

WORDS AND MYTH

ACCORDING to the lexicographers—the people who write down words—nobody misuses language. As Jacques Barzun explains in his introduction to the 1966 edition of Follett's *American Usage*, the professional linguists "deny that there is such a thing as correctness. The language, they say, is what anybody and everybody speaks." Language growth, they argue, is "natural" and it is criminal to tamper with it.

In their arguments one finds appeals to democratic feelings of social equality (all words and forms are equally good) and individual freedom (a man may do what he likes with his own speech). These assumptions further suggest that the desire for correctness, the very idea of better or worse in speech, is a hangover from aristocratic and oppressive times. To the linguists change is the only ruler to be obeyed. They equate it with life and accuse their critics of being clock-reversers, enemies of freedom, menaces to "life."

In one place Barzun speaks of how "science and scholarship dominate the intellectual world and confer prestige on whoever imitates their literal mind and abstract tongue."

The worst enemy of modern languages is the universal desire to show off in this pretentious way. Thus the telephone girl who speaks on tape for the Weather Bureau tells you about the day's *precipitation probability*. What she and her principals mean is *likelihood of rain*. She feels no discomfort in saying the pompous phrase, for her talk and her reading are prepared with pedantries. The ads tell her to buy a cosmetic that will give her face *subcutaneous stimulation*, and the news story says that a collision in mid-air was narrowly missed thanks to the pilot's *evasive action*.

"Evasive action" doesn't seem quite so bad as other examples Barzun gives, as in the following on jargon:

It is commonplace that the professions tend to develop jargons, but it is less often recognized that the modern professions make their jargon pedantic, as

the older jargons of sailors, farmers, and thieves were not. Today, a person interested in the public schools is exposed to reading a report on the playing of background music in classrooms which says: *The hypothesis, therefore, is that music can reduce the intensity dimension of the student so that he remains in the range of effectiveness along the continuum.* And a person interested in the fine arts is invited to consider the merits of a painter who says: *I work to qualify a surface, to qualify a reality in terms of my human experience which is given form in abstract conception. . . . The determinant has changed to coordinate with the human condition. And that condition has become increasingly synthetic and structural.*

In both extracts the pretentious words string together half-realized metaphors, a mode of thought that now characterizes educated and uneducated alike and shows them to be—at least in words—pedants who only half-think. The danger to the language, therefore, does not come from those unhappily sunk in ignorance and vulgarity; it comes from the entire range of the population, which is sunk in the swamp of jargon, and which complains of it without knowing how to extricate itself.

Of this, one could of course say that we are not obliged to listen to people who talk like that, but if we happen to be students in school we have little choice, and if the speakers happen to be officials talking about matters of vital importance to all or a lot of citizens, we may feel that we *ought* to listen, even though we can't make sense out of what they say. In *Standing by Words*, Wendell Berry illustrates a case of this sort by quoting from transcribed conversations of members of the Nuclear Regulatory Commission during the crisis of Three Mile Island, the nuclear power installation. Among other things, the chief of systems safety said:

The bubble will be 5,000 cubic feet. The available volume in the upper head and the candy canes, that's the hot legs, is on the order of 2,000 cubic feet total. I get 3,000 excess cubic feet of noncondensibles. I've got a horse race. . . . We have got every systems engineer we can find . . . thinking

the problem: how the hell do we get the noncondensibles out of there, do we win the horse race or do we lose the horse race.

Berry goes on:

At another time the commissioners were working to "engineer a press release," of which "The focus . . . has to be reassuring. . . ." Commissioner Ahearne apparently felt that it was a bit *too* reassuring, and he would have liked to *suggest* the possibility of a bad outcome, apparently a meltdown. He said:

"I think it would be technically a lot better if you said—something about there's a possibility—it's small, but it could lead to serious problems."

And, a few sentences later, Commissioner Kennedy told him:

"Well I understand what you're saying. . . . You could put a little sentence right in there . . . to say, were this—in the unlikely event that this occurred, increased temperatures would result and possible further fuel damage."

