

SYSTEMS OF INFRASTRUCTURE

THERE are various ways of setting the problem which arises from the way we live now. The problems, of course, are numerous, not just one, but those who write on this subject often seem agreed that we can generalize the many into a single issue. We are, they say, ignoring the fact that "everything is connected with everything else." This was the message of Rachel Carson's *Silent Spring*, of Garrett Hardin's "The Tragedy of the Commons," and of scores of other analyses seeking to understand why so many things are going wrong. No one, however, has improved on Aldo Leopold's statement of what is involved. In the last chapter of *A Sand County Almanac* (Oxford University Press, 1949) he wrote:

An ethic, ecologically, is a limitation on freedom of action in the struggle for existence. An ethic, philosophically, is a differentiation of social from anti-social conduct. These are two definitions of one thing. The thing has its origin in the tendency of interdependent individuals or groups to evolve modes of cooperation. . . . And ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in that community, but his ethics prompt him also to cooperate (perhaps in order that there may be a place to compete for). . . . No important change in ethics was ever accomplished without an internal change in our intellectual emphasis, loyalties, affections, and convictions.

Leopold's closing words are concerned with the welfare of the land which supports us, on which we live. His life was spent in working for the welfare of the land, so he naturally sought for ways in which to describe its needs. The following was his settled conclusion:

It is inconceivable to me that an ethical relation to land can exist without love, respect, and admiration for land, and a high regard for its value. By value, I of course mean something far broader than mere economic value; I mean value in the philosophical sense.

Perhaps the most serious obstacle impeding the evolution of a land ethic is the fact that our educational and economic system is headed away from, rather toward, an intense consciousness of land. Your true modern is separated from the land by many middlemen, and by innumerable physical gadgets. He has no vital relation to it; to him it is the space between cities on which crops grow. . . .

The case for a land ethic would appear hopeless but for the minority which is in obvious revolt against these "modern" trends. The "keylog" which must be moved to release the evolutionary process for an ethic is simply this: quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. . . .

The evolution of a land ethic is an intellectual as well as emotional process. Conservation is paved with good intentions which prove to be futile, or even dangerous, because they are devoid of critical understanding either of the land, or of economic land-use. I think it is a truism that as the ethical frontier advances from the individual to the community, its intellectual content increases.

Some years later, in the Summer 1971 *American Scholar*, Peter Marks decided that the only hope for the environment and people of this country would lie in authoritative action. His plan would end private ownership of land, abolish all state, county and city governments "and replace them with regional governments based on ecological boundaries," on regional watersheds. To reverse or eliminate trends in consumption incompatible with environmental quality, he would ban superfluous consumables and reduce the number of brands offered by manufacturers. Trains and automobiles would be owned by the government, to assure pollution control. Only in this way, he argued, would it be possible to begin changing our "deeply perverse value system,

which cannot come to grips with the significance of natural land except by equating an acre of forest with a bowling alley, a supermarket and two parking lots." Appeals to make the personal effort needed to control pollution, he argued, are useless, saying:

As Garrett Hardin pointed out in an article in *Science*, reliance upon the individual in such matters is doomed to failure; the individual, forced to choose between making a large personal sacrifice (the increased expenditure for maintenance of pollution control equipment plus a decrease in mileage) and an immeasurably small communal sacrifice (the increased environmental degradation, distributed over the entire community, caused by an individual's failure to abate exhaust emissions), will obviously tend to act in a manner that is ultimately disadvantageous to the welfare of the community at large. Under the present system, what is good in the short term for the individual may prove disastrous for the long-term good of the community. . . .

We have created an industrial monster which, being easily aroused by the smell of money, continues at will to devour our rapidly vanishing, virgin landscapes, excreting progress in the process. At present, the massive strength of this monster defies attempts to curb its appetite.

This is strong language, but wholly justified by the article by Garrett Hardin, which is the often cited "Tragedy of the Commons" (*Science*, Dec. 13, 1968). Hardin invited his readers to—

Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.

As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility to me of adding one more animal to my herd?" This utility has one negative and one positive component.

(1) The positive component is a function of the increment of one animal. Since the herdsman

receives all the proceeds from the sale of the additional animal, the positive utility is nearly + 1.

(2) The negative component is a function of the additional overgrazing created by one more animal. Since, however the effects of overgrazing are shared by all the herdsman, the negative utility for any particular decision-making herdsman is only a fraction of -1.

Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another. . . . But this is the conclusion reached by each and every rational herdsman sharing a commons.

Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

The latter part of Hardin's article is given to arguing that appeals to conscience don't work. They may work for some but not for most others. The one who responds through self-restraint is simply making a contribution to the others who don't. "To make such an appeal is to set up a selective system that works toward the elimination of conscience from the race."

Is he right? Is mutually assured coercion the only way out?

What about other demonstrations to the effect that the more laws you pass, the more offenders there are, and that no matter how ingenious our corporate planning and legislation, astute individuals will prove clever enough to get around them, to defeat their purpose?

Garrett Hardin is a pragmatist from the word go. The morality of an act, he says, depends on the situation in which it is performed. When there are few people and plenty of commons, it doesn't matter much what the herdsman do. But when the population becomes dense, adding cattle becomes immoral. "The laws of our society," he says, "follow the pattern of ancient ethics, and therefore are poorly suited to governing a complex,

crowded, changeable world." We now have to stop people from breeding, he says. It used to be good to have more children; now it is bad. He doesn't consider that it may be impossible to stop people from breeding. Others have studied this proposal, deciding that it can't be done, and that it wouldn't bring significant changes soon enough, anyway.

Still others maintain that there is enough land to feed present populations, and feed even more people, contending that access to the land by those who want to grow their own food and food for their local communities is the real issue. They now go hungry because the land they once owned is being used to grow luxuries for the rich. Ten years ago, when herdsmen and others were starving in the sub-Sahara Sahel, "vast amounts of agricultural goods [were] sent out of the region, even during the worst years of the drought." The Africans of these countries were no longer growing their own food. As Frances Moore Lappé and Joseph Collins say in *Food First*:

Ships in the Dakar port bringing in "relief" food departed with stores of peanuts, cotton, vegetables, and meat. Of the hundreds of millions of dollars' worth of agricultural goods the Sahel exported during the drought, over 60 per cent went to consumers in Europe and North America and the rest to the elites in other African countries, principally in the Ivory Coast and Nigeria. Marketing control—and profits—are still by and large in the hands of foreign, primarily French, corporations.

During the drought many exports from the Sahelian countries increased, some attaining record levels. Cattle exports during 1971, the first year of full drought, totalled over 200 million pounds, up 41 per cent compared to 1968. The annual export of chilled or frozen beef tripled compared with a typical year before the drought. In addition, 56 million pounds of vegetables were exported from the famine-stricken Sahel in 1971 alone. During the drought years 1970-1974, the total value of agricultural exports from the Sahelian countries—a startling \$1.5 billion dollars—was three times that of all cereals imported into the region.

This is but one example. There are hundreds of others having similar effect. The *Food First*

authors say: "When the earth's tremendous productive capacity is underused and when its bounty is increasingly siphoned off to feed the already well-fed, scarcity can hardly be considered the cause of hunger." They conclude:

It is not, then, growing population that threatens to destroy the environment, either here or abroad, but a system that promotes utilization of food-producing resources according to narrow profit-seeking criteria. Taking advantage of this system are land monopolizers growing non-food and luxury crops, and colonial patterns of taxation and cash cropping that force the rural majority to abuse marginal land. Moreover, even well-intentioned outside intervention, some of it couched as "aid," has disrupted traditionally adapted systems.

In short, the Commons have been "enclosed." The first time this happened was in English history, during the eighteenth century. The claim was that the English peasants were not making efficient use of the land and that the big farmers knew how and could feed more people. The landed aristocracy was powerful and they got the land away from the peasants. The Commons, it should be said, for centuries had been public lands which anyone could use for planting or grazing. The first enclosure act was passed in 1709, and the "high-water mark was reached in the period from 1765 to 1785, when on an average 47 acts were passed every year." Eventually, the ancient pattern of village life in England was destroyed, creating a landless proletariat—handy, in those days, for the pioneers of the Industrial Revolution who needed laborers who would work for little pay. They had to work in the factories or starve. (See *The Village Labourer* by J. L. and Barbara Hammond.)

