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THE RESEARCH HAS BEEN DONE

WITH the coming of virtually instant worldwide communication and the establishment of systems which transmit "news" and information to the centers of mass population throughout the planet, it became possible to talk about "the world" and its problems in common terms. As a result, a great deal of "information" has been spread about issues and conditions, with, as we know, very little understanding of either the right and wrong or good or evil of what we hear. Thus, at last, we have the "one world" anticipated with visionary ardor fifty or seventy-five years ago, yet not the world of fulfillment that optimists looked forward to, but a world in conflict with ever-worsening problems.

It is a world resounding with the partisan solutions proposed by spokesmen of both the rich and the poor, few of which, judging from what we know of history, can be expected to work. Many of these solutions are obviously based upon self-interest, declaring for the "tried and true" methods of one or another status quo; others are likely to be rooted in an ill-informed "idealism" which leaves out of account crucial regions of both fact and behavioral realities. Still others may contain elements of truth, yet remain unpalatable to majority opinion because of what they would require of human beings if they are to be applied. For the most part, the progress we make by applying what is proposed and for a time acceptable is a progress in making new mistakes. What else can you say of a society which has come to rely upon mutually assured destruction and terror for the preservation of peace?

Whether or not the simplistic exhortations of moralists are based on actual moral verities, the fact is that they leave most people untouched and unaffected. The ills of the day, on the surface, at least, don't have much evident connection with morality. Our sufferings seem to be the result either of blind circumstances or the stubborn behavior of bad people, the choice of scapegoats being largely a matter of temperament and "education." Terms like "wisdom" and "righteousness" and "altruism" and "compassion" seem to have little or no actual content for modern man, whose attention is likely to be focussed on the energy shortage, crime, and the threat of war, to say nothing of inflation and failing economies. In short, the moralists, if they want to be heard, need to become—at least for a time—specialists who also have practical understanding of the complexities of a mass technological society. But if they attempt this, they are likely to be ignored by establishment thinkers who prefer to expand and refine techniques of analysis that are currently regarded with confidence, but which the few recognize as no longer applying to the present state of the world.

Little wonder, then, that the conventional wisdom of the time keeps calling for "more research." Neglecting for the moment the fact that our libraries are filled with undigested "data" gathered by researchers over a century or more—which no one knows how to make use of—we might ask: What sort of research? There are dozens of books which show that actual solutions for besetting problems have often been discovered and proposed, only to be ignored and set aside, sometimes for generations, because the world, or those in the world who make such decisions, were simply unready or unable to see that a real solution had been found. An example is the discovery by Ignaz Semmelweiss (1818-65), a doctor who, working in hospitals, noticed that while the incidence of puerperal fever (childbed fever) was 20% in the ward where physicians presided, in the midwife ward the rate of infection was far less. The reason? The midwives, for

some reason or other, had been instructed to *wash their hands* before attending to a delivery. When Semmelweiss told the doctors to wash their hands they laughed at him. What could this Hungarian Jew teach proud Viennese professionals? They went on coming from the dissecting room, where they had been handling dead bodies—often of women dead from puerperal fever—to the delivery ward with their fingers stained with the germs of disease. Poor Semmelweiss went mad with frustration, but eventually the truth of his discovery became plain. Years after Joseph Lister said, "Without Semmelweiss, my achievements would be nothing."

Rejection of what is much later recognized as important discovery is so common in science that studies have been made of this neglect and examples collected. In the *Scientific American* for December, 1972, Gunther Stent took note of the fact that Mendel's discovery of some of the laws of heredity had to wait thirty-five years before it was admitted and made use of by biologists. Why? Because, this writer, a molecular geneticist, explains, biology was simply not ready to see the value of Mendel's pea-breeding experiments. His statistical methodology was foreign to the biologists of that time and "the concept of discrete hereditary units" (now called genes) could not be connected with canonical knowledge of anatomy and physiology in the middle of the nineteenth century. Stent also notes that the presence of deoxyribonucleic acid in the nucleus of the cell was discovered in 1869, but other discoveries were required—by Avery, Chargaff, Hershey and Chase—before Watson and Crick were led to inquire into the acid's structure, which we now know as DNA. Again, Stent notes the reluctance of many scientists to admit the reality of ESP, the reason being that there doesn't seem to be any way to fit its phenomena into present-day canons of scientific knowledge.