What is remarkable, and frightening, about this language is its inability to admit what it is talking about. Because these specialists have routinely eliminated themselves, as such and such representative human beings, from consideration, according to the prescribed "objectivity" of their discipline, they cannot bring themselves to acknowledge to each other, much less to the public, that their problem involves an extreme danger to a lot of people. Their subject, as bearers of a public trust, is this danger, and it can be nothing else. It is a technical problem least of all. And yet when their language approaches this subject, it either diminishes it, or dissolves into confusions of both syntax and purpose. . . . The two commissioners, struggling with their obligation to inform the public of the possibility of a disaster, find themselves virtually languageless—without the necessary words and with only the shambles of a syntax. They cannot say what they are talking about. And so their obligation to *inform* becomes a tongue-tied—and therefore surely futile—effort to *reassure*. Public responsibility becomes public relations, apparently, for want of a language adequately responsive to its subject.

Lacking the words of a proper language, the improvisers of reassurance put what scholars call euphemisms in their place. These are examined in their vast variety by Robert M. Adams in the *New York Times Book Review* for March 31. He says:

Where there is an unwelcome truth to be hidden from others or oneself, euphemism flourishes, hence its special fondness for situations where codes or ideologies are under pressure. President Reagan, trying to obscure the fact that the MX missile is an awesomely destructive weapon, tries to title it the "Peacekeeper." Just so, "liquidation" used to be a favorite Soviet term for the process of resolving political differences, until the world caught on to what it meant, and Hitler had a "final solution" for the Jewish problem. "They make a solitude and call it peace," said Tacitus of his fellow Romans, noting an uncharacteristic Roman euphemism: it is still available for use in Cambodia. But since politics, above all international politics, is almost exclusively the art of muffling reality in fine words, it would be otiose to multiply examples of this order.

Euphemisms are not always used to ill purpose. They serve as pleasant substitutes for terms of ugliness which are cruel to the ear. Indirection may be a form of manners instead of pretense. It is as Mr. Adams says at the end:

The subject cries out for analysis, and the question it poses is basic. How do we distinguish the fraudulent from the authentic euphemism, the specious moral pickpocket from the considerate and soft-spoken idealist? Since in their pure form both types are relatively infrequent, the permutations and combinations are what we must deal with; and here I confess to feeling the study of language does not help much. The mind and the intentions behind it are far subtler than the verbal makeshifts and stuttering formulas with which we try to define its devious workings.

Another area in the use of the language—involved mind more than just "words"—that "cries out for analysis" is the region of myth. Myths, too, are either authentic or inauthentic, useful and inspiring or fraudulent and deceptive. The great myths are studies of human motivation, narratives which investigate why we do what we do and establish norms based upon the heroic and godlike among men. They stir humans to think and act according to the best that is in them, and they teach patience in the face of prolonged and repeated disaster. The labors of Hercules are an example of both these lessons. The tale of Sisyphus and his endless contention with the rock that, falling again, destroys every victory, instructs

in the dark aspect of human destiny, which has relief only in the counter-myth of Prometheus, who is punished for thousands upon thousands of years for his love of mankind, but who triumphs in an end not yet reached.

Today we are beginning to believe that myths tell us how the world really works, if only we can learn to understand it. Yet at the same time we are systematically exploding the false myths that for centuries have dominated our lives and misdirected our behavior—the myth that the world is an accidentally produced machine, that humans and all living things have been assembled by chance, that ethics are no more than arrangements we propose for common benefit, based on prejudice as much as principle. Myths, both the bad and the good, are constructed of language and so come into the field of our present inspection.