So, today, step by step, or acre by acre, vast areas of land have been taken by the rich and the powerful, and the cartels and multinationals have claimed world markets and made or grown what they pleased—which was what was profitable—while industry has been squeezing out small

manufacturers with price wars they, but not small competitors, could afford. These are all ways of "enclosing the commons." And now, when even the rich are beginning to hurt—along with the land, the cities, the dying small towns, the overextended banks, and most of all the common people—reformers are talking about what we must do to manage under these conditions. Institute government ownership, Peter Marks declares, since individuals can't be persuaded to stop their tiny pollutions which, along with countless others, are poisoning the atmosphere. And Garrett Hardin, scientist and rational thinker, claims it is necessary to make people responsible by law. He asks:

But what is the meaning of the word responsibility in this context? Is it not merely a synonym for the word conscience? When we use the word responsibility in the absence of substantial functions are we not trying to browbeat a free man in the commons into acting against his own interest? Responsibility is a verbal counterfeit for a substantial *quid pro quo*. It is an attempt to get something for nothing.

If the word responsibility is to be used at all, I suggest that it be in the sense Charles Frankel uses it. "Responsibility," says this philosopher, "is the product of definite social arrangements." Notice that Frankel calls for social arrangements—not propaganda.

The social arrangements that produce responsibility are arrangements that create coercion of some sort.

And that is that. Or is it? Or is it that no human being ever did much of anything worth accomplishing under the pressure of coercion? We are faced by conditions which we all, some more "effectively" than others, had a hand in making. We did it individually, in groups, corporations, and nations, and in a vast multitude of acquisitive decisions, inch by inch, moment by moment, developing an enormously complex infrastructure for the exploitation of the land, the earth's other resources and, to some degree, of one another. We did all this by choice. It seemed a good thing at the time.

And now, rather suddenly, we are confronted by the need for change. What if there is really *no way* to make the needed changes except by the same means that created the conditions we now find so hard to bear? What if only natural processes, voluntarily chosen, from day to day, inch by inch, can restore the land, clear the skies, purify the water, and give us places to live where we want to stay and discover what must go into what some have called a "more abundant life"?

This would be the creation of another sort of "infrastructure," including all the subtle, voluntary relationships that make living together a natural joy as well as an assemblage of obligations. This is indeed another approach to the "problem," although one already adopted by the saving remnant of our society. We turn to Wendell Berry as one of the several spokesmen for this group. He says in *The Gift of Good Land*:

For those of us who have wished to raise our food and our children at home, it is easy enough to state the ideal. Growing our own food, unlike buying it, is a complex activity, and it affects deeply the shape and value of our lives. We like the thought that the outdoor work that improves our health should produce food of excellent quality that, in turn, also improves and safeguards our health. We like no less the thought that the home production of food can improve the quality of family life. Not only do we intend to give our children better food than we can buy for them at the store, or than they will buy for themselves from vending machines or burger joints, we also know that growing and preparing food at home can provide family work—work for everybody. And by thus elaborating household chores and obligations, we hope to strengthen the bonds of interest, loyalty, affection, and cooperation that keep families together.

Forty years ago, for most of our people, whether they lived in the country or in town, this was less an ideal than a necessity, enforced both by tradition and by need. As is so often so, it was only after family life and family work became (allegedly) unnecessary that we began to think of them as "ideals."

As ideals, they are threatened; as they have become (even allegedly) unnecessary, they have become by the same token less possible. I do not mean to imply that I think the ideal is any less

valuable than it ever was, or that it is—in reality, in the long run—less necessary. Nor do I think that less possible means impossible.

In a chapter in which he tells why he did a little "civil disobedience" in protest against the erection of a nuclear power plant near his home in Kentucky, Berry consider what else should—or can—be done.

Nearly all of us are sponsoring or helping to cause the ills we would like to cure. Nearly all of us have what I can only call cheap energy minds; we continue to assume, or to act as if we assume, that it does not matter how much energy we use.

I do not mean to imply that I know how to solve the problems of the automobile or of the wasteful modern household. Those problems are enormously difficult, and their difficulty suggests their extreme urgency and importance. But I am fairly certain that they won't be solved by public protests. The roots of the problems are private or personal, and the roots of the solutions will be private or personal too. Public protests are incomplete actions; they speak to the problem, not to the solution.

Protests are incomplete, I think, because they are by definition negative. You cannot protest *for* anything. The positive thing that protest is supposed to do is "raise consciousness," but it can raise consciousness only to the level of protest. . . . If you have to be negative, there are better negative things to do. You can quit doing something you know to be destructive. It might, for instance, be possible to take a pledge that you will no longer use electricity or petroleum to entertain yourself. My own notion of an ideal negative action is to get rid of your television set. (It is cheating to get rid of it by selling it or giving it away. You should get rid of it by carefully disassembling it with a heavy blunt instrument. Would you try to get rid of any other brain disease by selling it or giving it away?)

