

THE HAZARDS OF TRANSITION

IT is often said that the present is a time of great historical change, with the evidence all about. The material, objective side of the change is obvious enough. Mostly it involves the achievements and effects of technology applied to industry. The subjective aspects are also noticeable in some ways, although less easily explained. A sense of disgust combined with depression and uncertainty now characterizes the feelings of a great many, although such feelings seem to have roots in the core of our being, our inner natures, which are difficult to understand. One could say that there are two sorts of changes in human beings: one sort is caused by far-reaching changes in the environment; the other sort, while variously and inadequately explained, are caused by changes in ourselves.

If we are in pursuit of understanding of the effect of external changes on our lives, we should go to the historians and essayists, such as Carlyle and Lewis Mumford, and Lynn White Jr., but for the inner changes in ourselves we have very few resources for musing comment, yet they exist.

Is there a way of bringing the effects of these changes down to earth where we can actually look at and consider them? The answer to this, although not exactly obvious, can be seen in the reflective comments of writers in literature, which seem to include all that we have been speaking of. For example, one might start by reading J. B. Priestley's *Literature and Western Man* (Harper, 1960). Priestley begins his book by speaking of the impact of the printed book, which began in the West with the production in the middle of the fifteenth century of the Vulgate Bible by Johann Gutenberg at Mainz in Germany. The importance of this lies in the immediate spread throughout Europe of the craft of printing. "Before the century was out," Priestley says, "books were being printed in the Low Countries, Italy, France,

Spain and England. They were mostly of fine quality, far better than the books produced during the sixteenth and seventeenth centuries." In England, William Caxton established his press in Westminster in 1476 and issued some hundred volumes before his death, printed in English. Writing of this period, Priestley says:

. . . students and the poorer scholars, who had only been able to acquire the most modest little library at the cost of much travel, aching hands and smarting eyes, turned eagerly to these printed pages, which soon offered them Greek and even Hebrew. And as more and more books were published, toward the end of the century, there was one consequence that should not surprise us: in Rome, under Alexander VI, the censor got to work. Power, which has its intuitions, soon recognized its enemy. The book had arrived.

The two to three centuries of the true Middle or Gothic Age were gone forever. With them vanished a truly religious basis and framework for the life of Western Man. . . . most of it was Christendom, where the wars were feudal and dynastic and the armed nations had not yet arrived, where a man might be given authority because he was a saint, where scholars speaking a common language wandered from one seat of learning to another, where goodness was goodness and evil was evil and there was no tormenting confusion of values. It was this age, not considered as a political-economic system nor a social hierarchy, but as a period when the mind achieved a harmony and a feeling of relatedness, that began to haunt men of other ages like some half-remembered dream. . . . For man has come down the eons a religious being, who must needs worship something, and the Gothic, its consciousness soaring with its towers and steeples, was for the West the last truly religious age.

The world into which the movable types found their way, to multiply books and scholars, had long emerged from that age. . . . Western Europe in the fifteenth century was living in the twilight and ruin of the Middle Ages. It was a strange time. Shakespeare catches the tone of it in his historical plays, brutal and turbulent, stiff and heavy with death. (Charles Reade caught much of it too in his historical novel, *The*

Cloister and the Hearth.) The Dukes of Burgundy, with their ostentation, violence and half-mad pride, are perhaps its representative rulers. It was at their Court that the *Dance of Death* was performed. The true and living symbolism of the Gothic Age had declined and hardened into pedantic allegory. Universal religious belief and feeling, like a shattered glass, had broken into fanatically held creeds, superstition and a despairing atheism. People of a sort that had once steadily worshipped now wept with the wandering preacher one week and the next week planned murder.

We should perhaps here remind ourselves that the direct impact of these changes in the psychological environment was felt mainly by the more intelligent and susceptible members of the population, while its effect on the great mass of people operated much more slowly by filtering down into their minds and feelings, loosening the bonds of habitual belief and enlarging the field of human activity. History, after all, is not really made by the "masses," but by those who, as Ortega put it, live "at the heights of the times" and embody the actual transitions in cultural attitudes.