The good myths are a form of challenge, the bad ones are intended to make us comfortable. How do the comfort-assuring myths work? They relieve us of responsibility for miseries in the world that might otherwise stir us to action. An example is the hunger and sometimes starvation that are now becoming common in many areas, both near and far. Frances Moore Lappé, the dietician and nutritionist who wrote *Diet for a Small Planet*, was led by her researches to wonder why so many people around the world don't have enough to eat. What she discovered became the basis of the book she wrote with Joseph Collins, *Food First* (Houghton Mifflin), which appeared in 1977. The subtitle shows its purpose, which is to take the reader "Beyond the Myth of Scarcity." She formed a foundation to work on this problem, the Institute for Food and Development (2588 Mission Street, San Francisco, Calif. 94110), and later brought out an effective pamphlet, *Exploding the Hunger Myths*, in 32 pages. The chief myth she and Collins exposed as false is the idea that "People are hungry because of scarcity." Under this heading the authors set out to show—in the pamphlet and more extensively in the book—that:

"The cause of hunger is *not* too many people; the cause of hunger is *not* scarcity of arable land; the cause of hunger is *not* lack of technology; the cause of hunger is *not* overconsumption by greedy Americans; America is *not* and should *not* be the breadbasket of the world; forced birth control and protracted 'food wars' are *not* inevitable." We cannot use these explanations of worldwide hunger to make ourselves feel comfortable. Remedies exist, but they are not being applied.

In the pamphlet the authors say:

What really explodes the myth that scarcity is the cause of hunger is the fact that enough food is being produced even in countries where so many are forced to go hungry.

In India, while millions starve, soldiers patrol the government's 16 million tons of "surplus" grain. In the Sahelian countries of West Africa even during the much-publicized drought and famine of the early seventies, surveys by the United Nations Food and Agriculture Organization, squelched by displeased aid-seeking governments, documented that each Sahelian country, with the possible exception of mineral-rich Mauritania, actually produced enough grain to feed its total population. In Mexico, where at least 80 per cent of the children in rural areas are undernourished, livestock (much of it raised for export to the United States) consume more basic grains than the country's entire rural population.

In Bangladesh, one of the world's most densely populated countries, enough grain is produced to provide, theoretically each person with more than 2600 calories a day. Yet over half the families in Bangladesh daily consume less than 2500 calories per person, the bare minimum necessary. Following the 1974 floods, millions in Bangladesh perished. But they did not die because of scarcity. One Bangladeshi describes what happened in her village: "A lot of people died of starvation here. The rich farmers were holding rice and not letting any of the poor peasants see. . . ." Asked whether there was enough food in the village, she replied. "There may not have been a lot of food, but if it had been shared, no one would have died." . . .

Discussing in *Food First* such myths as the "Green Revolution," the same authors, writing at the level of generalization, say:

Most measures of food security fixate on global statistics of agricultural production. But food security

simply cannot exist in a market system where food is a business. Commercial growers cannot be relied upon to keep growing food for hungry people when they can make more money growing luxury crops for the minority who can always pay more. Moreover, we have seen that much of the increased production has been at the price of increased vulnerability, *and unnecessarily so*. Increased production approached as a mere technical problem has completely reshaped agriculture itself reducing a very complex, self-contained system into a highly simplified and dependent one. The Green Revolution approach converts a recycling, self-contained system into a linear production formula: pick the "best" seeds, plant uniformly over the largest area possible, and dose with chemical fertilizer. The reduction of agriculture to this simple formula leaves crops open to attack and soils highly vulnerable to deterioration.

Such reductionist agriculture turns chemical fertilizers and pesticides into necessities to cover for its built-in vulnerabilities. True food security is further undermined as production is made increasingly dependent on external sources of supply over which there is no local control. We are all exposed repeatedly to catchy corporate ads that attempt to scare us into believing that the corporate-marketed inputs are the only safeguards against hunger. Yet the increasing capital costs of this way of producing food exclude ever larger numbers of rural people abroad as well as in the United States from a livelihood and push the price of food beyond the means of those who most need it.