In a similar review of long-rejected discoveries or theories, Michael Polanyi (in *Personal Knowledge,* 1958) points out that each discoverer or innovator has his own canon or conceptual vocabulary, and it is this which is rejected as alien or strange by other scientists. As Polanyi puts it: "A hostile audience may in fact deliberately refuse to entertain novel conceptions such as those of Freud, Eddington, Rhine or Lysenko, precisely because its members fear that once they have accepted this framework they will be led to conclusions which they—rightly or wrongly—abhor." This is one way of explaining the realities behind Victor Hugo's familiar observation: "There is one thing stronger than all the armies in the world; and that is an idea whose time has come." The right "time has come" for an idea or discovery if both events and the development of thought have made a framework of factors or considerations which are at least not hostile, and in some ways receptive, to the new idea.

We should add that an element of resistance to innovation not so far mentioned—stubborn self-interest or fear of having to change one's ways—may also doom a discovery to neglect. Consider how an invention which would threaten the destruction of an entire industry—by making its vast plant and enormous capital investment obsolete—is likely to be regarded by the industrialists involved. No doubt they would decide to buy the patents and bury the idea in the deepest of vaults instead of welcoming and applying such a "revolutionary" invention. No doubt the industrialists have already done exactly this, not once but many times—one reason why the life of the inventor is seldom a happy one.

On grounds of this sort, then, a strong case could be made for saying that, while wisely directed research is always desirable and should continue, the fundamental discoveries needed concerning all the major problems of the modern world have already been made, but for the most part have been ignored by the managers of the present society—ignored for a variety of reasons, including the ones above. A brief review of these

problems, one by one, will support this contention.

What are the problems or problem areas? They are easy to list: Economics, Energy, Agriculture, Water Supply, and related activities; we should add Government, Education, Urban Disorder, Pollution, Crime, and of course War. If we really knew what to do about these several problems, we say, we could work out our lives to the satisfaction of all. So let us pursue research and find out what to do.

But the fact is that we *do* know what to do, or have been told what to do by a rare body of men and women who have thought and worked long and hard, and have themselves found out. They have given their recommendations in specific terms, not moral generalities. There may be moral tone in what they propose, but they are not moralists in the ordinary sense. Yet an ethical awareness seems behind all their discoveries and we feel this quality in thinking about what they say.

So, to get down to business, on Economics read E. F. Schumacher's *Small Is Beautiful.* Read some others—Leopold Kohr, Herman Daly, and one or two others, such as Hazel Henderson—but read Schumacher first, and read him thoroughly, and then see if it is honest to say that "we don't know what to do." Schumacher devoted his life to figuring out not only what needs to be done, but also what we have reason to think *can* be done; he was a practical man, as his biography by his daughter, Barbara Wood, makes clear.

Next comes Energy. Read Amory Lovins and the books he has written with his wife, Hunter Lovins. No one that we know of has successfully disputed what Lovins says about energy, how to save it, the best way to use it, and about the possibilities of alternative sources. See for example his latest work in the recent book, *Meeting the Expectations of the Land* (North Point Press, 1984, $12.50) edited by Wes Jackson, Wendell Berry, and Bruce Colman. This essay, "Energy and Agriculture," written with Hunter Lovins and Marty Bender, while on a particular use of energy, shows the kind of thinking that needs to be involved. Then, for a broad view, see the section on Energy in the Worldwatch Institute's *State of the World: 1985.* If this material is read carefully and assimilated, you will feel that we know enough about the subject to stop talking about "more research" and start making changes in our patterns of consumption, and finding ways to contribute to the institutional changes required to alter the patterns of production. The basic research has been done and there are people who know exactly what to do.

On Agriculture, our most basic problem area, there is a lot of good and important stuff to read—too much, in fact. We suggest that one start with the book named above, *Expectations of the Land.* The notes on its seventeen papers or chapters give the titles and sources of further reading for those who want to go on. Here, again, in the papers by Berry and Jackson, both practicing farmers, both of them incisive thinkers with broad perspective, and in the work of the other contributors, you will see that there are fewer question marks about what to do about agriculture than you may have thought. You will see what "learning from nature" means and how it can be applied for the good of both the earth and ourselves. And here, again, you will feel the ethical viewpoint and recognize also the hard common sense in what these writers say.

One contributor whose work is of particular value is John Todd, of the New Alchemy Institute and Ocean Arks International, who has had considerable attention in MANAS. We reproduce here the last page of his paper on "The Practice of Stewardship." He says:

> For some time I have been aware of the power of symbols on the imagination—for example, how Concorde jetliners or space colonies influence the mindscapes of the future. The arks or bioshelters we created at New Alchemy were intended both as tools and as symbols of a biological and solar age. They were to express qualities of immanence and

stewardship, much in the way the space ship expresses transcendental and industrial qualities. For many years I wanted to combine the vision of restoring the lands with protecting the seas and informing earth's stewards. In my mind it came to be a great sailing ship, powered by the wind and sun and filled with live organisms for ecological healing. This biological ship of hope would be a global voyager serving people who desire biological resources and the requisite skills to heal their lands.

