

SUSTAINING INSPIRATION

TURNING the pages of E. F. Schumacher's book, *Small Is Beautiful* we came upon a passage that seem fundamental, yet is too slowly being understood. It is in the second part—on Education. We shall quote it at some length:

Education cannot help us as long as it accords no place to metaphysics. Whether the subjects taught are subjects of science or the humanities, if the teaching does not lead to clarification of metaphysics, that is to say, of our fundamental convictions, it cannot educate a man and, consequently, cannot be of real value to society.

It is often asserted that education is breaking down because of over-specialization. But this is only a partial and misleading diagnosis. Specialization is not in itself a faulty principle of education. . . . What is at fault is not specialization, but the lack of depth with which the subjects are usually presented, and the absence of metaphysical awareness. The sciences are being taught without any awareness of the presuppositions of science, of the meaning and significance of scientific laws, and of the place occupied by the natural sciences within the whole cosmos of human thought. The result is that the presuppositions of science are normally mistaken for its findings. Economics is being taught without any awareness of the view of human nature that underlies present-day economic theory. In fact, many economists are themselves unaware of the fact that such a view is implicit in their teaching and that nearly all their theories would have to change if that view changed. How could there be a rational teaching of politics without pressing all questions back to their metaphysical roots? Political thinking must necessarily become confused . . . if there is continued refusal to admit the serious study of the metaphysical and ethical problems involved.

Schumacher's point is that unless one has a clear view of what human nature is, he can hardly attempt serious discussion of humanistic subjects. What sort of knowledge or thinking does he mean by this?

All subjects, no matter how specialized, are connected with a center; they are like rays emanating from a sun. The center is constituted by our most

basic convictions, by those ideas which really have the power to move us. In other words, the center consists of metaphysics and ethics, of ideas that—whether we like it or not—transcend the world of facts. Because they transcend the world of facts, they cannot be proved or disproved by ordinary scientific method. But that does not mean that they are purely "subjective" or "relative" or mere arbitrary conventions. They must be true to reality, although they transcend the world of facts—an apparent paradox to our positivistic thinkers. If they are not true to reality, the adherence to such a set of ideas must inevitably lead to disaster.

This is the heart of Schumacher's position. It is where he starts and where he ends, yet those who have ignored him because of his metaphysical and moral inclinations have also ignored his extraordinary intellectual capacity to reason with the best of the positivists. It was this, one could say, that assured his neglect, since his superb ability in terms of conventional economics had the effect of reinforcing his metaphysical and moral conclusions. That is why you never see him mentioned save by the few thinkers who have begun to share in his assumptions.

In another passage he deals with a conception that is effectively presented in a later book. Here, in the section on education, he says:

G.N.M. Tyrell has put forward the terms "divergent" and "convergent" to distinguish problems which cannot be solved by logical reasoning from those that can. Life is being kept going by divergent problems which have to be "lived" and are solved only in death. Convergent problems on the other hand are men's most useful invention; they do not, as such, exist in reality, but are created by a process of abstraction. When they have been solved, the solution can be written down and passed on to others, who can apply it without needing to reproduce the mental effort necessary to find it.

In his later book, Schumacher gives the invention of the bicycle as an illustration of the

solution of a convergent problem. But then he says here:

If this were the case with human relations—in family life, economics, politics, education, and so forth—well, I am at a loss how to finish the sentence. There would be no more human relations but only mechanical reactions; life would be a living death. Divergent problems, as it were, force man to strain himself to a level above himself; they demand, and thus provoke the supply of, forces from a higher level, thus bringing love, beauty, goodness, and truth into our lives. It is only with the help of these higher forces that the opposites can be reconciled in the living situation.

The physical sciences and mathematics are concerned exclusively with convergent problems. That is why they can progress cumulatively, and each new generation can begin just where their forbears left off. The price, however, is a heavy one. Dealing exclusively with convergent problems does not lead into life but away from it.

It is as though there is really far too much in this book to be absorbed by a single reading, with the kind of attention we give to even the best of books. Here Schumacher makes it plain that the real business of life is wrapped up in the divergent problems—the problems that can be described but never reduced to a formula. He probably could have been a genius at solving convergent problems, developing useful inventions and gaining high praise from the world, but at some point in his life he saw that this was not what was really needed. *Small Is Beautiful* is still the best introduction to his life and work.