The drive to expose the misleading myths by which we so largely live seems to be reaching some sort of a peak. A book, *In the Name of Progress*, by Patricia Adams and Lawrence Solomon, entirely devoted to the illusions of Foreign Aid, was issued earlier this year by the Energy Probe Foundation in Toronto, Canada, and jointly published by the Canadian Doubleday. (The price is \$12.95.) The book has sixteen chapters, each one headed by a myth which the chapter proceeds to take apart and expose. We all know how proud we are—we and other industrialized nations—of our generosity to the "backward" and impoverished countries of the world. Yet the help we give, the writers make clear, doesn't reach the poor, but mostly the operators who keep them poor. Where does our information come from that makes us feel so

proud and complacent? From the operators and their friends in business, and the people they hire to do window-dressing. The writers for Energy Probe—an organization that does what its name suggests—when they began to gather information, heard the advocates of nuclear power claim that the Third World should have this technology. They say in their Preface:

On the face of it, there seemed to be merit in their arguments. The world's store of non-renewable resources was diminishing, and it was diminishing largely to feed the appetites of the affluent countries of the world: a switch by the West to nuclear power promised to conserve fuel for the Third World. And what if the Third World did need nuclear technology to develop its industries? How could the West consign it to technological backwardness and a low standard of living if nuclear power was the only energy source that could eventually meet the needs of its massive population?

We began to investigate the effect on the Third World of the policies that we were advocating at home and that took us beyond the nuclear issue and beyond our own borders. Our information came from international agencies like the United Nations and the World Bank, from the national agencies of Western countries and Third World countries, and from our counterparts in the Third World—other citizens' groups like Energy Probe.

The information from the national and international agencies was consistent with all that we had heard about the Third World's problems. The energy situation was desperate: oil bills were bankrupting countries and the forests that provide fuelwood—the main energy source for the Third World's poor—were being cut down at an alarming rate. The world's deserts were inching forward relentlessly, and massive infusions of Western aid were essential if the fuelwood crisis in these poverty-stricken areas was to be alleviated.

But the information from the citizens' groups in these countries clashed with what we had heard, not so much about the nature of the energy crisis, but about its causes. Where governments and official agencies point the finger at the peasants who chop down their forests for fuelwood, the citizens' groups point the finger at state and multinational logging companies, and at the foreign aid agencies that fund them, for leaving the peasants so little to live on that they have no choice but to overcut their own forests; where the agencies point to the benefits of major

development projects such as hydroelectric dams and fast-growing tree plantations, the citizens' groups point out that these projects have hurt those who need help the most, ultimately setting development in their countries a step backward rather than forward. We soon came to realize that the groups' explanations of the origin of their woes—which came to us from different cultures, countries, and continents—formed a consistent argument at odds with those of the official agencies.

They looked into hydroelectric projects in Canada—where there are very big ones—and asked for *one* example of, say, a big dam that had actually helped the poor. They found that "government officials were unable to refute the claims of the citizens' groups." They saw that "the government, despite repeated requests, had failed to provide us with details of a single example of a model hydroelectric project."

All this needs to be spelled out with individual examples, and is in the book. And it becomes clear, along the way, that the bad myths that are spread to make us feel good enough to leave things alone, and to let those "who know" run things to suit themselves—that these myths are not spread by bad or evil people, but by ignorant people who, unfortunately, have power.

Why have they the power? Because we gave it to them. Why did we do that? Because, alas, we are ignorant, too. But being ignorant is no longer necessary. There are people—we have been quoting them—who are actually trying to tell the truth, and without wanting especially to make us hate the bad-myth makers. They just want us to stop believing and to begin acting for ourselves as we think best. And that is what the poor in the Third World want too. (For ordering the book, Energy Probe is at 100 College Street, Toronto, Canada M5G 1L5.)

REVIEW

BOYS IN IOWA

EARLIER this year a writer in a popular magazine (probably *Psychology Today*) described a scene in a dormitory for small children in which the pain of one child elicited a sympathetic response in all the others. This, the writer suggested, is the natural reaction of children to one another—not indifference or hostility, as is sometimes claimed. The sympathy extends to other forms of life. Where is the small boy who has not killed a sparrow with his beebe gun? And where is the boy who is not immediately overcome by regret? There may be a few of these, but certainly not many. Killing birds for food is somewhat different. Thoreau, who gave up hunting and even fishing—it didn't feel right to him—also said that the boy who had not hunted in his youth had had his education neglected.

