazine article early this year (*Nation*, Feb. 7), Wendell Berry suggested that America's history is best understood as the record of contradictory undertakings—exploiting and nurturing. The exploiters have made the most money and attract the most attention, but the nurturers have been there all along, even though they gained little notice. Mr. Berry chose the terms "exploitation" and "nurture" because they make a division "not only between persons but also within persons." Who, he asks, is immune to the habits of an exploitive society?

We recall this essay (it's quoted at length in MANAS for April 28) because we've come across another article with the same theme and similar impact. In the *Washington Post* (as reprinted in the *Manchester Guardian Weekly* for Aug. 1), Colman McCarthy says:

> For 200 years we have had two philosophies of the land. The separation is between those whose expectations saw the immense fertility and beauty of the American continent and perceived themselves as guests on this part of the planet's thin layer of outer topsoil, and those who believed that the way to break the power of nature was to break new ground. We divided into keepers and breakers. The alarming feature of these two philosophies is that while everyone says he wants to cherish America's land, all too little of this saving has been effected.

The land, we thought, would never "run out." We kept on occupying, occupying and using up, and nobody—or almost nobody—could see anything wrong with that.

> If these citizens and the others who took advantage of federal land auctions and homestead laws of the nineteenth century are now seen as immoral or wrong to have believed that the land was made solely to be useful to man, then it needs to be remembered that they saw the continent as rich beyond imagination and its immensity all but endless. When the sod of the prairies in the 1850s was cut into by John Deere's little steel handplows—"the Prairie Queen"—no one had a notion that a cycle of destruction was beginning. The grassland went under in the 1850s, but it wasn't until the 1930s that one of the dismal results occurred: the awesome dust storms, never before seen in the millions of years since the first ice sheets receded to leave the soil deposits, sweeping away in the winds one of the earth's most fertile prairies. "They should have known" is an easy past tense judgment to snap back about them, but the early breakers of the land at least had an innocence about them. The natural world of the land appeared so immense that man was but a flea on its hide; what was a bite here and there?

Not so today. But even though we now have an "energy crisis" to hurry our learning along, and although we "know that only a small reduction in the comforts and pleasures of American life would mean large reductions in the amount of land—in the mountains, forest and plains—that we are destroying for fuels and materials"—we are very slow to act. What will get us going?

> We know that after the machines tear up the land, nothing grows. How can it? Appalachia has 18,000 miles of streams befouled by acid run-off from coal mines and West Virginia alone has 15,000 acres covered by coal waste. Harry Caudill, the Kentucky lawyer who wrote *My Land Is Dying*, said recently that there is not a chance to end strip mining. "The pressures to keep it going are too vast, when you link the power of the rails, and the barge lines, and the mining companies, and the great landowning companies, and the steel companies that burn it, and the utility companies that burn it, and the rural electric co-ops that burn it, and the great foreign corporations that are loaded with billions of dollars and who want to buy it. They could buy every voter in the country if needed. And most people couldn't care less. People don't care anything about the land. We're a people without any land ethic whatever."

This is very tough language, but Mr. Caudill lives in strip-mining country, and there is little evidence that the hunger for fuel will be abated by a decent respect for the land. Mr. McCarthy continues:

> The Interior Department reports that the nation's fuel supply would be greatly increased by extracting oil from the shale deposits in such states as Colorado, Utah and Wyoming. But, the report said, vegetation and wildlife would be destroyed and the water supplies lowered.

> A bizarre equation is created: we will ruin the land of the West to get gasoline for the cars of the East, the air of which—we are told by the summer smog alerts—is already poisonous with auto fumes. So it is not true that the twain of East and West shall not meet: destruction is joining them.

We do not lack for great champions of the land. Mr. McCarthy's article sets out to be a bicentennial honoring of them, but in the end he is constrained to say:

> Were the Muirs, Leopolds, Burroughs, Thoreaus, Krutches and other articulators of that ethic among us today, it is easy to imagine the message they would be receiving from industry or the office of the energy czar: be reasonable Congress is passing environmental bills. But we still need oil, coal and lumber. You want America to be Number One in the world, don't you?

The only way to break the hold of this subversive persuasion, Mr. McCarthy says, would be for a large number of citizens to assume responsibility for rejecting it:

> No changes—at least none that mean anything—are likely to happen until land use is seen more as a matter of ethics than capital, or when stewardship replaces ownership. This is difficult because it offers the lone citizen few immediate opportunities to make his own convictions matter. He is trapped. How can he damn the promoters and developers who tear up the land for excessive profit while he himself keeps using excessive amounts of gadgets, appliances and machines that run on electricity powered by strip-mined coal?

Few arguments for simplicity of life are more compelling than this one.