With the flowering of the new age, which began in Italy, there came a great change in the subjective aspect of human life, reflected in the new idea of the self. Priestley speaks of—

. . . the arts that could flourish under ruling patrons who understood them and could reflect the sumptuous new style of life; and the idea of Man the inheritor of the golden globe, no longer a humble creature of God on trial here for a brief season, no longer fixed in the medieval hierarchy, but free to reach the heights or plunge into the depths and by his own abilities, choices, actions, to triumph or ruin himself. Before the fifteenth century had gone Pico della Mirandola, the brilliant young Platonist who died when he was thirty-one, had said it, in his oration on the Dignity of Man: . . . "Constrained by no limits (Thou, Man) shalt ordain for thyself the limits of thy nature. . . . As maker and molder of thyself, thou mayest fashion thyself in whatever shape thou shalt prefer. Thou shalt have the power to degenerate into lower forms of life, which are brutish. Thou shalt have the power, out of thy soul and judgment, to be re-born into the higher forms, which are divine. . . ." Fine brave words! But the time and the place seemed to call for such a salute. Was not

Florence itself ruled by Lorenzo de Medici (Lorenzo the Magnificent), not only the patron of humanists like Pico, artists like Michelangelo, poets of the structure of Poliziano and Pulci, but himself an accomplished and versatile author?

There should be sufficient emphasis here on the quality of these omniscient men of the Renaissance, if only to drive home to us the extraordinary contrast with our own time, in which persons of real ability are lost or overlooked in the commercial whirl and the rigidities it produces. As Priestley says:

An astounding versatility was the mark of these Italians of the new age. No other time or place can show us individuals equally many-sided and accomplished. Their energy, powers of application, must have been phenomenal. For example, Leon Battista was a painter, a poet, a philosopher, a musician, and an architect; his physical strength and dexterity (it was said he could jump, with his feet together, over a man's head) were as remarkable as the force and range of his mind; he appeared to know everything and to be able to do anything; even the gift of prophecy was not denied him. When Alberti died, in 1472, there was among the pupils of Verrochio, himself a sculptor, painter, goldsmith, and teacher of the arts, a prodigious youth of twenty the incredible Leonardo da Vinci, who was to prove himself an original genius in both the arts and the sciences, whose gifts and achievements set him towering above his time. Such men were exceptional but the level from which they rose was itself uncommonly high. The Florentine merchant-bankers were also statesmen, scholars, patrons and connoisseurs of the arts; the artist turned confidently from one medium to another; the humanist scholars attempted to master all accessible knowledge and, while doing so, might be called upon to act as secretaries, officials, diplomats. During this brief time—and this is one reason why it was so brilliant and created so much—society and the individual had one outlook, one aim, looked and moved in the same direction; no energy was lost in misunderstanding, cross-purposes, and conflict; genius drew strength from the community in which it was rooted, and the spirit of the community was leavened and raised by the genius it helped to nourish. But that is not all. Such wide application, such versatility and wealth of accomplishment, simply a prodigal zest, which in turn suggests a sharpening and heightening of consciousness and, supplying the zestful energy, a tremendous release of

forces hitherto held in check in the unconscious. This was man, as Pico cried, exulting in his newfound freedom.

We skip now to our present time, leaving behind the full impact of the Renaissance, followed by the Industrial Revolution, and bringing us to the bewildering circumstances of the present, in which the external ills of both ourselves and the planet grow more threatening, month by month, while our resistance to these effects is sporadic and ineffectual. Here we turn to a consideration of our subjective attitudes and condition, which play an undetermined part in how we feel and what we decide to do with our lives. We have for help in this inquiry an article in *Harper's* for June by Walker Percy, a modern writer who regards the novel as a diagnostic tool which reveals ourselves to ourselves. Percy begins by recalling the work of Chekhov, whom he sees as "the literary clinician, the pathologist of the strange spiritual malady of the modern age." After saying a little about how Chekhov thought and worked, he goes on:

The strategy of the novel in the late twentieth century is surely different from the fiction of the past 200 years. Literature in earlier times might be understood as an attempt to dramatize conflicts and resolutions, to articulate and confirm values in a society about the meaning of life and the world and man's place in it. Given such a consensus, a corpus of meanings held in common, it was possible for a novelist or playwright or poet to create a fictive world within which the behavior of the characters could be understood, approved of, disapproved of, and the reader accordingly entertained, edified, and, in the case of great literature, his very self and his world confirmed and illuminated.

In short, any literature requires as the very condition of its life a certain consensus, an intersubjective community within which writers and readers can traffic in words and symbols that mean approximately the same thing to both.

Yet the modern novelist, if at all perceptive, must realize that such a consensus no longer exists. The common world of the past and the recent past has dissolved into a web of uncertainties. What does the contemporary

literate human think about the meaning of his life? In the case of many of us, he does not know, and knows that he does not know. Or, as Percy puts it:

Indeed, to judge from a good many contemporary novels films, and plays, it often appears that the only consensus possible is a documentation of the fragmentation. The genre of meaninglessness has in fact become the chic property not only of the cafe existentialist, but even of Hollywood.