We turn now to the chapter on the need for the development of intermediate technology—a concept we owe to Schumacher. This chapter was prepared for presentation at a conference in 1965, organized by UNESCO in Santiago, Chile. In his introduction the author says:

In many places in the world today the poor are getting poorer while the rich are getting richer, and the established processes of foreign aid and development planning appear to be unable to overcome this tendency. In fact, they often seem to promote it, for it is always easier to help those who can help themselves than to help the helpless. Nearly all the so-called developing countries have a modern

sector where the patterns of living and working are not only profoundly unsatisfactory but also in a process of accelerating decay.

I am concerned here exclusively with the problem of helping the people in the non-modern sector. This does not imply the suggestion that constructive work in the modern sector should be discontinued, and there can be no doubt that it will continue in any case. But it does imply the conviction that all successes in the modern sector are likely to be illusory unless there is also a healthy growth—or at least a healthy condition of stability—among the very great numbers of people today whose life is characterized not only by dire poverty but also by hopelessness.

This is a long chapter in which Schumacher takes up all the arguments for and against intermediate technology. At the end he says:

In summary we can conclude:

1. The "dual economy" [the "modern sector" and the very poor, who are in the majority] in the developing countries will remain for the foreseeable future. The modern sector will not be able to absorb the whole.

2. If the non-modern sector is not made the object of special development efforts, it will continue to disintegrate this disintegration will continue to manifest itself in mass unemployment and mass migration into metropolitan areas; and this will poison economic life in the modern sector as well.

3. The poor can be helped to help themselves, but only by making available to them a technology that recognizes the economic boundaries and limitations of poverty—an intermediate technology.

4. Action programs on a national and supranational basis are needed to develop intermediate technologies suitable for the promotion of full employment in developing countries.

In the next chapter Schumacher asks the all-important question:

Why is it so difficult for the rich to help the poor? The all-pervading disease of the modern world is the total imbalance between city and countryside, an imbalance in terms of wealth, power, culture, attraction, and hope. The former has become over-extended and the latter has atrophied. The city has become the universal magnet, while rural life has lost its savor. Yet it remains an unalterable truth that, just as a sound mind depends on a sound body, so the health of the cities depends on the health of the rural

areas. The cities, with all their wealth, are merely secondary producers, while primary production, the precondition of all economic life, takes place in the countryside. The prevailing lack of balance, based on the age-old exploitation of countryman and raw material producer, today threatens all countries throughout the world, the rich even more than the poor. To restore a proper balance between city and rural life is perhaps the greatest task in front of modern man.

It is seldom realized that part of the appeal of Schumacher's work grows out of his genius as an administrator. Administration was his fundamental job for years with the British National Coal Board, one of the largest commercial organizations in Europe. He devotes a chapter of *Small Is Beautiful* to the principles of successful administration. The first principle to which he gives attention he calls "the principle of subsidiary function," which he formulates in this way:

"It is an injustice and at the same time a grave evil and disturbance of right order to assign to a greater and higher association what lesser and subordinate organizations can do. For every social activity ought of its very nature to furnish help to the members of the body social and never destroy and absorb them." These sentences were meant for society as a whole, but they apply equally to the different levels within a large organization. The higher must not absorb the functions of the lower one, on the assumption that, being higher, it will automatically be wiser and fulfill them more efficiently. Loyalty can grow only from the smaller units to the larger (and higher) ones, not the other way round—and loyalty is an essential element in the health of any organization. . . .

. . . the Principle of Subsidiary Function teaches us that the center will gain in authority and effectiveness if the freedom and responsibility of the lower formations are carefully preserved, with the result that the organization as a whole will be "happier and more prosperous."

How can such a structure be achieved? From the administrator's point of view, *i.e.*, from the point of view of orderliness, it will look untidy, comparing most unfavorably with the clear-cut logic of a monolith. The large organization will consist of many semi-autonomous units, which we may call *quasi-firms*. Each of them will have a large amount

of freedom, to give the greatest possible chance to creativity and *entrepreneurship*.

Another of Schumacher's administrative principles is the *Principle of Vindication*. To vindicate, he explains, means to defend against reproach, to prove what is true and valid, to justify and uphold. So, as he says,

this principle describes very well one of the most important duties of the central authority toward the lower formations. Good government is always government by exception. Except for the exceptional cases, the subsidiary unit must be defended against reproach and upheld. This means that the exception must be sufficiently clearly defined, so that the quasi-firm is able to know without doubt whether or not it is performing satisfactorily. . . . In its ideal application, the Principle of Vindication would permit only one criterion for accountability in a commercial organization, namely profitability. Of course, such a criterion would be subject to the quasi-firm's observing general rules and policies laid down by the center. Ideals can rarely be attained in the real world, but they are none the less meaningful. They imply that any departure from the ideal has to be specially argued and justified. Unless the number of criteria for accountability is kept very small, creativity and *entrepreneurship* cannot flourish in the quasi-firm.