But such actions are not really negative. When you get rid of something undesirable you are extending an invitation to something desirable.

Well, Mr. Berry goes on, enlarging on positive things to do, which of course include planting a garden as "a solution that leads to other solutions." This is his one-step-at-a-time program. He isn't selling it, but keeping it private and individual, the way nearly all good things

start. Imagine! A way of improving, perhaps saving, the world without any public relations activity at all, just doing yourself what you think is right, making your own arrangements of responsibility. Fortunately, his book is an appropriate violation of his privacy. All good infrastructure begins in such ways.

REVIEW

SOME CAUTIOUS OPTIMISM

BACK in 1974, when E. F. Schumacher was in this country touring and talking about intermediate technology, he told a California audience that Americans should be *grateful* to the Arabs for raising the price of oil. Further, he said, it was about the only thing they could do, after they realized that, sooner or later, they would run out of petroleum. Then what? "Back to sand and camels," he said, would be the only option for the Arabs unless by that time they had established the basis of an independent economy. So they gave us impressive warning of what must some day happen. The OPEC decision like any other event which insistently interrupts our habitual ways, was vastly disturbing, but at least it provided opportunity for waking up to the realities of the finite supply of fossil fuel.

Now there is a book, *Self-Reliant Cities*, by David Morris, published last year by the Sierra Club (paperback, \$8.95), which takes off from the same idea. Morris, too, suggests that we ought to be grateful to the Arabs, because finding other ways of providing ourselves with sufficient energy has begun—only *begun*—to work a transformation in our society. The point of reading his book is that most of us have no idea of the extent of this beginning. In a middle chapter Morris says:

The 2,000 per cent increase in crude oil prices in the 1970s forces us to reconstruct our energy generation and distribution system. No longer is it efficient to build massive power plants that require ten years to come on-line, because we can no longer predict future demand with any accuracy. No longer does it make sense to rely on fuels imported from halfway round the globe, because the stability of the supply support an energy system whose fastest growing component lines has become tenuous. Nor is it economical any longer to waste heat. [*sic*] The response to these changes, from both the private and public sectors, is activity as unprecedented as the price increases in fossil fuels: new energy systems are being developed that emphasize efficiency, decentralization, and integration.

The reasonably well-informed person knows that there is a lot of interest in solar sources of energy, in wind, in the subterranean heat of the earth, and in harnessing the tides of the sea, but without a book like this one by David Morris he cannot possibly know about many of the steps being taken around the country. Our political administrators come in for a lot of criticism, a lot of it deserved. But this book shows what some of them are attempting to do by using community power to alter the basic patterns of energy production and consumption. They are working toward autonomy for local areas, with more self-reliance and less dependence on the now obviously shaky structure of enormous centralized sources of power. They are up against great obstacles in the form of well established institutions which seem in control of all such decisions—the privately owned public utilities—yet they are making progress, mainly because of voter support in behalf of obvious common sense.

Beginning with the history of American cities, showing how and why they have become the unwieldy monsters that they are, Morris examines in detail the impact of the increase in fuel cost, then provides case studies of what some cities are doing to put intelligence in control of decisions which vitally affect the present and the future of the residents, and of the numerous services that cities now provide.

The measure of flexibility in what they decide is generally unknown and needs to be understood. We think of cities in terms of New York, Chicago, or Los Angeles, but most cities in the country are quite different from these crowded areas.

The typical American city is not just a matter of demographic averages; it is the place where most of us live. And it is not nearly as large as the popular image of the city. Out of the over 1,500 cities with population over 10,000, only seven have populations of one million or more. More people live in cities of 10,000 to 50,000 than in cities of more than 250,000. The typical city is not as congested as we typically imagine, either. Although urban areas on the average are five to ten times denser than nonurban areas, density varies so widely from one part of the country

to another that average density figures lose their meaning. For example, Manhattan's density can be represented by about 140 people on a football field. At the average density of cities with more than 100,000 inhabitants, the football field would be shared by five to ten people. The fastest growing cities (those with populations of 25,000 to 50,000) have areas so sparsely populated that only one or two persons would be standing on the field. There is, in other words, still plenty of space in our medium and larger cities.