To state the matter as plainly as possible, I would echo a writer like Guardini, who says simply that the modern world has ended, the world, that is, of the past 200 or 300 years, which we think of as having been informed by the optimism of the scientific revolution, rational humanism, and that Western cultural entity which until this century it has been more or less accurate to describe as Christendom. The Christian notion of man as a wayfarer in search of his salvation no longer informs Western culture. What most of us seem to be seeking in its place are such familiar goals as maturity, creativity, autonomy, rewarding interpersonal relations, and so forth. Most contemporary novelists have moved into a world where, as Lewis Simpson put it, "the covenant with memory and history has been abrogated in favor of the existential self."

Walker Percy now asks: What sort of consensus can the modern novelist discover or use?

Toward this end, it seems fair to describe the time not merely in conventional terms as a world transformed by technology both for good and evil, the evil being the very real ugliness of much of the transformation and the very real depersonalization of many people living in such a world. What is not so self-evident is the more subtle yet more radical transformation of the very consciousness of Western man. I don't mean the mechanization and homogenization and dehumanization one hears about so often—though I would not quarrel with those descriptions. We are all familiar with an entire literature about the ennui of life in suburbia. Yet this literature itself, let's face it, is generally more boring than the life it portrays.

No, the real pathology lies elsewhere—not in the station wagon or the all-electric kitchen, which are after all very good things to have, but rather in the quality of the consciousness of the novelist and his characters.

Percy is concerned with how as well as what we think. We think—or try to think—scientifically. This, in the technological age, means calling on the experts whenever we have problems. They can fix a dirty carbureter, they can patch up your intestines, or put substitute bones in your leg.

But what happens when one feels in the deepest sense possible that something has gone wrong with one's very self? When one experiences the common complaint of the age: the loss of meaning, the purposelessness, the loss of identity, of values? What happens when a person comes to believe that his very self is also the appropriate domain of "them," that is, the appropriate experts of the self?

We have, in short, misconceived the very meaning of the scientific method which has developed so much expertise regarding the objects and things of the external world. We are in a trap made by ourselves. Percy goes on:

What I am about to say is no secret to the scientist, but it is not generally known by the layman. The secret is simply this: the scientist, in practicing the scientific method, cannot utter a single word about an individual thing or creature insofar as it is an individual, but only insofar as it resembles other individuals. This limitation holds true whether the individual is a molecule of NaCl or an amoeba or a human being. There is nothing new or startling about this. We all remember taking science courses in which one was confronted with a sample of sodium chloride or a specimen of a dogfish to dissect. Such studies reveal the properties shared by all sodium chloride and all dogfish. We have no particular interest in this particular pinch of salt or this particular dogfish.

To throw a further light on this situation Percy recalls his days as a medical student. He was undergoing psychoanalysis by reason of his intention to become a psychiatrist, when it dawned on him:

that no science or scientist, not even Freud, could address a single word to me as an individual but only as an example of such and such a Southern neurotic type. All very well and good, you say, but so what? But you see, there is a Catch-22 here. The catch is that each of us is, always and inescapably, an individual. Unlike a dogfish, we are stuck with

ourselves and have somehow to live out the rest of the day being more or less ourselves. And to the degree that we allow ourselves to perceive ourselves as a type of, example of, instance of, such and such a class of Homo sapiens—even the most creative Homo sapiens imaginable—to this same degree do we come short of being ourselves.

This is more or less the end of Walker Percy's diagnostic analysis. We have lost or forgotten the art of thinking seriously about ourselves. Is there a remedy? The remedy, of course, is in ourselves, but the novelist, Percy believes, can help. He says:

The sector of the world about which science cannot utter a single word is nothing less than this: what it is like to be an individual living in the United States in the twentieth century.

If the scientist cannot address himself to this reality, who can? My discovery of course, was that the writer can, and most particularly the novelist. Oddly enough, it was the reading of two nineteenth-century writers, Kierkegaard and Dostoyevsky, which convinced me that *only* the writer, the existentialist philosopher or the novelist, can explore the gap with all the passion and seriousness and expectation of, say, an Einstein discovering that Newtonian physics no longer works. In a new age, when things and people are devalued, when meanings break down, it lies within the province of the novelist to start the search afresh, like Robinson Crusoe on his island. The novelist or poet in the future might be able to discover, or rediscover, how it is with man himself, who he is, and how it is between him and other men.