While profitability must be the final criterion, it is not always permissible to apply it mechanically. Some subsidiary units may be exceptionally well placed, others, exceptionally badly; some may have service functions with regard to the organization as a whole or other special obligations which have to be fulfilled without primary regard to profitability. In such cases, the measurement of profitability must be modified in advance, by what we may call *rents* and *subsidies*.

The *Principle of Motivation* presents no problem at the top level of management, but going down the scale strange attitudes may arise.

Modern industrial society, typified by large-scale organizations, gives far too little thought to it. Managements assume that people work simply for money, for the pay-packet at the end of the week. No doubt, this is true up to a point, but when a worker, asked why he worked only four shifts last week, answers, "Because I couldn't make ends meet on three shifts' wages," everybody is stunned and feels check-mated.

We should also mention the *Principle of Identification*, which means that each subsidiary unit or quasi-firm should have both a profit and loss account and a balance sheet. While the unit's profits or losses flow into the totality of the organization's accounts at the end of the year, without a balance sheet the unit will enter the new year with a "nil balance." And this, Schumacher says, cannot be right. He comments:

A unit's success should lead to greater freedom and financial scope for the unit, while failure—in the form of losses—should lead to restriction and disability. One wants to reinforce success and discriminate against failure. The balance sheet describes the economic substance as augmented or diminished by current results. This enables all concerned to follow the effect of operations on substance. Profits and losses are carried forward and not wiped out. Therefore, every quasi-firm should have its separate balance sheet, in which profits can appear as loans to the center and losses as loans from the center. This is a matter of great psychological importance.

The fifth and last principle is called *The Principle of the Middle Axiom*. We don't really understand why it has this name but its importance in operation is unmistakable. Schumacher points out that all real human problems arise from the antinomy, the conflict between order and freedom. Yet the resolution of this conflict is the way to progress. As he put it:

Without order, planning, predictability, central control, accountancy, instructions to underlings, obedience, discipline—without these, nothing fruitful can happen, because everything disintegrates. And yet—without the magnanimity of disorder, the happy abandon, the *entrepreneurship* venturing into the unknown and incalculable, without the risk and the gamble, the creative imagination rushing in where bureaucratic angels fear to tread—without this, life is a mockery and a disgrace.

The center can easily look after order; it is not so easy to look after freedom and activity. The center has the power to establish order, but no amount of power evokes the creative contribution. How, then, can top management at the center work for progress and innovation? Assuming that it knows what ought to be done: how can the management get it done throughout the organization?

This, Schumacher says, is where the Principle of the Middle Axiom comes in. He doesn't explain it, but illustrates it with a decision made by the National Coal Board, describing it at some length to show its importance. At the end of the chapter he says:

Discovering the middle axiom is always a considerable achievement. To preach is easy; so also is issuing instructions. But it is difficult indeed for top management to carry through its creative ideas without impairing the freedom and responsibility of the lower formations.

This seems a good place to insert some of the observations of Theodore Roszak, who writes the introduction to *Small Is Beautiful*. He says:

For those to whom economics means a book filled with numbers, charts, graphs, and formula, together with much heady discussion of abstract technicalities like the balance of payments and gross national product, this remarkable collection of essays is certain to come either as a shock or a relief. E.F. Schumacher's economics is not part of the dominant style. On the contrary, his deliberate intention is to subvert "economic science" by calling its every assumption into question, right down to its psychological and metaphysical foundations.

Perhaps this sounds like a project that only a brash amateur would take on. But this book is the work of as professional and experienced an economist as any who bears the credentials of the guild. Schumacher has been a Rhodes Scholar in economics, an economic advisor to the British Control Commission in postwar Germany, and, for the twenty years prior to 1971, the top economist and head of planning at the British Coal Board. It is a background that might suggest stuffy orthodoxy, but that would be exactly wrong. For there is another side to Schumacher, and it is there we find the vision of the economics reflected in these pages. It is an intriguing mix: the president of the Soil Association, one of Britain's oldest organic farming organizations; the founder and chairman of the Intermediate Technology Development Group, which specializes in tailoring tools, small-scale machines, and methods of production to the needs of developing countries.

Small Is Beautiful is in no sense a dated book. The reader of today will be moved as much as ever by its original inspiration.