Both sides of this question are touched in a story in a book by Jim Heynen, *You Know What Is Right* (North Point Press, 1985, \$13.50). One nice thing about Heynen's stories is that they are short, so that we can repeat the one we are speaking of here. It's called, "What Happened During the Ice Storm," and begins:

One winter there was a freezing rain. How beautiful! people said when things outside started to shine with ice. But the freezing rain kept coming. Tree branches glistened like glass. Then broke like glass. Ice thickened on the windows until everything outside blurred. Farmers moved their livestock into barns, and most animals were safe. But not the pheasants. Their eyes froze shut.

Some farmers went ice-skating down the gravel roads with clubs to harvest pheasants that sat helplessly in the roadside ditches. The boys went out into the freezing rain to find pheasants too. They saw dark spots along a fence. Pheasants all right. Five or six of them. The boys slid their feet along slowly, trying not to break the ice that covered the snow. They slid up close to the pheasants. The pheasants pulled their heads down between their wings. They couldn't tell how easy it was to see them huddled there.

The boys stood still in the icy rain. Their breath came out in slow white puffs of steam. The pheasants' breath came out in quick little white puffs. Some of them lifted their heads and turned them from side to side, but they were blindfolded with ice and didn't flush. The boys had not brought clubs, or sacks, or anything but themselves. They stood over the pheasants, turning their own heads, looking at each other each expecting the other to do something. To pounce on a pheasant, or to yell Bang! Things around them were shining and dripping with icy rain. The barbed wire fence. The fence posts. The broken stems of grass. Even the grass seeds. The grass seeds looked like little yolks inside gelatin whites. And the pheasants looked like unborn birds glazed in egg white. Ice was hardening on the boys' caps and coats. Soon they would be covered with ice too.

Then one of the boys said, Shh. He was taking off his coat, the thin layer of ice splintering in flakes as he pulled his arms from the sleeves. But the inside of the coat was dry and warm. He covered two of the crouching pheasants with his coat, rounding the back of it over them like a shell. The other boys did the same. They covered all the helpless pheasants. The small gray hens and the larger brown cocks. Now the boys felt the rain soaking through their shirts and freezing. They ran across the slippery fields, unsure of their footing, the ice clinging to their skin as they made their way toward the warm blurry lights of the house.

Well, we still have some space and so—another short story.

One spring the boys all got measles and were kept in a dark room so that their eyes would not get hurt.

After a few days, when their fevers went down, the curtains were opened a little bit so that they could see. They still had to stay in bed, but it was a good time to learn how to do something new. One of them looked at a bird book and learned how to draw bird pictures. Another took up embroidery. One decided to make baskets out of grass. Another started playing music on a recorder.

Some girls from school who had already gotten over the measles came by to see the boys while they were working. They teased the boys that were doing things that girls do.

The boys were still too sick to fight back, so they just showed what they had done. The boy who was embroidering held up a dish towel he was working

on. All the stitches were on the line and very tight. Even the French knots. Then another boy held up his picture of ducks. They were so good the girls thought he had traced them. The grass basket another boy had made was woven so tightly that when he held it up to the light the girls could not even see a peephole. And the boy with the recorder played Yankee Doodle without missing a note.

The mothers were in the next room talking about the new vaccine for measles. Won't it be a shame, said one of the mothers, if someday boys never get sick enough to learn how to do those things?

We've been thinking about why these stories are so good—why we don't want to stop reading and start writing about them; besides, what is there to say? The language is nothing special, the happenings ordinary in a way, but not at all in another. They all seem pretty much the same, yet different enough to hold the reader's attention. What else did these boys do, you wonder, and go on reading. You skip around, looking for, say, a change of pace. But the pace is like life on a farm, one day after another, with only the changes of the seasons. But we shouldn't say "only"; the seasons are change enough.