So, Ocean Ark began to develop such a ship, to be named the *Margaret Mead.* Its decks and cabin roof are to be made of wave-resistant and light-transmitting materials. Within, hundreds of thousands of tree seedlings could be grown under guaranteed conditions, and millions of young marine fish could be transported live on board to coastal fish farmers. It would also house a library, tools, and staff capable of undertaking really challenging stewardship experiments.

A few years ago we built a one-fifth scale, fifty-foot model to research new sailing rigs. In the process I learned enough to know that naval architecture hadn't evolved far enough to allow me to undertake building the ship I had in mind. As a consequence, Ocean Arks International has begun to develop small, advanced-design sail-powered fishing and transport vessels that might be useful to the millions of Third World fishermen currently plagued with nonexistent spare parts, lack of information, and erratic and expensive sources of fuel. We have called these fast, multibull vessels "Ocean Pickups." Before long they will be sailing and fishing in a variety of fishing communities.

In the meantime, I am slowly assembling the skills to develop "Ocean Arks." They may not be as big as originally conceived, and in fact, their strength, beauty, and usefulness may be enhanced by their numbers rather than by their size. My dream is that within the next few years planetary stewards will be able to travel from Findhorn to Auroville in India, and Auroville to Chinook Community in the northwest of North America, and on to New Alchemy and Ocean Arks International. I should like the Ocean Arks to be fast and safe and works of great beauty so that stewardship will have workhorses that feed both humanity and the individual imagination. They will allow us to gather the collective land-tending skills of many cultures and link them together for application. Such gathering and linking will be the work of generations and wonderful stuff, too.

Another contributor to *Expectations of the Land,* new to MANAS editors, but a writer that will not remain so, is Gene Logsdon, who has a farm in Ohio and who contributes to Rodale publications. After a long—and almost fascinating—disquisition on cow droppings, "what we call cowpies," in order to get across to the reader the importance of the manure cows leave on their pasture, he says in his paper ("The Importance of Traditional Farming Practices"):

> Not the least significant aspect of the interrelationships between traditional farming and nature is that much of the activity leading to production of food—the purpose of agriculture—proceeds without the expenditure of energy on the part of humans or machines. What machine, however electronically clever, can duplicate the accomplishments of a mere cowpie? Swedish scientist Staffan Delin has recently theorized that "it well may be that the biological processes are many magnitudes of order more efficient than the industrial ones." I suspect that this insight, call it biological efficiency, is the key to a practical, sustainable agriculture if mankind is ever to adopt one. For forty years we have tried to apply assembly line efficiencies to farming, coached by simplistic assembly line economics. These efficiencies, it now seems apparent, don't work in farming; they don't even work well in factories. But to argue that point any longer appears fruitless. A more hopeful course would be to bring civilization's attention to bear on this concept of biological efficiency and find out how it might be used to preserve human culture. The starting point is an intense investigation of what traditional farming has learned by trial and error over centuries of experience, even if that means humbling ourselves to the contemplation of cowpies.

Next on our list is Water Supply, and Harold Worster's paper, "Thinking Like a River," would make a good beginning for finding out what is known about the present uses and misuses of water, its pollution and purification. Then, with the discussion of this subject in *State of the World: 1985* as additional reading, one sees that here, too, we know what to do.

We cut the Gordian knot on the subject of Government with Thoreau as the basic source, adding that Arthur Morgan's reply to H. G. Wells'

demand that we choose between Socialism and Individualism, given in Morgan's book, *The Long Road*, sums up about all we need to know. Lao tse's *Tao Te King* also has the essential wisdom on the subject. This is the most over-discussed problem that we know of, its only solution lying with the restoration of individual responsibility and the reduction, step by step, of what we expect and are willing to take from government. Much of the solution to the problem of war lies here, too, since government, today, is the only war-maker and insists upon its right to make war as the sole means of survival of the nation-state. Eventually, this will get down to answering the question: Which or whom do we want to have survive—Ourselves or the State?

What about Education? Here we might start with Plato and the Upanishads, and among modern writers read Robert M. Hutchins, Arthur Morgan, and John Holt. Regular reading of the *American Scholar* would provide good background, also Joseph Epstein's fairly recent volume on Great Teachers—a collection of fine essays.

On Cities and Urban Disorders we suggest Jane Jacobs and David Morris, with attention also to Peter Berg's pamphlet series published by the Planet Drum Foundation in San Francisco. The idea is to make cities habitable and good places to be, with services to human beings that are appropriately found there. For searching criticism, see *The City Is the Frontier* (Harper, 1965) by Charles Abrams. And, of course, Lewis Mumford's book on cities. The fundamental idea would be to make cities cultural centers first, commercial places second. If we do everything these problems require, pollution will take of itself.