REVIEW

THE FRAUD OF AID

WE have for review a profoundly shocking book, *Betraying the National Interest*, by Frances Moore Lappé, Rachel Schurman, and Kevin Danaher. The publisher is Grove Press, the price in paperback, \$8.95.

Why is the book shocking? It is shocking because it reveals the use made of our tax funds, not to feed the hungry abroad, not to help establish the conditions of justice in the Third World, but to maintain in existence those countries that we believe are anti-communist in policy and behavior. These are the countries that get the money, with very little attention to what else goes on within their borders. What is the money they get? The term used is Economic Support Funds.

The writers begin their first chapter by saying:

The fastest growing part of U.S. foreign aid is also the least visible. How many Americans have even *heard* of Economic Support Funds (ESF)? No doubt very few, yet ESF loans and grants to foreign governments now make up over one-quarter of all U.S. aid, about \$4.9 billion in 1986.

The State Department makes no bones about ESF's objectives. They are "to support U.S. economic, political and security interests and the advancement of U.S. foreign policy objectives." This means, in Washington's view, shoring up threatened allies: "These funds provide the resources needed . . . to stem the spread of economic and political disruption and to help allies in dealing with threats to their security in independence," explains the State Department.

Between 1981 and 1986, tax dollars going to ESF grew eighty-four per cent in real terms, and the number of recipient countries more than doubled—jumped from twenty in 1981 to fifty-two in 1986. About two-thirds of ESF aid is simply a cash transfer—money the United States gives or loans to a foreign government to keep it financially solvent. Such cash payments help the recipient government pay for imports and interest on the national debt. Most of the rest goes toward projects in recipient countries. . . . Most are high-visibility projects,

designed as public symbols of U.S. government support. In the Philippines, for instance, nearly two-thirds of ESF project aid in the early eighties went to build roads, schools, and the like, near U.S. military facilities. The U.S. government's General Accounting Office explains the rationale: "in part to make Filipinos aware of the economic benefits derived from continued U.S. use of the bases."

The writers point out:

Despite Ferdinand Marcos's long record as a cruel dictator, U.S. aid not only continued but increased. Between its declaration of martial law in 1972 and 1985 the Marcos government received over a billion dollars in ESF and military aid. And in 1983, President Reagan pledged almost a billion more aid over the next five years. In the eyes of American officials, only continued support for Marcos assured U.S. access to Clark Base and Subic Naval Base, both deemed essential to U.S. national security.

Are these bases really necessary? The authors say: "In the view of many military and political experts, the Philippine bases are convenient but not necessary."

In the first six years of the 1980s, the number of countries receiving military aid went from fifty-seven to eighty-nine, with the number of African governments almost doubling to thirty-four since 1980. But what or whom threatens these countries, that they need arms for defense? As the writers say:

Many face no external threat; they need arms to intimidate their own people. A quantitative analysis of U.S. foreign aid to Latin America in the 1970s, for example, found a uniformly positive correlation between U.S. aid and human rights violations. In other words, governments receiving U.S. support were more likely to violate their people's human rights.

Another development since the Vietnam war is described. Today, the authors say, "just about any government whose agenda the United States decides it does not like is now fair game." But since the experience of Vietnam has taught the U.S. militarists that "Americans will not tolerate major loss of American lives in faraway battles against threats they don't themselves feel," they have decided upon "low intensity conflict" as an

alternative. As a writer in *Military Review* put it, "If low intensity conflict is successful, the American people will not even know we're at war." And our authors say:

Secrecy is a key to carrying out this low-profile. This helps to explain why the CIA's annual budget—now \$25 billion—has come to dwarf the amount allotted to overt foreign aid. It is three times what it was just one decade ago.

How, one wonders, could a young woman who, a few years ago put together *Diet for a Small Planet*, because her friends wanted and needed such a guide, grow up to be involved in the moral and political criticism of a book like *Betraying the National Interest*? There is actually a direct line of development. She was able to work out a sensible diet for herself and her family, but she found, on looking into the Third World, there were serious obstacles to doing the same thing there. It was the recognition of these obstacles that led her to do further research and to write with Joseph Collins *Food First: Beyond the Myth of Scarcity* and a little later *World Hunger: Twelve Myths*. If you read her books in the order written you will soon see how the hunger to understand took hold of her, and why she sought colleagues for further research. As she says early in the present volume:

In previous books, notably *Food First . . .* and *World Hunger . . .*, we have tried carefully to document how people are made hungry. In virtually every country, either current production or yet untapped local potential could meet the needs of the entire people. Thus, too many people; or the unfortunate calamities of nature do not cause hunger. Hunger is human-made. It occurs where economic and political rules and institutions have so constricted control over farmland and other basic resources that some people are left with no power at all, not even to secure their most elementary human needs.