Moderate-size cities have latitude for change. Morris, who has done a great deal of research, has proved this by describing changes already accomplished. But he shows no shallow optimism:

The cost of converting to self-reliance, assuming we decide it is worth the investment, is astounding. But some of the costs would come due anyway. The physical stock of our cities, our sewers and roadways, bridges and heating systems are wearing out. This is especially true in the huge industrial city whose infrastructure was built a century ago to provide services to the flood of human beings entering the city. New York City needs tens of billions of dollars to reconstruct its foundations. Newer cities also suffer these costs. Even as Dallas sprouts new neighborhoods the older parts of the city begin to deteriorate, requiring hundreds of millions of dollars of investment. What will the public works program of an energy efficient city look alike?

The second part of the book, "Gaining Autonomy," provides a little of the answer to this question. For evidence of what can be done, the university town of Davis, Calif. (pop. 36,000), may be the best example. The city fathers changed their building code to make more use of sunlight for space and water heating. When the old city council rejected a plan for bike paths, the people elected another Council and built a network of paths. Contractors are learning how to build energy-efficient homes. Morris comments:

Davis's comprehensive code has not yet been equalled by any other American city. But a number of cities have taken significant steps to make their populations more energy self-reliant. Cities that have implemented population-growth controls are often

able to integrate energy-efficiency considerations relatively easily because of the intense competition for the limited number of building permits awarded each year.

Smaller and many more local power plants for the generation of electricity, using excess heat generated for warming space in the near-by area—called co-generation—are plainly a part of our future. As people become more aware of this, they can begin to exercise control. Examples of places where this sort of assumption of responsibility is now happening are all through the book. Morris begins his chapter, "The Ecological City," by showing the way we live now, as sufficient persuasion that the changes he describes are going to take place.

America's cities are built on nineteenth and early twentieth century technologies. The giant industrial cities were products first of the coal-fired steam engine, which centralized industry and created the economic rationale for densely populating the cities. Then, the density of people and industry in those great cities outstripped the capabilities of the environments to handle their wastes. Huge amounts of water, fuels, and food had to be imported just to keep the city alive. And so the city was transformed from a self-sufficient community into a parasitical creature, dependent on great public-works projects for its survival. Chicago, for example, reversed the flow of the Chicago River so that it would not pollute drinking water from Lake Michigan; Los Angeles brought water from hundreds of miles away to build a city in the desert.

All these things, without intending to, the Arabs have brought to our attention. We are getting instruction from the environment on other ways of relating to the earth. We are needing to *think* in these terms, and that way of thinking, once adopted, will constitute a high achievement in community common sense.

COMMENTARY

A NEW BALANCE

WE should like to add here to what is said in Review about David Morris's *Self-Reliant Cities*. He writes as a nuts-and-bolts man of social change, not as a moralist. Yet his emphasis on self-reliance and decentralization produces moral implications on almost every page.

The illustrations of the new intelligence in generating and using electricity, in building homes that conserve instead of waste energy, of the cities that are able to gain support from their residents to make changes that can only be financed by corporate entities, are too many to be ignored. There is more reporting than dreaming in this book. And there is adequate account of the complexities legal and fiscal, with matching ingenuity on the part of city managers and engineers.

Here is one sort of thing you don't ordinarily hear about:

Eugene Leger built a house in East Pepperell, New York. He . . . used a double stud wall, along with double or triple glazing on all the windows, and he added some new wrinkles. The front and rear doors are not heavily insulated, they open into vestibules, to limit heat losses. And other than for doors and windows, there is only one break in the plastic membrane (vapor barrier) of the walls and ceiling; a vent within a partition wall of the bathroom. The house Leger built is so efficient that it has no furnace. Only appliance waste heat, lights, and body heat are necessary.

You could almost say that our fuel and economic troubles are some sort of benevolent conspiracy to show us the kind of thing we need to do, at all levels. The options open to us seem all weighted in favor of decentralization and other directions in which we need to go for a variety of reasons. Morris's book is not an "argument," but a disclosure of the plain implication of a great many facts which he has brought together at a level that is seldom inspected but may prove the practical side of our material and social future.

We repeat a chapter text quoted by Morris from Russell E. Anderson:

Self-reliance does not mean isolation, nor is it equivalent to self-sufficiency. Self-reliance is development which stimulates the ability to satisfy basic needs locally: the capacity for self-sufficiency, but not self-sufficiency itself. Self-reliance represents a new balance, not a new absolute.