Percy can take us no farther with his analysis. His point, of course, is that each one of us who seeks knowledge of the self is a writer—a writer who is, day by day, composing his life story at whatever level of self-consciousness he has been able to attain. The novelist who attempts to do the same for the characters in his story, unless he uses his discoveries about himself, is likely to supply the reader with no more than a psycho-geography of the emptiness of human life—a sequence of trivialities with no core of beinghood at the center. Yet the core is there, waiting to be discovered. Life may be defined as the field in which we learn to look for it.

REVIEW

THE MAKING OF A CONSERVATIONIST

ALL IN A LIFETIME, the autobiography of Inez Marks Lowdermilk, is the life story of an extraordinary woman. She was born in 1889 and now lives today in Berkeley, Calif., at ninety-seven. She left high school at eighteen, went to China for several years, where she served as a Methodist missionary in Szechuan Province. She learned to speak Chinese, worked with high school girls, did what she could to discourage the footbinding of women, had some rather desperate adventures with bandits, managed and founded children's schools and formed lifetime friendships with Chinese women.

In 1921 she returned for a visit to her family home in Pasadena, and there renewed her acquaintance with Walter Lowdermilk, whom she had met as a girl and corresponded with through the years. He had been a Rhodes scholar who graduated from Oxford with honors in forestry, worked with Herbert Hoover to alleviate wartime famine conditions in Belgium, and was then a research Forest Service officer in Missoula, Montana. He proposed marriage and she accepted, having felt since she first met him that he was the man she wanted to be worthy of. He was a stranger to her family, and her mother and father were shocked.

"But Daddy," she explained, "I am sure our marriage was made in heaven."

"Yes," was his reply. "It must have been made in heaven, because there wasn't time to make it on earth."

Eight months later they were married and Lowdermilk decided to return with her to China to take on a job the Famine Prevention Commission had offered. They went to Nanking where Walter began study of Chinese and became part of the Famine Prevention team working to eradicate wheat rust and produce disease-free

seed, improve fiber crops, and control silkworm disease.

Other urgent projects China needed—concerning floods, erosion, and forestry—had been delayed because as yet no qualified experts had been found. When Dean Reisner discovered that Walter was qualified in all three fields ample research funds, were made available to him. Walter explored Northwest China. His assignment: to find the causes of the Yellow River floods which destroyed the crops.

After study of old records and a long expedition into Honan to investigate the course of the Yellow River between dikes erected by peasants, some forty to fifty feet high, who had carried small baskets of earth from their farms to build them, over many years, to prevent overflows, Walter believed he had discovered what went wrong. "The villain is erosion," he declared. "I must find its source!" He planned and led his research team on a 2,000-mile survey into the vast northwest provinces, daily, by letter, reporting what he was finding out to his wife.

He was shocked, he wrote, to see poverty everywhere. Some of the walled cities were almost depopulated. Many other scientists were then attributing northwest China's decay to an adverse change of climate, but when Walter found forest trees flourishing naturally inside the protection of temple walls, he knew that the destructive force was not climate.

Pushing on, he found millions of acres of formerly rich food-growing lands literally eaten away, traversed by gullies sometimes 200-400 feet deep. The erosion of the soil had started during the time of prosperity when the rich, lightweight, wind-deposited loess topsoil was exposed to the weather by the ploughing, even the sides of the foothills, to meet the food demands of a large, growing population. The farmers had no technical knowledge, nor even the stones for holding back the earth. Erosion accelerates out of control and for centuries the Yellow River tributaries had been washing the good soil off the farmlands and into the main river where it was carried in the form of silt and deposited down on the plain.

Walter called the devastated area a "man-made desert"—a term that became widely used as his

theories proved true and applicable to other parts of the world as well.

Walter wrote well, and when he was deeply stirred his reports became dramatic, even poetic. From Northwest China he described the conditions of starvation. To him there was no more horrible way to die.

"Food riots are terrifying," he wrote. "Starving people will not keep the peace; neither will they stay within their own borders nor honor their treaties. A starving farmer will even eat his seed grain, knowing that it is disastrous for his future to do so. Parents will sell their children for a little food for themselves in the hope that the children will be well kept alive by others. In time of famine the entire fabric of society falls apart. The law of the jungle rules when people must fight for food.

"Finally, in the last stages of starvation, people become tragically silent. They remain almost motionless as they wait out the long days and nights for slow death."

When Walter returned from his expedition, he said to me, "Now I know what my life work is to be. I must study the relation of peoples to their lands and how, by destruction of food-growing lands and raw resources, they undermine their cultures and their civilizations and bring disaster to all the generations that follow. In the last analysis, all things are purchased with food."

We have quoted somewhat at length these passages from what Lowdermilk said and accomplished in China—a country that has been forever after grateful to him for his help in showing them how to reclaim their land—because it shows how commitment to a lifework of service is formed. The rest of Lowdermilk's career was devoted to land conservation, water supply, and measures to prevent erosion, at which he worked unceasingly and in several countries of the world, including Israel.