At the end of the introductory chapter the writers say:

Thus, we are not suggesting that a reform of foreign aid requires selfless humanitarianism. It demands something more profound: that as Americans we reconceive our national interest. Could we as a people come to see that the challenge

of effective foreign aid is not to advance the interests of the poor abroad over those of Americans, or vice versa? Could we come to perceive the unity of interests of most Americans with those who are made to go hungry in the third world? . . .

Our book is thus an indictment of U.S. foreign aid . . . to help Americans see behind the reassuring rhetoric and official rationales in order to understand *why* it is failing. Once the false premises of U.S. policies are understood, we believe Americans will perceive U.S. foreign aid as nothing less than a betrayal of the national interest. And with this insight, they will be prepared to undertake the profound rethinking of our real interests that must precede a redirection of U.S. aid programs.

A later chapter gives an obvious example of the rethinking that is needed. It was believed that the way to help the small farmer would be to give him farm credit. But as our authors say: "Few stopped to ask how credit would help the neediest group of all—those with no land. By the mid-seventies the landless accounted for half or more of all rural people in at least twenty third-world countries." Moreover—

When small farmers did receive loans and increased their yields, their incomes did not necessarily climb. If production costs rose as fast (or faster) than yields, or prices for their crops fell because of greater supplies on the market, the farmers became poorer than ever.

In a later chapter there is this account of development:

In more than a decade of struggling to formulate a definition of development, we have had to distinguish development from growth and productivity. We have seen that it is possible to have more growth while, at the same time, the poor majority become poorer and more desperate for survival.

Thus, for us, *genuine* development—development that enhances opportunities for all people to realize their potential—must involve change in the relationships among people, which in turn determine their access to productive resources. Development is not a technical but a social process, in which people join together to build economic and political institutions seeing the interests of the majority. In that process, more and more people united to acquire the knowledge and techniques they

need to develop their resources and to free themselves from hunger, disease, and ignorance.

When the U.S. aid establishment tries to sell development assistance to Congress, it has a very different definition of development in mind. It stresses that foreign aid's benefits accrue to U.S. firms since the bulk of our aid dollars end up purchasing U.S. goods and services. But if we perceive development as a process of profound social change our perception of U.S. interests changes also.

While direct food aid to the hungry and the starving appeals to everyone, the authors have assembled some interesting facts:

Ninety per cent of our food aid does not go to emergency famine relief. The bulk is sold by foreign governments to those among their people *who can afford it*.

Since it is a source of revenue (or frees up other sources) for receiving governments, most food aid must be seen as just another form of budgetary support for favored governments. Like dollar aid, then, it is only as good as the government receiving it. If that government is unaccountable to its people, food aid will largely go toward strengthening the government, not the poor. No number of well-intentioned "strings" attached can change that cruel reality.

Food can be even more problematic for the poor than economic aid if it undercuts prices that poor farmers need to stay in business. And long-term food security can be made even harder to achieve if food aid contributes to changing tastes toward foods which are difficult to produce locally. . . .

Well, our space is used up and we have done the best we could with a very difficult book—difficult only because of the complexity of the subject. We hope a good many readers will get this book and work on it.

COMMENTARY

LIFE AT BETTERWAY

THE work that Tom Peters does with Betterway in Elyria, Ohio, is not work that anyone can do just by putting his mind to it. Read this week's "Children" article to see why. Peters has an understanding of the needs of children and young people that is difficult to acquire. He particularly understands the problems of young people who have got into trouble with the law—people that conventional members of the population want to isolate and treat as exceptions, when what they need is to experience a way of life that will help them to "feel at home."

He shows this understanding in the first paragraph we have quoted from him: "The office setting implies that the therapist is healthy, smart and in charge and that the 'client' is sick, in need, seeking help and therefore helpless."

But how, it may be wondered, can life in a group home make young people feel "accepted" like other people who are not "in trouble"?

The answer lies in the friendly and natural attitudes of the older people who work with them in the group homes—the people that Tom Peters seeks out and puts in charge. Friendliness and consideration will bridge many gaps in the environment, and normal, pleasurable activities help young people to overcome the negative effects of a past which has had a lot to do with their problems. As Peters puts it: Their previous home life has often been "crazy, alcoholic, arguing, fighting, or non-existent, living in unhappy substitutes for a home." The Betterway homes are places where other influences can be felt, and the trips Peters plans and carries out have the same effect. And on trips—

They also learn to cooperate even more than in a group home. They are closer together and have to rely on one another and, if camping, have a lot of things to do to make this work out. The same if paddling with a partner in a canoe for miles and miles.