CHILDREN

. . . and Ourselves

THE ART OF BALANCING

ONE resource for this Department—which we wouldn't ever want to be without—is the issues of the quarterly *American Scholar*, published "for general circulation by Phi Beta Kappa," presently edited by Joseph Epstein, and available for \$12.00 a year from the circulation office, 1811 Q Street N.W., Washington, D.C. 20009. This magazine is by "scholars," yet (interesting, the felt need to say "yet" at this point) is lively and colorful in content, and at the same time serious and responsible. It seems far out in front of the "serious" magazines of our time, in both interest and "relevance." Looking through the Spring issue for this year, we located some passages on education that show the kind of discussion one can find in all four, each year.

For example, Vermont Royster (Editor Emeritus of the *Wall Street Journal*) tells about his experiences after he retired from active journalism. As a teacher of journalism at Chapel Hill (North Carolina), he was soon made aware that while journalism majors were "bright and articulate," they had passed through four years of high school and two of college "without ever being taught their own language." Even the members of the English faculty seemed ill prepared to teach grammar—they didn't think it important and "preferred to lecture on 'Trends in the Modern American Novel'." Invited to lead a seminar on the press and society, he shaped its content by asking: "What are a journalist's ethical obligations, if any, to the other institutions of society, including government?" He relates:

I had the conceit to begin with the problems of Socrates, who disapproved of some of the laws of Athens and yet, being condemned by them, chose not to flee but to submit to his own death under those laws. On my first day, I began by asking for a volunteer to recount the story of Socrates. Dead silence. After some futile efforts in this endeavor, I asked how many had *heard* of Socrates. At this point ten of sixteen hands went up. That was something, I suppose, but I couldn't help thinking that perhaps two thousand years later Socrates was, after all, at last dead. Now ignorance does not necessarily derive from want of intelligence. If the students I encountered

who had never learned the story of Socrates had other amazing gaps in their general knowledge of history and were woefully deficient in knowledge of their native language, none of this could be blamed on them. The fault lay in the education that had been offered them all the way through college.

However, Chapel Hill offered fine courses in the classics for students who wanted to take them, and other departments were able to fill the other "gaps." Where, then, did the trouble lie?

It began with an administration that was unwilling to take a stand on what constituted a well-rounded education. It was fearful, I suppose, of "regimenting" the students, of crushing their "individuality," of being "authoritarian." By 1971 all these words had become pejorative terms. Instead, a student was offered a sort of smorgasbord from which he might choose as he pleased. The result was that many students simply took a little bit of this, a little bit of that, and ended up with a smattering of ignorance. If they didn't like mathematics, let them take Spanish—or Swahili.

You expect provocative discussion from a writer who starts out this way, and you get it. Mr. Royster says in conclusion:

At the university level we are once again groping for an answer to that old question: What makes a truly educated person? It is because of that ferment that I keep a cheerful countenance. I cannot help, though, being struck by a certain irony. From the first grade through the last, the university postgraduate, we are seeking to make progress by going backward.

Another contributor, E. D. Hirsch, Jr., tells about the fruit of his twelve years of research in the teaching of reading and writing. He found that the going theory is that "content" doesn't matter—the "skills" are the thing. But then he saw that: "The national decline in our literacy has accompanied a decline in our use of common, nationwide materials in the subject most closely connected with literacy, 'English'." He lists the books used at the turn of the century, works familiar enough to the older generation, and by no means urges a return to them, but says: "I simply want to proclaim that the decline in our literacy and the decline in commonly shared knowledge that we acquire in school are causally related facts." He describes at some length the research which led him, against his own prior assumptions, to this view. Strong content is

important if we want good readers and writers. "We shall need to restore certain common contents to the humanistic side of the school curriculum." But this ignores the prevailing educational assumption that "any suitable materials" may be used to teach reading and writing. In justification he says:

The current curriculum guide to the study of English in the state of California is a remarkable document. In its several pages of advice to teachers I do not find the title of a single recommended work. Such "curricular guides" are produced on the theory that the actual contents of English courses are simply vehicles for inculcating formal skills, and that contents are left to local choice. But wouldn't even a dyed-in-the-wool formalist concede that teachers might be saved time if some merely illustrative, non-compulsory titles were listed? Of course; but another doctrine, in alliance with formalism, conspires against even that concession to content—the doctrine of pluralism. An illustrative list put out by the state would imply official sanction of the cultural and ideological values expressed by the works on the list. The California Education Department is not in the business of imposing cultures and ideologies. Its business is to inculcate "skills" and "positive self-concepts," regardless of the students' cultural backgrounds. The contents of English should be left to local communities.