It may be of interest to the reader to know why we became interested in this book and asked its unknown publisher to send us a copy for review. MANAS was begun in 1948, a few years after World War II, and during the war the editors (two) had spent years as conscientious objectors who worked on the land for the U.S. Forest

Service, with a local headquarters in Glendora, California. The project we worked on, we discovered, was the creation of Walter Lowdermilk. As refugees from China because of the Nanking incident and the onset of the Chinese Revolution the Lowdermilks had returned to the United States. Walter accepted a job with the Forest Service and undertook a survey of the San Bernardino Mountains. This probably led to the project we worked on. Mrs. Lowdermilk writes:

In the 1930s, Los Angeles was already expanding its population far beyond what an arid region would normally support and wanted to obtain the maximum amount of water from the nearby mountains. Walter was appointed to set up the largest watershed experiment ever undertaken. He was probably the first to use aerial photography in selecting a land-use area. He chose a triple watershed near the San Dimas Forest Experiment Station and was given the services of 200 boys from the Civilian Conservation Corps (CCC) camps.

Walter worked out extensive scientific methods and equipment for measuring the rainfall and runoff in the experimental area in order to determine which method would conserve the greatest amount of water. Each of the three watersheds were to be treated differently. The first was used as the control and left as it was, the second was burned off, and the third was planted with intensified vegetation and trees. The CCC boys put in trails and installed rainfall and runoff gauges which showed exactly what happened. On each stream Walter used the system he had developed in China: tipping buckets refilled.

Many scientists and government people came to see what he was doing. Among them was Rexford Tugwell, the "brain truster" President Roosevelt was sending around the country to be his eyes and ears. Knowles Ryerson, an interested official in the Department of Agriculture, accompanied Tugwell. The second day they were at the project, the President phoned Tugwell, asking if he recommended that the job of Chief of the new Soil Conservation Service be given to Hugh Bennett.

"Do so only if you appoint Walter Lowdermilk as Associate Chief. He is the man out here with the grey matter," was Tugwell's reply. President Roosevelt personally asked for Walter's immediate release from the Forest Service, and early in 1933 Walter was off to Washington.

Eventually the Lowdermilk family all moved to Washington, where Walter was attacking the problems of soil loss in this country, with emphasis on the causes of the Dust Bowl. It was, she explains, "nature's punishment for reckless ploughing of the Great Plains which left the soils unprotected by the native grass."

After several years of drought, winds carried the dry, fine top-soil in blinding blizzards which darkened the skies all the way to Washington.

Congress got the message when its members began to choke and cough. Money was granted for immediate measures to save what soils were left. The program included developing a permanent cover of vegetation on some fields and a great shelter belt of trees. Two hundred million trees were planted on some 30,000 farms. These formed more than 18,000 miles of shelter which gave protection against the wind and helped to retain water and prevent further erosion. (In 1981 some of these shelter belts were ripped up as the 1930s were forgotten. Why don't people learn!)

Inez was then forty-five and Walter forty-seven, and the rest of their full lives of many years are recorded in this book, which has 340 pages.

In time, Walter made immeasurable contribution to the soil reclamation of Israel, and for the Department of Agriculture in the United States he produced the well-known pamphlet, *Conquest of the Land Through 7,000 Years*, the result of a world-wide study published as Agricultural Information Bulletin No. 99, still available. Inez Lowdermilk has written a both valuable and fascinating book—the story of her husband's life and achievements, along with her own, which we have slighted by reason of space limitations. Her book, *All in a Lifetime*, may be ordered from J. Knaack, 16450 Helmcrest, Whittier, Calif. 90604. The price is \$9.50 plus \$1.25 postage.

COMMENTARY

NOTHING IMPORTANT HAS CHANGED

THERE are two sentences in this issue which call for reflection. One is by Peter Bunyard, occurring on page 7:

Motor vehicles are the other main sources of nitrogen oxides, but they have become such an important part of our modern way of life that no government would consider imposing restrictions on their use.

What does this mean? One meaning could be that persons engaged in government would rather permit the people to poison the whole world with the fumes produced by motor cars than to attempt to control behavior that would only make people choose a more indulgent government.

Or, it could mean that it is useless to expect government to exert a kind of control over people's ways that is really their own responsibility, and foolish to blame "the government" for not attempting it. In the United States, the classic example is the total failure of Prohibition. Would a government which seeks to regulate the habits of the population to the extent of outlawing the internal combustion engine be a tyranny? Was John Calvin, who had inspectors regularly count the petticoats worn by women in the interest of "morality," a tyrant, or a true reformer who was determined to reform the people for their own good and in spite of themselves?