Is it mostly nostalgia? Do boyhood recollections of life on a farm come back as you read? Is it that you think no one will ever have experiences like that today, and wish old times could be reborn? Partly, perhaps. You go to the jacket flap and read about the author, learning that he was born in Sioux County, Iowa—it doesn't say when; but from his photograph he looks about forty or forty-five. He went to college and the University of Iowa, studied the English Renaissance, got a degree at Oregon. He has written poems, a book called *Sioux Songs*, one about Custer, and a couple of others. Not much help.

We skipped to the last story, which turned out to be about a graveyard that people were fighting about. Townfolk claimed it should be bigger, but the farmer who owned the adjacent land said the town had taken enough land from the countryside for houses and roads. The mayor

reproached the farmer, saying, "Are you the kind of man who would punish the dead?" The farmer got out of that with a joke. "Let the dead bury the dead," he said. For six weeks the old people in the town stopped dying. They didn't want to be cremated or shipped to some distant cemetery. The mayor got nervous because an election was coming up. Would the farmer accuse him of running on a graveyard ticket? The editor of the local newspaper printed cartoons showing graves with triple-decker burials, and proposed pre-death diets to make people thinner so they would take up less room in the ground.

Well, the mayor had a heart attack, so the farmer gave in and sold the land for a good price. Everybody helped the mayor to be elected again, and he got well; and then, to confirm the good judgment of all, a dozen old people up and died within a week. Of the enlarged graveyard, the mayor said: "It's a stopgap measure. Life is not made up of permanent solutions."

We have for review from the State University of New York Press, Albany, a book called *Electromagnetism and Life*, by Robert O. Becker and Andrew Marino (\$39.50 in cloth, \$13.95 in paper). Did you know that small magnetic fields play a part in the phenomena of life? The authors say in their Preface:

The earth has a natural electromagnetic background, produced by the earth itself and by cosmic sources, and the age-old question as to whether this background can be detected by living organisms has now been answered in the affirmative—the earth's electromagnetic background is an important environmental factor for all living things. Clinical uses of electromagnetic energy are increasing and promise to expand into important areas in the near future.

But the coin has another side. The environment is now thoroughly polluted by man-made sources of electromagnetic radiation with frequencies and magnitudes never before present. Man's activities have probably changed the earth's electromagnetic background to a greater degree than they have changed any other natural physical attribute of the earth—whether the land, water, or atmosphere. The

evidence now indicates that the present abnormal electromagnetic environment can constitute a health risk.

This is a round-up book intended for the general reader, and since it is basically scientific, specialized knowledge is involved. A proper review would call for a specialist reviewer, which MANAS writers are not. But we were glad to see that the text is peppered with "probablys" and "it is thought's" when scientific conclusions are given. We have only one or two things to pick about. First, not enough seems said about the importance of the work of H.S. Burr and the implications of his electrodynamic theory of life, comparable, perhaps, to field theory in physics. The field, apparently, governs many vital processes such as the healing of wounds, ovulation, and the multiplication of cells according to the pattern of the whole. Even cancerous growths are anticipated by changes in electrical patterns before changes in the tissues become evident. One other complaint is the absence from the index of reference to Abrams, who invented the therapy known as radionics. He is said to have been "discredited," which may account for the omission, but those who have been helped by the treatment he devised may have another view. In general, however, this book seems both thorough and informing.

COMMENTARY

A DIAGNOSIS

WHAT is wrong with the schools? If we take for diagnosis the material supplied in this week's "Children," by Richard Feynman, the answer is plain enough: the bureaucratic mentality. That is what is wrong with the schools. Feynman exposed this flaw to the members of his branch of the California Curriculum Commission; they were embarrassed but they couldn't do anything about it. Nobody can do anything about the bureaucratic mentality except never delegate to it jobs that require the responsible exercise of individual judgment, which is almost by definition beyond the scope of bureaucratic intelligence. But we have, we say, a *mass* society, and it is impossible to conduct the affairs of a mass society without dozens of large bureaucracies. And that is correct. So we are, for the time being, stuck with all the weaknesses which the control by bureaucracy inevitably produces.