This might work well enough if the teachers were imaginative and resourceful, enthusiastic, and themselves culturally "literate." Such teachers might be plentiful in another sort of society, the problem being to get there from where we are.

Meanwhile, "formalism" is empty and has an emptying effect. According to Mr. Hirsch, there is no "safe" or "neutral" way to educate:

What the current controversies have really demonstrated is a truth that is quite contrary to the spirit of neutrality implied by educational formalism. Literacy is not just a formal skill; it is also a political decision. The decision to want a literate society is a value-laden one that carries costs as well as advantages. English teachers by profession are committed to the ideology of literacy. They cannot successfully avoid the political implications of that ideology by hiding behind the skirts of methodology and research. Literacy implies specific contents as well as formal skills. Extreme formalism is misleading and evasive.

In other words, the really good writers always have something "dangerous" to say, and the forms of good expression cannot be separated from this sort

of risk-taking. And it *is* risk-taking. There was political censorship in Italy in the 1820s when Joseph Mazzini was going to school, but the authorities made the mistake of supposing that the old Roman classics could do no harm and let them be read. They gave Mazzini the conception of a free and united Italy, turning him into a life-long revolutionary.

The point of reading the *American Scholar* is that one fully realizes from its articles that education—its meaning, its ideals, its processes—is up for grabs among educators: nobody knows the "answers" and the first step in a new beginning is recognizing this and realizing that responsibility reverts to us, to the people, to individual parents. These writers point to the areas where decision is needed.

Having read Royster and Hirsch, we suggest turning to the opening article in the Spring issue "Aristides' Lifetime Reading Plan," mainly about the difficulties and embarrassments of compiling a reading list for anyone at all. He lets Montaigne explain:

Montaigne did not ask that books make him learned—"In general I ask for books that make use of learning, not those that build it up"—but that they make him wiser which is what one needs "to die well and live well." Montaigne might be Everyman, but not every man is Montaigne. What makes the problem of choosing reading for other people so difficult is that, as Montaigne himself puts it in the essay entitled "Of the Inequality That Is Between Us," "there are many degrees in minds as there are fathoms from here to heaven, and as innumerable." To learn the degrees of one's own mind, let alone that of the minds of others is not so simple. It is chiefly because he knew his own mind so wondrously well that Montaigne, among other reasons, shall always be honored.

A curriculum, of necessity, cuts this Gordian knot with one happy or fell stroke. One generalization would be that education must above all prepare the young for making decisions, and take great care not to make decisions for them. Everyone who has contact with children and the young has to walk this razor's edge. The *Scholar* articles have in them much about the required art of balancing.

FRONTIERS News From India

FOR reports on movement toward ecological and environmental goals, the United States has *Rain* and *Land Report*, both monthly journals filled with useful and encouraging information. England has *Resurgence*, a well-edited monthly with many contributors (Schumacher frequently wrote for it); France doubtless has papers concerned with progress in biological (organic) agriculture, and India has *Science for Villages*, issued monthly by the editor, Devendra Kumar, from the Center of Science for Villages, Magan Sangrahalaya, Wardha 442001 (at \$10.00 a year).

While sea mail is uncertain and production not easy for the Indian publication, the paper is always worth waiting for. In the issue for last November, now at hand, its sixteen pages are packed with interesting material. The first article is a tribute to the late Vinoba Bhave, a close associate of Gandhi, who died last year after a long life of inspiration and service to the Sarvodaya (Welfare of All) movement. Vinoba had intimate knowledge of the work of the Science for Villages Center and kept close track of its activities. Three weeks before his death he urged Kumar to get going as many biogas plants as possible in the Wardha district (centrally located, near Nagpur, in Madhya Pradesh). After noting Vinoba's concern for sound scientific inquiry—he used to say, "Religion will go and spirituality will remain; politics will go and science will remain"—Kumar gives a brief account of Vinoba's life:

He worked for the concept of One World and gave the slogan (really a mantra) "Jai Jagat, " meaning victory to the world instead of the common slogan, "Jai Hind (victory to India). To achieve this he adopted the concepts of Gandhi, who had declared that he wanted his country to be free so that it can have the liberty to sacrifice itself for the sake of the world community. He said that the individual should live for the community, the village for the district, the district for the country and the country for the world. "Jai Jagat" got its implementation in India by the

propagation of this spirit of sacrifice throughout the length and breadth of the country, which Vinoba walked on foot from village to village, city to city, for about two decades.