The other sentence is by Paul Goodman (on page 8). He said:

We must drastically cut back formal schooling because the present extended tutelage is against nature and arrests growth.

In support of this recommendation he goes on to say: "Only a small fraction, the 'academically talented'—about 15 per cent according to James Conant—thrive in schools without being bored or harmed by them. Schooling isolates the young from the older generation and alienates them."

Of the measures proposed by these two sentences, it may be said, they both have almost no chance of being made acceptable to the great majority of the people, although the arguments in their behalf are both sound and probably irrefutable. To be persuaded of the validity of the arguments calls for a kind of maturity people in the mass do not possess.

What do we need? Less government or more? The obvious answer is, less external, coercive government and more self-government, less control by experts and more self-reliant, intelligent people. But how are such changes to be achieved? Nobody, or almost nobody, knows.

History indeed repeats itself. We are, it seems clear, in exactly the same condition that prevailed in Athens in the time of Socrates. He was declared to be the wisest man in the city by the Oracle. Why? Because he openly admitted his ignorance. We might take a long stride toward solving our greatest problems if more of us started copying Socrates.

CHILDREN

. . . and Ourselves

WHAT WE OUGHT TO DO

THE best things to read about education are often long passages in books that deal with other subjects, occurring because the writer has been drawn to think about his own years of growing up and how he actually learned what he needed to know, and what, in retrospect, seemed the chief obstacles to learning. Perhaps the most important thing such writers discover, upon reflection, is the very great differences among those who learn. It is certainly a great mistake to assume that all children are the same. No doubt in principle they all have the same potentialities, and should be so treated, yet the responses are bound to be different with different children. This discovery is best dealt with by Ortega, although briefly, in the first chapter of his book, *Some Lessons in Metaphysics* (Norton, 1969), published a dozen years after his death, although its substance was first written down while he was teaching at the University of Madrid in 1932-33.

He there makes it clear what he means by the word "truth." A truth is not a truth, he says, unless it satisfies a need. If one does not feel the need for it, the content of the word is irrelevant: it has in it no truth. One may find himself obliged to learn it, but it has no effect upon his mind, his life. It becomes a dead weight in his memory that he must carry around, along with all that he has learned without any real interest in acquiring it. He has thus a freight of necessities—the necessities imposed by others, such as a school system—that burdens his life. Ortega remarks:

Well, now, when a man sees himself obliged to accept an external and mediate need, he finds himself in an equivocal, ambivalent situation, because this is the same as being invited to make his own (which means to accept) a necessity which is not his. Whether he likes it or not, he must behave *as though* it were his, he is thus invited to share in a fiction a falsehood, a deception. And although this man may put forth all his good will in order to feel *as if* it were

his, this does not mean that he achieves this, nor is it even probable that he can.

He now applies this proposition to education:

Having made this clear, let us turn our attention to the normal situation of the man who is called upon to study, if we use this word as meaning the studying that a student does, or, what is the same thing, let us ask ourselves what a student is. And the fact is that we then find ourselves with something as startling as was the scandalous phrase with which I began this course [falseness]. We find ourselves faced with the fact that the student is a human being, male or female, on whom life imposes the need to study sciences for which he has felt no immediate need. Leaving aside the cases which are exceptional, we recognize that in the best of cases the student feels a sincere, if somewhat vague, need to study "something," thus *in genere*, "to know," to be instructed. But the vagueness of this wish testifies to its slender stock of authenticity. It is evident that such a state of mind has never led to the creation of any real knowledge, because such knowledge is always concrete, a matter of the precise knowing of this or that; and, according to the law (at which I have barely hinted) of the functional relationship between seeking and finding, need and satisfaction, those who created the knowledge felt no vague desire for knowing, but a most concrete and specific desire to find out this or that specific thing.

This shows that even in the best of cases—and again, I repeat, saving exceptions—the desire to know, which the good student may feel, is completely heterogeneous and perhaps even antagonistic to the state of mind which led to the creation of a particular order of knowledge. Thus, the attitude of the student toward science is the opposite of that which stirred its creator.

Ortega goes on with this analysis, but his point is made. The student is obliged to learn masses of material which he has no passion to know. Eventually he is submerged in it all and he becomes no more than an echo.

What then is the real problem of the student? It is to learn, if he can, to feel the *need* for what he is studying. No pretense or imitation will do, he must actually *feel* it. Teachers, if they are able to help at all, show how to generate the need, and nothing is more difficult. And nothing less amounts to anything. The heart of the matter,

then, is the communication of enthusiasm, of eagerness. The teacher must make it evident that he also is a learner who feels the need to know.