John Holt understands this, Feynman understands it, and E. F. Schumacher understood it. Holt says: Teach your children at home. Feynman wished his students at Cal Tech the good luck of finding a situation in which they would free to practice the integrity he believes in and practices himself. Schumacher said that the only solution is to work in small organizations and groups that need little or no bureaucracy, leaving the imagination and the moral sense free to be exercised.

Perhaps we should add a kind word or two for bureaucracies, since they are so universally condemned. A bureaucracy is the area of habit and conformity where the simple arithmetic of life is worked out and applied. It is the organization's "instinct" and is absolutely necessary. You do not give instinct the tasks of leadership—not if you know what you are doing. Leadership designs molds, and bureaucracy follows what has been modelled for it by humans of imagination. A bureaucrat who gets a good idea must step out of

the ranks and move to a higher level in order to get it applied. Below he is only a troublemaker; above he is "creative."

The best men and women of our time are those who are working out human and social and economic relationships where the need for bureaucracy is at a minimum. The creation of these relationships is the art of the future. Meanwhile, there is no point in expecting bureaucracy to accomplish what it cannot possibly do.

CHILDREN ... and Ourselves LEARNING SCIENCE

LOUIS AGASSIZ, who began teaching zoology at Harvard in 1847, knew more about education than anyone else on the scene at that time. The way to all learning, he maintained, was to know something well. One of his students, Samuel Scudder, later a famous entomologist, has described his first encounter with Agassiz. When he arrived at the laboratory, ready to go to work, Agassiz gave him a dead fish "to look at." This "looking" went on for three days. Scudder relates:

In ten minutes I had seen all that could be seen in that fish. . . . Half an hour passed—an hour—another hour; the fish began to look loathsome. I turned it over and around; looked in the face—ghastly; from behind, beneath, above, sideways, at three-quarters view—just as ghastly. I was in despair.

I might not use a magnifying glass; instruments of all kinds were interdicted. My two hands, my two eyes, and the fish: it seemed a most limited field. I pushed my finger down its throat to feel how sharp the teeth were. I began to count the scales in different rows, until I was convinced that that was nonsense. At last a happy thought struck me—I would draw the fish, and now with surprise I began to discover new features in the creature.

When Agassiz returned and listened to the student's report, he just said, "Look some more." Years later Scudder declared that "Look, look, look," was the best lesson he ever had. Others agreed. The names of the students who learned from Agassiz would make a good beginning of a who's who of eminent nineteenth-century scientists.

This first rule of learning to be a scientist apparently doesn't change. One of the most eminent of present-day theoretical physicists, Richard Feynman of Cal Tech, taught himself this rule. He tells what happened in a recent book, *"Surely You're Joking, Mr. Feynman!"* (Norton). As a boy Feynman had his own "lab" where he did experiments and made things. He had a microscope with which he loved to watch things. He relates:

One day I was watching a paramecium and I saw something that was not described in the books I got in school—in college, even. These books always simplify things so the world will be more like *they* want it to be. When they're talking about the behavior of animals, they always start out with, "The paramecium is extremely simple; it has a simple behavior. It turns as its slipper shape moves through the water until it hits something, at which time it recoils, turns through an angle, and then starts out again."

It isn't really right. First of all, as everybody knows, the paramecia, from time to time, conjugate with each other—they meet and exchange nuclei. How do they decide when it's time to do that? (Never mind; that's not my observation.)

I watched these paramecia hit something, recoil, turn through an angle, and go again. The idea that it's mechanical, like a computer program—it doesn't look that way. They go different distances, they recoil different distances, they turn through angles that are different in various cases; they don't always turn to the right; they're very irregular. It looks random, because you don't know what they're hitting; you don't know all the chemicals they're smelling, or what.