Finally, their minds are filled with new sights and sounds and imaginations. This is the heart of any trip. It opens up the wonder of the world a little more.

The point about Peters is that he has grasped this need of young people who have been in trouble. The idea is not to keep reminding them of their past, but, step by step, to introduce them to elements of a normal life. For him, they are not bad boys or naughty girls, but youngsters who need to make a new start, and he provides ways for them to do this. A lot of the time it works. Some of them do make new beginnings. There are of course failures—a lot of them—what else would you expect—but the successes probably wouldn't have happened anywhere else.

It might be a good idea to subscribe to *Betterway* for insight into the spontaneous qualities that Tom Peters has introduced into the work of Betterway, through the years. The paper is filled with accounts of both the successes and the failures, and with details of the activities carried on in the various homes. It comes out quarterly. The address is Betterway Foundation, 700 Middle Avenue, Elyria, Ohio 44035. Subscription is \$2.50.

CHILDREN

. . . and Ourselves

TRIPS FOR HEALTH AND NORMALITY

IN the Fall 1987 issue of *Betterway*, Tom Peters, founder and director of Betterway, a private social service organization located in Elyria, Ohio, tells about the trips which are taken by the boys and girls who live in the group homes which Betterway provides. The reason for this article, he explains at the beginning, is that sometimes "people think that 'taking trips' is too nice for group home kids." This comment goes to the heart of the matter as Tom Peters conceives it. One of the objects of the group homes Betterway runs is to help these young people, who have been in trouble with the law, to become used to normal life. Taking trips certainly helps with this. The idea is not to set these youngsters apart from others their own age but to help them to enjoy experiences which in all likelihood they have missed. There are other ways in which these adolescents who live in group homes may benefit from going on trips. As Peters says:

Talking over a problem on a trip is much easier for many young people than sitting in an office undergoing therapy. The office setting implies that the therapist is healthy, smart and in charge and that the "client" is sick, in need, seeking help and therefore helpless.

On a trip, the exchange of ideas is more natural and easier to be accepted, like advice from a friend. Someone who has had years of formal therapy may enjoy the office setting more, but this often provides him with an intellectual setting to spar with the therapist rather than make real changes in his life.

Most people in the world are helped by informal suggestions and would rather talk with relatives, friends and even strangers than with paid therapists or social workers.

There are, Peters points out, other aspects to trips.

Sometimes we hear young people talking about tripping out. The phrase may refer to taking drugs and being on a "trip" into a psychological far

awayness. Being in outer space, being high. Gone. Way out. Far out.

All these imply and include removal from the natural or real state of life at that moment. They have "checked out." What are these young people tripping out from? Look at many of their lives. Home life is often crazy, alcoholic, arguing, fighting, or non-existent, living in unhappy substitutes for a home. . . . Personal relationships often are in a shambles and marked by jealousy, anger, fighting and depression. . . . Excitement comes from stealing, planning to steal, selling stolen things, buying clothes with the money, and trying to deal with the guilt from stealing. One must also deal with the police, courts, detention home, and institutions.

In such circumstances, drugs and alcohol are an escape. They are a way to dull the pain (even though they may create their own pain later), to dull the reality, and to dull the boredom.

We think taking a trip to a new place can substitute for the need to trip out on drugs. And it is a lot more effective than sitting around talking about the problems and harmfulness of using drugs and alcohol. Too much talk can just whet the appetite.

What are the trips like? For shorter ones, they often go into the Amish areas of Ohio, where, as Peters says, "life is lived as a hundred years ago."

The Amish seem as interested in seeing black kids as we are in seeing them. We sample their cheeses and baked goods and admire their horses and buggies and rolling farmland.

They visit nature places along Lake Erie, state and federal bird preserves. There are caves in a number of parts of Ohio, Indian mounds, burial grounds in Southeastern Ohio. Old Man's Cave is a favorite camping place for Betterway trippers. Longer, four-day trips to the Smoky Mountains have been undertaken. Plans are being made for trying white water rafting in Pennsylvania and West Virginia at the New River Gorge.

Of the value of these trips, Peters says:

Anyone who has ever taken a trip, even to "Aunt Mary's farm," knows that there is great anticipation. Looking forward to a trip and planning it is almost as exciting as the trip and the stay itself. . . . The same is

true with the Betterway trips. The staff and kids are involved in the planning, and as the time to leave draws near, all help in getting the equipment and food ready, loading the van and the pickup truck, and finally taking off. Sometimes we leave at midnight to arrive in the daylight and save one night's motel cost.