Every real teacher, in one way or another, discovers this, and does what he can about it in order to stop being a fraud. Paul Goodman, neither an ideal teacher nor an exemplary man, but one who *could* teach, and did, discovered this. In one of his later books, *New Reformation* (Random House, 1970), he has a long section, "Education of the Young," in which he says that his own "Reformation" thinking about education is as follows:

(1) Incidental education, taking part in the on-going activities of society, must again be made the chief means of learning and teaching.

This required explanation, which he has given earlier. By "incidental education" he means the sort of education the child acquires by growing up in family and community—learning to walk, talk, and all such acquirements. It hardly needs teaching, but comes naturally, growing out of obviously felt needs of the child. Apprenticeship is a kind of incidental learning through which one learns a trade or calling on the job. That's how doctors were once developed, and it was how Abe Lincoln became a great lawyer. When he studied, it was because of intensely felt need. Goodman continues:

(2) Most high schools should be eliminated, with other kinds of youth communities taking over their sociable functions.

(3) College training should generally follow, rather than precede, entry into the professions.

(4) The chief occupation of educators should be to see to it that the activities of society provide incidental education, rather than exploitation or neglect. If necessary, we must invent new useful activities that offer educational opportunities.

(5) The purpose of elementary pedagogy through age twelve, should be to delay socialization, to protect children's free growth, since our families and community both pressure them too much and do not attend to them enough. Modern times pollute and waste human resources, the growing children, just as

they do the land, air, and water. What else could one expect?

Then, in review, he says:

We must drastically cut back formal schooling because the present extended tutelage is against nature and arrests growth. The effort to channel the process of growing up according to a preconceived curriculum and method discourages and wastes many of the best human powers to learn and cope. Schooling does not prepare for real performance; it is largely carried on for its own sake. . . .

On the other hand, it makes no sense for many of the brightest and most sensitive young merely to drop out or confront society with hostility. This cannot lead to social reconstruction. The complicated and confusing conditions of modern times need knowledge and fresh thought, and therefore long acquaintance and participation precisely by the young. . . . Our aim should be to multiply the paths of growing up, instead of narrowing the one existing school path. There must be opportunity to start again after false starts, to cross over, take a moratorium, travel, work on one's own.

The great question, of course, is who can do or arrange all these sensible ways of bringing up and teaching the young? There is an answer, but a very tough one: only parents can do it, care enough and understand enough about their children to do it. What most people don't realize is that a growing number of parents are already doing it. Readers curious about this might well subscribe to *Growing Without Schooling*, a 32-page paper which comes out six times a year and is written mostly by parents who are teaching their children at home. There are now thousands of such families distributed throughout the United States. Subscription for a year costs \$20. It is published at 729 Boylston Street, Boston, Mass. 02116. John Holt founded it in 1977.

FRONTIERS A Grim Analysis

EVIDENCE accumulates that the entire modern world, with some few hardly influential exceptions, is doing things wrong and that the earth itself, with the voice of its living things, is crying out in protest. How long this can go on is anybody's guess, but the prediction of ultimate breakdown will certainly come true, sooner or later. We must, it seems clear, become citizens of the world with a fully developed sense of responsibility, but how that can be accomplished remains a mystery. Already the evidence of this necessity is clear at the scientific level. An example is given in Peter Bunyard's editorial in *The Ecologist* (Vol. 16, No. 1, 1986), "Waldsterben and the Death of Europe's Trees."

Bunyard, one of the magazine's editors, begins:

The acidification of lakes, rivers and soil profiles in parts of Scandinavia, in Scotland and other parts of Europe, equally the dying of forests over a vast area stretching from Italy to Russia are issues that can no longer be ignored. Latest reports indicate that up to 7 million hectares of Europe's forests—an area equivalent to one third of the United Kingdom—show signs of damage, with at least 250,000 hectares dying or dead, while in southern Scandinavia tens of thousands of lakes are now entirely devoid of fish. Indeed, in South Norway alone more than 30,000 square kilometres of lakes are either fishless or have reduced fish populations.

As Professor Peter Schut of Munich University makes clear, the entire woodland ecosystem in many parts of Europe is breaking down, giving the coup de grace to centuries of deforestation. And even if not the worst affected, Britain has not escaped damage to her trees, an initial survey carried out by Friends of the Earth on beech and yew showing many trees to be suffering the same symptoms as found in Europe. Britain, meanwhile, is one of the least forested countries in the world.