On Crime, we have only one reading suggestion: Charles B. Thompson's classic paper, "A Psychiatric Study of Recidivists," which appeared in the *American Journal of Psychiatry* for November, 1937. Dr. Thompson, an associate of Trigant Burrow of the Lifwynn Foundation, examined all the repeater criminals who came before the Court of General Sessions in New York City in 1935, a total of 1380. His fundamental conclusion is that all members of our society, normal or neurotic, are conditioned by the cultural environment to be; preoccupied with thoughts of oneself. "It is obsessive with us. Each one becomes so conditioned that his thought automatically is 'how will what is going on at this moment cause *me* gain or loss?'" After developing this analysis at length and in particular, Dr. Thompson says:

> In our superficial angers and hatreds or in our agreements, in our wars and in our equally superficial arrangements called peace, "normal" man, like the criminal, is himself a repeater of pathological reactions. Naturally, then, if we are all involved automatically in repeated reflex actions that have to do with oppositeness, self-acquisitiveness and competition, the nature of the behavior of the recidivist is not far to seek, for the problem of the recidivist is but the problem of man's behavior generally.
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> We might keep in mind that society has its own crimes which, however, are not recognized as such because they are committed on so large a scale. Society has its mass-homicides called wars, its mass robberies called invasions, its wholesale larcenies called empire building. As long as the individual's behavior fits in with the mass-reaction it is considered "good" behavior. As long as he does not question by word or deed the validity of the mass-behavior he may be called a "good citizen." . . . Criminals present merely an exaggerated form of the ego-preoccupation that characterizes the individuals of our "normal" society, and, in our attempt to deal with them, we are confronted with a problem in community behavior. . . Our responsibility, then, is to reckon broadly with those factors within ourselves which determine antisocial trends throughout society and of which the behavior of the recidivist is but one aspect.

Here, as with all other "problems" we face, the basic research has been done.

REVIEW
A NEW-OLD KIND OF FARMING

A CAREFUL reading of *Meeting the Expectations of the Land* (North Point Press, 1984, $12.50), edited by Wes Jackson, Wendell Berry, and Bruce Colman, produces the realization that there is now a plateau of understanding of the problems of agriculture and a growing appreciation of what must be done. Bruce Colman begins the Preface by saying:

> A new agriculture is growing in the United States. Born partly of the environmental movement of the 1960s and 1970s, inspired partly by the unending crises to which the American farm is heir, harking back in some senses to the great conservation struggles of the 1930s, paralleling in part the soft energy movement of the 1970s and 1980s, this new agriculture is being conducted by hundreds of people all over the country.
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> It involves people gardening without chemicals. It involves genetic research on our major grain crops and on certain food animals. . . . Let us understand from the outset that this new agriculture is not a subsistence-oriented, back-to-the-land movement—although that movement has a place here. This change is about the commercial, market-oriented, city-supporting agriculture on which most of us depend. It addresses the fact that this farm system—a wonder of the modern world—does not look to survive much longer. The agriculture that this book discusses has been given many names: sunshine agriculture, renewable agriculture, organic agriculture (a limited term that, like subsistence, has its part in our larger scheme), a regenerative agriculture.
>
> What this agriculture features is relatively large numbers of people getting their livelihood on the land, growing crops that act like wild ecosystems—that is, that build the health of the soil even as they deliver the seeds (grains), leaves, fruits, meats, and roots that compose a healthy diet. The term we like best for such an agriculture is *sustainable agriculture*, and the definition we like best is Wendell Berry's: "A sustainable agriculture does not deplete soils or people."

In short, it would be difficult to exaggerate the importance of this book. It is, we suppose, a book for farmers, but after you read a bit in it you see that it is really for everyone. The writers, all seventeen of them, have passion and conviction, but tough-minded caution as well. The reader who is familiar with the work of Wendell Berry and Wes Jackson will be pleased to discover what they, with Bruce Colson, have put together for the general reader—with few contributors of whom they have heard, yet who, together, complete the picture of the issues represented by sustainable agriculture. These other writers have been carefully selected. They deal with topics with which the general reader probably has only a nodding acquaintance, and they *belong* with the editors by reason of their insight and seriousness. Gene Logsdon, for example, a small farmer and writer in Ohio, wins the reader with his vivid account of life on his farm in a paper on the importance of traditional farming. Gary Snyder, Buddhist and poet, examines the cultural roots of agriculture in religious feeling and practice, and in transcendental belief. The Lovins, Amory and Hunter, bring to the reader the bearing of energy on agriculture, saying:

> The ecological damage caused by petrofarming poses an even greater threat to Americans than does farm economics. The heavy use of nitrogen fertilizer has resulted in dangerously high nitrate levels in the groundwater of some areas. Drinking water contaminated by nitrogen can cause severe health problems. Pesticides are also contaminating groundwater in some areas. Heavy irrigation, made economically possible by cheap oil and gas, is eroding the soil and rapidly salinizing what is left. Soil erosion threatens farm productivity, and eroded soil is filling streams and rivers with silt and the air with dust.
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> Either the economic or the ecological failure alone should be enough to bring about a change in agricultural methods. Together, they make an urgent need for change. But such a change need not be disruptive or demand sacrifice, if it is done sensibly and soon enough. Like energy use in general, energy efficiency on the farm can be increased without reducing productivity.

Angus Wright, a Latin American historian, provides an evaluation of the impact of the Green Revolution on the peasants of Mexico, describing

its complexity, and the work of Norman Borlaug, who very largely brought it about. Wright says:

> . . . Mexicans often tend to blame American influence for the persistent need to import sufficient quantities of basic foodstuffs, with resulting foreign exchange difficulties. While no one in or out of Mexico seriously contests the fact that American-financed agricultural research has led to impressive production gains in some crops, in some Mexican regions it is believed that these gains themselves have led to unfortunate economic distortions that make the solution of other problems more difficult. Some Mexicans believe that the basic political and cultural character of their country has been profoundly changed by the results of American-sponsored agricultural research.

In 1941 the Rockefeller Foundation, which had sponsored Borlaug's introduction of new seeds, sought the advice of Carl Sauer, an eminent geographer at the University of California who had had extensive experience of life on the land in Mexico. Sauer proposed that the Rockefeller program "should proceed by working upward from the problems of the peasant household, patiently solving problems as identified by the peasants themselves." But this advice was ignored. Moreover, the great variety of conditions in Mexico was hardly realized. While wheat production in some areas was doubled, even quadrupled, in other regions "farmers could not afford the necessary fertilizers and machinery, and they did not have reliable access to water."

> In Los Altos of Oaxaca, for example, peasants contended with the fact that they based their own production on hand-dug wells going down twenty or thirty feet while, nearby large landowners began to dig much deeper, using motorizei drills and pumps. By the mid-1960s, many of the Zapotec and Mixtec people found that a water table that had sustained their people for many centuries was now unreachable. In addition, the larger operations exerted constant pressure to drive small holders off the good valley land onto eroded marginal slopes. Land speculators moved in to develop luxury housing for vacationers and wealthy retirees. The accumulated pressure forced many of these people into the migrant labor stream, where some of them ended up harvesting export tomatoes in Sinaloa or working in garment factories in Los Angeles.

The agricultural researchers, Mr. Wright says, have lived too long in "an international subculture." They, "with every intention of doing well by humankind," have patronized research based on "certain assumptions about what is good for the human race, a certain innocence protected from doubt by power and influence." It is now time, Wright suggests, to go back to what Sauer proposed forty years ago, and work on the basis of what the peasants know how to do instead of modeling research on the problems and solutions of American agriculture, using techniques "that are highly energy, chemical, and capital intensive." These techniques are not appropriate for work in other countries.

In his introduction to this volume, Wes Jackson says:

> The current discussion of the "problem of agriculture" has been much too narrow. We are at that exact instant in history where, as a people, we are discovering another law of nature, this time indirectly, at the point where it affects human culture. Vulgarly stated, the law is that for any level of biological organization—ecosystem, individual, or culture—if a "bottom line" is designated or featured, that feature will break the system. The pattern is clear. It creeps up on us. First the ends justify the means and eventually, to use the phrase of the eminent chemist and critic of science, Professor Irwin Chargaff, the ends "sanctify the means." When the ends merely *justify* the means, there is still time to change, but we are dangerously close to *sancti*fying the means of production agriculture. . . .
>
> These essays attempt to address that problem. If they fail, part of the reason is that our language has not yet evolved to the point where it can accurately describe our proper relationship to the land. That language will only come as we discover the proper relationship of people and land in a modern setting, as we assess not only the tools and techniques but the social, political, economic, and religious arrangements suitable for a highly populated sun-powered planet.

The call of this book, in short, is for radical change in how we think about ourselves, about the planet, and the numerous interdependencies between the two.