A group trip also involves coping with living in a van with 15 others for days at a time. Then in a motel room packed with people. This is a quick lesson in human relations. The kids and the staff may have arguments and get on one another's nerves just like families on trips, but they also grow closer together and learn a lot about each other, good and bad. And black and white kids learn that they are more and more alike.

In addition—

They also learn to cooperate even more than in a group home. They are closer together and have to rely on one another and, if camping, have a lot of things to do to make this work out. The same if paddling with a partner in a canoe for miles and miles.

Finally, their minds are filled with new sights and sounds and imaginations. This is the heart of any trip. It opens up the wonder of the world a little more. Perhaps something in nature, or in the beauty of a city, or in contacts with strangers who become friends. And as to be expected, boys meet girls and girls meet boys and some fall in love, even though it is temporary.

We know that many of the Betterway young people will make these same trips on their own later in life. And they will teach their children and friends. And the world will be a little bit happier place for them for it all.

And isn't that what we want to do in our work with kids?

Betterway was founded some twenty-two years ago by Tom Peters, who began by working with street gangs, taking them on trips to Ohio parks and tourist attractions such as the state capitol. From this experience he compiled a list of good places to go, things to try and things to avoid. Meanwhile Betterway grew, acquiring facilities for homes.

Homeless or troubled youth age 12 and older come to Betterway from any of Ohio's 88 counties by way of the courts, Child Welfare Departments, or the

Ohio Department of Youth Services. Some are from out of state.

Young adults who like to work with teenagers are employed as staff along with full-time volunteers who live in the homes. Room and board are given in exchange for volunteer work. College interns may also work at Betterway and they also receive free room and board.

Betterway operates a delicatessen-restaurant in downtown Elyria and a gift shop, The Search. There also is a 150-acre wooded property with a large house and Ropes Course. Outside groups may use this property, house and course. There is also a lake.

A daily fee is charged for placing young people at Betterway, which varies by program.

The Betterway newspaper is printed quarterly and mailed to all prisons and juvenile institutions in the United States and to many other people.

For information about staff work, write to Betterway at 700 Middle Avenue, Elyria, Ohio 44035.

One story in the fall 1987 issue of *Betterway* is of interest for the attitude toward smoking. A boy named Terry who joined a Betterway group home was a hardened smoker at thirteen—three packs a day—when he arrived.

He learned to smoke at the age of 8. . . . We rationed his cigarettes and sometimes he went for whole days without smoking. Some people think we should ban smoking, but we believe there are more important things to correct than this.

Cigarettes may shorten a person's life, but they will not lead to jail or to a mental hospital or suicide. And they do not hinder the learning process as many intellectuals and heroes have been heavy smokers.

We do not allow smoking in bedrooms and we do take away cigarettes as punishment for bad behavior. We also give an extra dollar a week in allowances if one does not smoke.

This seems a really sensible program. It is based on the belief that the only real change in people is the one they make themselves.

FRONTIERS

Eden Was an Orchard

SHORTLY before he died in 1977, E.F. Schumacher was readying himself to begin a campaign for tree crops as the best way to plan ahead in order to bring food to the growing population of the world of the future. It so happens that for a long time we have had lying on our desk a splendid article on tree crops. The writer is Edward Passerini, his article, "Food for Everyone? Yes. . . . From Trees," which appeared in *Agriculture and Human Values* for the Summer of 1986.

The writer soon gets down to business, saying:

An acre of Iowa corn field loses 9 tons of topsoil each year—2 bushels of topsoil for each bushel of corn. Over 90% of that corn is fed to animals. An acre of honey-locust trees produces twice as much animal food as an acre of corn, with *no* loss of soil. The honey-locust pods are also richer in sugar and fibre than the grains. The honey-locust trees can be planted in land which has been ruined by corn (or cotton or whatever), and will help the land recover. Animals can forage under the trees to create a two-story agriculture. The animals eat the pods but excrete the hard seeds, well-fertilized, to start a new cycle. Honey-locust pods are not good for humans (the pods contain too much cellulose) but they would provide a way for us to continue to produce meat without incurring the penalty of massive soil loss.