At the meeting at Helsinki in July, 1985, concerned with long range transboundary air pollution, twenty-one countries signed a "Protocol" on sulphur emissions, pledging

themselves to reduce their emissions or transboundary fluxes of sulphur dioxide by at least 30 per cent before 1993. Fourteen countries, did not sign, among them Britain. Britain's claim is that "the causes of acid rain and acidification are not properly known and that the effect of Britain's own transboundary emissions on the Scandinavian environment remain unproved." Meanwhile, Britain's Central Electricity Generating Board (CEGB) refuses to install flue gas desulphurization, by reason of the added cost of electricity involved. The Board also says that there are "other, as yet unidentified sources of sulphur oxide emission and deposition." Bunyard comments:

On scientific grounds the CEGB has a point; we are still abysmally ignorant as to the precise mechanism of either acidification or waldsterben. In both instances complex photochemical reactions are at play in the atmosphere. What is increasingly certain is that the sum of our industrial activities is at the root of the problem, basically through upsetting natural nutrient cycles. Certainly the British approach to pollution control is much to blame, particularly that of "discharge, disperse and dilute," for we have assumed that as long as the chimney stacks are tall enough, and the discharge pipes into the sea and estuaries long enough, the environment will do the rest for us, taking our pollutants away from our own shores and hopefully diluting them sufficiently by the time they reach anyone else's. . . .

While few doubt that acidification is linked to acid rain and the increasing burden of acid precursors carried in the atmosphere, particularly over the industrialized north, the dying of the trees appears to be caused by different, even though linked phenomena. What "*waldsterben*," as the Germans call forest die-back, and acidification undoubtedly have in common are man's industrial activities. And since both types of ecological crises have really manifested themselves in recent years, certainly post World War II, the conclusion must be that the changes in the environment are caused by relatively new industrial practices and ways of living. Tree death and acidification have both been observed before, but always in the vicinity of massive industrial practices—huge steel works for example. The worrying aspect of today's environmental damage is that it is taking place in relatively pristine environments away from industry and people. Indeed

waldsterben was first discovered on the hilly slopes of the Black Forest and in southern Bavaria.

What then, and who, Bunyard asks, are to blame?

One would have thought the acidification story to be clear-cut. Scandinavia, the worst affected area in Europe, imports for instance far more sulphur in the form of dioxide than it generates within its own borders. Thus each year on average some 600,000 tons of sulphur are deposited in Sweden, mostly in the south, while only 100,000 tons come from Swedish sources. Britain meanwhile produces some 2,670,000 tons on average, of which less than one third are deposited in the country itself, the remainder being carried out over the North Sea by prevailing winds. Indeed the UK contributes almost as much sulphur to the Swedish environment as does Sweden itself, and given Sweden's commitment to reduce their emissions to one-third the 1978 level by 1995, the UK by then will actually be depositing more; that is, unless there is a fundamental change of heart in Britain's attitude.

So, on every side, we have reason to recognize that the time has come for the abandonment of nationalism and the identification of oneself as "belonging" to a national state. We all now belong to the world and the welfare of the world is a common responsibility.

Peter Bunyard goes on with his array of evidence:

. . . it can hardly be coincidence that the worst affected forests in Europe are those downwind from the tall stacks of industry. Similarly the 400 foot high stacks of the CEGB's coal and oil fired power stations must have something to do with the burden of sulphur and nitrogen oxides reaching Scandinavia. Yet there are other sources of sulphur and nitrogen compounds which may be equally important, and which to date have been largely ignored. The discovery of massive algal blooms in the North Sea has prompted Jim Lovelock to suggest that a major source of sulphur may be of marine origin. Indeed, nutrient runoff into the offshore environment—sewage from our cities, nitrates from farming and horticulture—is leading to eutrophication of the sea. . . . To complicate the matter still further, increased manure production because of animal feedlots and intense animal husbandry is leading to large ammonia and ammonium hydroxide releases to the atmosphere. In parts of Sweden spruce and pine appear to be dying

from excess nitrate uptake of manurial origin, the algal slime covering the needles suggesting a kind of terrestrial eutrophication.

Motor vehicles are the other main sources of nitrogen oxides, but they have become such an important part of our modern way of life that no government would consider imposing restrictions on their use.

Bunyard concludes:

The tragedy is that we are already in the throes of an environmental crisis and anything we are doing at present, especially the half measures we are taking, may be too little too late. To wait for science to give us exact answers as to the cause of acidification and waldsterben, as our government and the CEGB are intent on doing, is an act of callous irresponsibility. We will have to act on all fronts, considering all sources of pollution as potentially to blame.