COMMENTARY
AS NATURAL AS COUNTING

USUALLY, when a book is named and discussed in more than one article for MANAS, we put one of these articles in another issue, but this week we did not do this, wanting, instead, to emphasize the importance of the book, *Meeting the Expectations of the Land.* The opening paragraph of Review speaks of the "plateau of understanding" which this book represents, while the quotations from it in the lead article show the diversity of content it provides.

Here we call attention to what seems a keynote of the spirit of the book in the contribution by Donald Worster "Thinking Like a River." Writing about the part played by water in agriculture and in other ways, he says:

> Almost forty years ago, Aldo Leopold wrote that we will never get along well with nature until we learn to regard it morally. We must develop, he maintained, a sense of belonging to the largest community of nature, a community that has many interests and claims besides our own. We must cultivate a moral sensitivity to that community's integrity and beauty. He spoke of the need for a "land ethic," including in it a moral responsiveness to all parts of the ecological whole. But given the centrality of water in our lives, and given the magnitude of the problems we confront in farming our watersheds, it also makes sense to talk about a "water ethic." Water, after all, covers most of this planet's surface. Even more than land, water is the essence and context of life, the sphere of our being and that of other creatures. It has a value that extends beyond the economic use we make of it on our farms. Preserving that value of water through a new American agriculture is an extension of ethics as well as of wisdom.

This is the mood of community, the quality that is slowly coming into the best thinking and writing of our time. When Worster speaks of "moral responsiveness" he is referring to the sense of fellowship we feel, not only toward other living things, but including the very elements of our common life—earth, air, and water.

It is time, indeed, for us to recover the large-hearted pantheism which once declared us kin with all that lives, and this spirit is returning by a natural spontaneity after centuries of egoistic isolation from the living world. This world and all its inhabitants are not "utilities" and "resources." They are all parts of our being.

Our minds as well as our hearts are giving us instruction. We shall one day have a science in which moral responsiveness will be as natural as counting.

CHILDREN
. . . and Ourselves

THE ONE-ROOM SCHOOLHOUSE

GOOD articles on education—on teaching and learning—accomplish many things, but if they are really worth reading they all do one thing well: they break up the formulas and stereotypes on which people too often rely in forming their opinions. We now have some materials which help in this direction.

First, then, are two pages torn from an unidentified paper put out by some Amish people in Aylmer, Ontario, Canada, providing an article by an unnamed writer on the schools to which they send their children. He begins by summarizing the "educationist" arguments of thirty, forty, fifty years ago for consolidation of the schools—a few big schools in every county instead of several dozen small ones. The arguments sounded good—big schools are cheaper, provide greater resources, and are more "efficient"—one teacher can instruct sixty pupils instead of ten or fifteen. Looking back, the writer decides that these glowing anticipations did not work out, noting that people who believe that "children nowadays are actually learning less than their parents did in one-room schools" have a lot of company throughout North America.

Unforeseen problems have appeared:

> One is surely the fact that behavioral and disciplinary problems are usually intensified when large numbers of the same age group are thrown together.
>
> Another weakness of the consolidated school system is that it is administered by "experts" who may well have more learning than wisdom. They may be experts in their field, but it is hard to keep costs realistic when the people who spend the money are so far removed from the people who pay the bills.
>
> In the old days, the teacher and the local school board were likely to get together and make decisions. The board was made up of local people, practical, sensible men who knew the community, the parents and the children. They could, and usually did, tailor the solution to the problem.

The writer goes on, speaking of things which "experts" seldom consider. The experts are long on theory but know little of actual practice. The old-fashioned board of education *worked:*

> Such a board, often serving mainly on a voluntary basis didn't have a lot of charts and fancy studies and computers to help them, but they did know that for every dollar that was spent, someone would have to pay. They were people who had learned in life to make do with what was at hand, to shift a bit when necessary, and to improvise. And by their examples they passed the importance of these lessons on to the pupils. The pupils learned that not everything had to be shiny and new and up-to-date. Textbooks were used until they were worn out. And of course, no huge gymnasiums had to be built to give the children exercise—they got that each morning while walking to school!
>
> Every morning we see the big yellow buses rumble past the end of our lanes. And every morning we are thankful that none of them stop. We consider it a blessing and a privilege to have our children walk to school.

When visitors ask about schooling for Amish children—

> We tell them that we have our own one-room country school. (Our small community of forty some families have three such schools.) Next they ask us how we manage to get away from paying school taxes to the public system. And we tell them we aren't exempt; we pay school taxes just like our non-Amish neighbors, and support our church schools on the side.
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> Many times such people shake their heads and tell us, "That's not fair. You shouldn't have to support the public schools if you don't use them."
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> We appreciate their good will, but their sympathy is misdirected. We feel that those who really deserve sympathy are those who not only have to pay for it, but are also trapped into having to use the public schools.
>
> We are deeply grateful for the privilege of having our own church schools. In each of our three schools, grades one through eight are taught. The school our four boys attend has a total of 26 pupils. We have an experienced teacher who is in charge of the school, and four days out of five, she has a younger, first-year teacher helping her.