He sought gifts of land for the landless peasants, and after that gifts of land to the village itself, for administration of its appropriate use. He preached community sharing, under four headings:

These four points are: (1) The constituent members of the community must recognize that gifts of Nature (to the making of which man has not contributed) like land, forests and minerals, sea wealth, etc., should cease to be the realm of private property and be regarded as the Trust for all mankind for all time to come, (2) As a first step toward recognizing this fact, a portion of the present ownership should be relinquished by the individual in favor of the community—say 5% to begin with, a quantity to be gradually increased. He wanted the means of production in the community to be collective but the management and responsibility, initiative and enterprise left to the individual under a common code. (3) The collective decision to be by a common consensus and not by majority vs. minority, since no cleavage in the community (be it a village or a nation) could be tolerated in an Atomic Age. (4) There should be sharing of individual production for the benefit of the weak and deprived. The individuals and nations should decide on the utilization of 2-3% of their income to be used for removal of poverty and the disparity of wealth in the world.

Vinoba worked, Kumar says, to resolve conflicts, yet he "never foisted his views on others and said that we should not be '*Hee-Wadi*' (insisting that our view alone is right) but '*Bhee-Wadi*' (conceding that ours is also one point of view and there could be others as valid)." Kumar writes in terms of the traditional Indian view of death, which may be of particular interest to Western readers:

All these qualities and many more which presented themselves through Vinoba while he was alive are now released in a bigger cosmic level as he relinquished the bondage of body on the morning of the 16th of November. May we all try to understand the nuances of his great teachings and be partners in the formation of a new World of non-violence, peace and justice by following them, according to our

understanding, in meeting the challenge that the war-weary world poses.

The next article in *Science for Villages* is on "Rural India," a country of 524 million citizens who live in 575, 936 villages. Nearly 80 per cent of these people have their homes in villages of less than a thousand people. The Indian labor force, which is counted from the age of five, is estimated at 269 million, and of these 216 million (149 million male, 67 million female) work or seek work in rural areas. Unemployment is severe in urban areas, but since the rural population is so much larger, there is great unemployment there, too. Agricultural labor unemployment may reach as high as 46.7 per cent, although these workers constitute only 21.2 per cent of the total population. In India the people of 22.5 million households have no land or less than half an acre.

Another article describes the typical day of a rural woman, who rises before daylight and works for from fifteen to over sixteen hours a day. In one region during the peak of agricultural activity the women work at farming for eight or nine hours a day and spend an additional four hours in household chores. While women do more work than men, their training and education are neglected, one reason being that they have little time for study or participation in programs. What work do they do? They grind flour, churn milk, wash clothes, bring water from distant wells—which take five hours a week. They plaster their dwelling floors four or five times a year, prepare storable foods and make granary structures of mud. In addition to agricultural work they irrigate, care for cattle, feed the animals and milk the cows. *Science for Villages* publishes material on appropriate technology for easing the work of women. (Valentine Borremans, known to readers as a colleague of Ivan Illich, has been writing about better tools for women during recent years, and has contributed to Kumar's paper.)

Some readers may remember the MANAS review of Hassan Fathy's *Architecture for the Poor*, in which he tells about the Nubian Arch

Roof, which he learned about and revived as a method of construction for Egyptian peasants who have no wood for supports while the mud brick "sets." Two pages of cartoon diagrams (with text) tell how to erect these roofs. This information was provided from experiment at the Center of Science for Villages, where staff members tested Fathy's plans and instructions, pronouncing the work "very successful."

Scientific findings applicable in villages are reported at some length. This issue describes a plant called "atriplex" which "sucks salt from soil and whose leaves are excellent fodder" for animals, containing more than 12 per cent protein. Another plant, common in India, called Custard Apple, grows to twelve feet and bears kernels which are tasty, good for vitality, relieve cough, and alleviate tuberculosis. Its leaves may be used to reduce the sugar in the blood of diabetics. The reviewer says that medical men have neglected the virtues of this and other fruits and recommends study of *Miracles of Fruits* by G. S. Varma.

The magazines we tell about here, including this one, are windows into the real world, the world of tomorrow, made up of people and events that never make headlines yet constitute the substance of the humane society of the future.