Two-story crops are nothing new. In the "cork-pork" forests of Portugal, pigs eat the acorns from the cork oaks and the yield of both is increased—the pigs grow plump from the acorns and the trees are fertilized by the pigs. J. Russell Smith describes farms in Majorca which use a rotation of wheat, clover and chick-peas grown beneath figs and olives. The yield for each "story" is about 75% of what each crop would have produced in a field dedicated to each alone. The total yield is thus 150 per cent—an excellent return.

The advantages of tree crops go on and on:

Most of the food from trees in two-story agriculture would go to feed animals, just as most of our grain does now. But many tree-crops produce food which is rich in protein and oils and thus could

substitute for meat and dairy products. Walnut milk has been used in China in place of cow and goat milk for centuries. Nuts are easier to digest than meat, and many don't need to be cooked. In fact, nuts are probably nature's most nearly perfect food for humans, since we evolved on nuts, not cow's milk. Perhaps the only negative thing about nuts is that they are an extremely rich food source and, if consumed to excess, would lead to obesity. But they are low in cholesterol, heavy metal content, and pesticide residues. Basically, nuts contain all of the advantages of meat with none of the disadvantages. An acre of corn fed to pigs will produce about the same amount of high protein, high oil "meat," as an acre of pecans or almonds. But pecans ruin no soil, are easier to digest, and store much more easily. And, you can grow a second crop under the pecans.

This is a brief article, yet filled with information most of us have never come across. For example:

Just as man gets better results from his solar panels if he puts them in the desert, so nature has evolved some species which are efficient users of solar energy. Such species use very little processing water to manufacture their carbohydrates—the pistachio gets along on a few pints each year. They also develop body parts which feature complex intermolecular bonding which efficiently stores the solar energy which is collected. For example, there is more complex bonding in oils and proteins than there is in carbohydrates—or, to put it in a different way, proteins and oils store more energy with less material than do carbohydrates. The pistachio tree produces a larger nut/leaf ratio than non-desert trees and thus acts as a good energy storage battery with minimal nutrient/biomass requirements. An equally important side effect is that the sunlight which would be turned to heat in a desert, is now stored in the pistachio tree and thus helps cool the desert day. At night, the tree re-radiates some heat and thus the desert environment is modified and it becomes possible to introduce desert edge species and begins to develop a complex and stable ecosystem.

Why, the writer asks, can trees do so many things so much better than grasses or weeds?

Or, to put it another way: Where do trees get all the energy to produce many bushels of seeds per acre and still hold soil, produce excess biomass for soil building, repair themselves year after year, and pump thousands of gallons of liquid through tiny capillaries to leaves that may be a hundred feet in the air? The

answer is that a forest, like a deep pond, is a three-dimensional solar collector which soaks up most of the solar energy arriving from all directions. A wheat field only collects energy in a single plane. If you lie down in a wheat field, all around you is the light of the sun; it hasn't been collected by the narrow leaves of the wheat. Of course, we have bred the wheat to do one thing—produce seed—very well. It does that, but not much else. But lie down in a forest and you are in darkness, because the trees have collected most of the sun's energy and are using it to perform many different tasks.

Toward the end Edward Passerini asks the all-important question:

How can we begin to shift to tree crops? I have very little faith that our absentee-owned agri-business system is farsighted enough to help much, but some far-seeing seed companies or organic farmers might stimulate interest by the use of demonstration projects. The U.S. government could also provide demonstration projects, as it has in the past in so many other agricultural areas. Instead of planting all our National Forests with pulp pines, we could plant millions of acres with oaks, pecans, walnuts, and varieties of chestnuts that have developed resistance to blight. In the dry lands administered by the Bureau of Land Management, millions of acres could be planted with pod trees such as honey-locusts, leucæna, carobs, algarobas, and high yielding mesquites. Some B.L.M. land could also be devoted to "industrial" trees such as the jojoba which produces heat-resistant oils, and the guayule which produces latex. Such a project would require governmental foresight and planning.

Until governments become involved, we must rely on the small number of contemporary Johnny Appleseeds to do the work. Dave Deppner of the Center for Development Policy is going all over the world directing leucæna planting projects. Pueblo People is planting cashew trees in Honduras to restore the soil and provide protein for the people. Green Deserts is a group working in Africa. Perhaps we can begin to revegetate the surface of this little green and blue planet floating in the immensity of space. And let us never forget what sort of a garden the Garden of Eden was: it was an orchard.

For those who want a copy of this article (in the Summer 1986 issue) write to *Humanities and Agriculture*, 240 Arts and Sciences Building, Department of Philosophy, University of Florida,

Gainesville, Florida 32611. Individual subscriptions to this quarterly are \$20, for students, \$15. Single copies of back issues may be had for \$6.