> This provides for a more leisurely teaching pace; plus it has the added benefit of giving the beginning teacher a chance to learn while on the job.

There is a lot more in this little article—on how the teaching proceeds, but this will do as a sample. As an odd instance of confirmation, we might report that in the coastal California Canyon where one MANAS staff member lives, there was once a one-room school that was abolished about twenty-five years ago when "consolidation" took place. All the "old settlers" in the area had their initial schooling there, and reported it good. A mother whose children had been in the one-room school said that when the children from this school started at the big school—to which they were taken by bus, miles away—it was found that they were all one year ahead in their studies, beyond the "average" of the pupils in the consolidated school.

Another interesting comparison—one that finds advantages in both big and little places of education, and discredits neither—is provided by a professor of history at the University of California, Los Angeles. The writer is Lauro Martines, who has also taught at Reed College in Oregon. Reed, in those days, had about 700 students; UCLA has thirty thousand. Prof. Martines begins his report on "Large and Little School Teaching" (Spring 1985 *American Scholar):*

> Reed College and UCLA: two worlds so unalike that teaching—or even just having coffee—in one is a different experience from doing the same in the other. My images of Reed are pastoral and vibrant. It is a small, intense place, conducive to excited, late-night arguments. UCLA is Impersonal, large, attractive to tourists, and landscaped with imported trees, many of which are labeled with their Latin names. Faculty members there, like the trees, tend to come from out of state.

Classes at Reed ranged from six to fifteen students. Prof. Martines' experience. He says:

> My job was to teach first-year humanities, a team endeavor which turned out to be, I now realize upon looking back, the most exciting course I have ever taught. Hume Eleven zig-zagged across the millennia from Homer to Locke and was a requirement for all first-year students. It took half their weekly class time: three hours of lectures and four more in conference. . . .
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> The conferences were the private side of Humanities II, and it was here that the gritty job of learning and teaching went on. Four times a week each conference group sat around a table in a small classroom, an instructor among them, prepared for a discussion, which might range from Homer, Thucydides, or Aristotle, to the Grachi, St. Augustine, the medieval church, the Reformation, the English civil war, or other matters, depending on the place reached in the syllabus. As the weeks passed, the fifteen students jelled into a group with a distinct personality. At every meeting the instructor sought to draw each of them into the discussion, and because there was no way of concealing failure to do the assigned reading, absence from the conference was better than embarrassment. . . .
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> Every student in Hume Eleven was required to write ten essays in the first ten weeks of school. This sobering obligation underlined the seriousness of the humanities program that was a part of Reed's educational commitment. Furthermore, the instructor held individual consultations with students on each of the ten essays, a consultation usually lasting from twenty minutes to half an hour. We went over everything from rudimentary grammatical points to punctuation, sentence forms, and the presentation of arguments. In my twenty years of teaching, I have known no swifter method for turning primitive, halting prose into tolerable exposition, and of course the better students soon learned to produce superior essays.

Various things in these reports seem memorable. For example, whatever it means to be of the Amish persuasion—and both Wendell Berry and Wes Jackson have written of this at length, on what it means for the successful practice of agriculture—these people have a fundamental understanding of certain realities: that doing what you believe is right may cost you something, and that it is worth paying for without complaint, indeed, even with gratitude. Think how much useless argument this would eliminate if it were generally understood. Then, from the passages about learning at Reed College, one thing is clear: Regardless of everything else, real education depends upon committed teachers and eager students. Education which places other things first is a fraud.

FRONTIERS

A Mysterious "Chemical Change"

A COPY of Herbert Read's *Anarchy and Order* (Faber & Faber, 1954) has come into our hands through the generosity of a subscriber, and, reading it for the first time, the book seems to call for notice as embodying thinking on the frontier. It is a collection of all the essays that Read wrote specifically on anarchism, and those who read it, whatever their preconceptions about the subject, are likely to decide that anarchists are among modern society's most searching and valuable critics. Here we shall give attention only to Read's introductory chapter, composed as a general statement of his view.

He begins by dealing with the usual comment that the ideas and thinking of anarchists are "absurd." This he accepts: anarchism *is* absurd, if "absurd" means contrary in both principle and development to the prevailing opinions held in the world. This means, he shows, that the teachings of great philosophers, including reformers such as Jesus, the Buddha, and Lao tse, are also absurd, since the world has so very largely rejected them for practice of another sort. Summing up, he says: "The task of the anarchist philosopher is not to prove the imminence of a Golden Age, but to justify the value of believing in its possibility."

Now comes a discussion that qualifies what Read says for repetition here.

> He [the anarchist philosopher] might begin by a demonstration of the equivalent absurdity of what is usually contrasted with anarchism—piecemeal planning, *practical* politics. These are the policies (rarely rising from a level of opportunism to the status of *beliefs*) which are from day to day recommended by professional politicians, civil servants, diplomats, statesmen, journalists, and complacently accepted by the average citizen. They include the maintenance by armed force of a "balance of power" (in the world and within the State), the tolerance or support of a money system originally of medieval conception and now of barbaric futility (it divides the world into mutually antagonistic standards of value, treats money as a thing-in-itself rather than as a valueless token of exchange, and creates through usury and rents debts of incalculable dimensions, debts which, directly or indirectly, enslave the whole of mankind, and in general perpetuate systems of education, social conventions, and organizations of labour that are destructive of all vitality and happiness). In other words, practical politics perpetuate the conditions against which reasonable men must repeatedly revolt.

It becomes evident that in referring to "reasonable men," Read is actually speaking of a comparatively small minority. To see the accuracy of what he says—to recognize, that is, its "absurdity," and to choose the remedy of revolt—is not a common capacity, and even in times of universal stress, when men *do* revolt, the general vision which leads to it seems at best a temporary thing, brought on more by pain than by the critical insight of the few, who may for a while serve as leaders. This accounts for the fact that after the revolt has taken place, other "absurdities" are soon adopted. The anarchists, Read thinks, will attempt to prevent this by accomplishing some sort of change in "human nature." He goes on with his criticism:

> Parliamentary democracy is usually regarded as the major achievement of such practical politics in modern times. This is a system of government which gives absolute power (such "checks' as are from time to time devised are swept aside as soon as there is any attempt to apply them) to the majority of people. Since such a majority, as any intelligence test will immediately reveal, is inevitably an ignorant majority, it is a mere chance if it places in power delegates of more than average intelligence. Intelligence, in such a system, is always suspect, and although, as Bagehot pointed out, there is a good deal to be said for the reign of stupidity, the situation is again evidently absurd.
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> The growth of authoritarian politics is due to a realization of this absurdity: it is an attempt to replace the rule of an ignorant majority by the rule of an intelligent elite: but unfortunately the only judge of the elite's intelligence is the elite itself.
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> An elite such as Plato conceived for his Republic made up of highly trained political philosophers, would be a rational proposition; modern elites, which tend to be recruited from various types of psychopaths, are a final illustration of the absurdity of practical politics. The desire to serve one's fellow-

men is "practically" of no avail against the psychopathic will-to-power. . . .

Political idealists come along and try to make the social structure fit their logical structure, with consequences that are always painful and impermanent. After a confused interval, the social structure always resumes its original shape; only the nomenclature of the parts has changed. "Society," as Tolstoy said, "resembles a crystal. No matter how you grind it, dissolve it, compress it, it will reform itself at the first opportunity into the same form. The constitution of a crystal can be changed only when chemical changes occur within it."

This pattern of analysis seems accurate enough to be made the basis for all political criticism. It leads one to abandon political hopes almost altogether and to focus on the possibility of those "chemical changes" Tolstoy referred to. How are these accomplished? Nothing is less predictable than such transformations of human nature, and nothing more important than how they take place. Should we try to "engineer" them, or simply work toward making an environment which does not stand in their way?

Read's remarks on utopias are equally of interest. He says:

For totalitarianism is nothing but the imposition of a rational framework on the organic freedom of life, and is more characteristic of the scientific mind than of the poetic mind. It is only in those writers who retain a sense of organic freedom—Rabelais, Diderot, and Morris—that the Utopia is in any sense Libertarian. It is no strange coincidence that these are the only inspiring utopias. As we approach the era of scientific socialism, the utopias became increasingly dreary and depressing. . . .

The most terrible utopias are the scientific utopias of the Marxian socialist and the monopoly capitalist. With the same rational instruments of thought that have perfected science and technology, they now advance on the spontaneous sources of life itself. They presume to plan what can only germinate, to legislate for the forms of growth, and to mould into intangible dogmas the sensitive graces of the mind. Such scientific utopias will certainly fail, for the sources of life when threatened are driven underground, to emerge in some new wilderness. But the process is long and painful, and mankind must meanwhile suffer in the flesh for the realization of a blueprint.

If anarchist thought leads to clarity of this sort, there must be much that can be learned from it. At the end of this chapter Read adopts the stance of Simone Weil for the method that should be adopted by those hoping to encourage the "chemical change."