One of the things I wanted to watch was what happens to the paramecium when the water that's in it dries up. It was claimed that the paramecium can dry up into a sort of hardened seed. I had a drop of water on the slide under my microscope, and in the drop was a paramecium and some "grass"—at the scale of the paramecium, it looked like a network of jackstraws. As the drop of water evaporated, over a time of fifteen or twenty minutes, the paramecium got into a tighter and tighter situation: there was more and more of this back-and-forth until it could hardly move. It was stuck between these "sticks," almost jammed.

Then I saw something I had never seen or heard of: the paramecium lost its shape. It could flex itself, like an amoeba. It began to push itself against one of the sticks, and began dividing into two prongs until the division was about halfway up the paramecium, at which time it decided *that* wasn't a very good idea, and backed away.

So my impression of these animals is that their behavior is much too simplified in the books. It is not so utterly mechanical or one dimensional as they say. They should describe the behavior of these simple animals correctly. Until we see how many dimensions of behavior even a one-celled animal has,

we won't be able to fully understand the behavior of more complicated animals.

Years later, following the war, after Feynman had worked on the atom bomb at Los Alamos and Oak Ridge, and he had decided not to try to help the military with his counsels, because he found that the military was not interested in the things he knew about, he was asked to serve on the California Curriculum Commission, which chooses all the school books used in the California public schools. The members of the Commission advise the selection of the texts. Feeling that he ought to do a little public service, Feynman agreed to be on the commission. Then, one day, he had a phone call informing him that three hundred pounds of books would soon be delivered to his home. He felt overwhelmed, but the man on the phone told him not to worry. "We'll get someone to help you to read them," he said. Feynman mused:

I couldn't figure out how you *do* that: you either read them or you don't read them. I had a special book shelf put up in my study downstairs (the books took up seventeen feet), and began reading all the books that were going to be discussed in the next meeting. We were going to start out with the elementary schoolbooks.

Every now and then, his wife upstairs would hear him explode.

The reason was that the books were so lousy. They were false. They were hurried. They would try to be rigorous, but they would use examples (like automobiles in the streets for "sets") which were *almost* OK, but in which there were always some subtleties. The definitions weren't accurate. Everything was a little bit ambiguous—they weren't *smart* enough to understand what was meant by rigor. They were faking it. They were teaching something they didn't understand, and which was, in fact, *useless*, at that time, for the child.

He gets in some good licks on the New Math, introduced at that time, intended to speed math education up to catch the Russians and their Sputnik, but again, the books were simply useless—"UNIVERSALLY LOUSY" he calls them. Then came the first meeting of the Commission and he was asked to give his ratings on the books he had read. The other members found that he had *reasons*

for giving low ratings and kept asking him to explain. He did. He had notes. They came to a book which was part of a set of three: What did he think about that one?

I said, "The book depository didn't send me that book, but the other two were nice." . . . The man from the book depository was there, and he said, "Excuse me; I can explain that. I didn't send it to you because the book hadn't been completed yet. There's a rule that you have to have every entry in by a certain time, and the publisher was a few days late with it. So it was sent to us with just the covers, and it's blank in between." . . .

It turned out that the blank book had a rating by some of the other members! They couldn't believe it was blank because they had a rating. In fact, the rating for the missing book was a little bit higher than for the two others. The fact that there was nothing in the book had nothing to do with the rating.

I believe the reason for all this is that the system works this way: When you give books all over the place to people, they're busy; they're careless; they think, "Well, a lot of people are reading this book, so it doesn't make any difference," and they put in some kind of number—*some* of them, at least; not all of them, but *some* of them. Then when you receive your reports, you don't know *why* this particular book has fewer reports than the other books—that is, perhaps one book has ten, and this one has only six people reporting—so you average the rating of those who reported; you don't average the ones who didn't report, so you get a reasonable number. This process of averaging all the time misses the fact that there is absolutely nothing between the covers of the book.

The Commission was embarrassed, but nothing was done about changing the system. What could they do? Eventually, Feynman resigned. What *else* could he do?

Well, even more awful things came out of this experience with public education, but the consensus seemed to be that if this is the way everybody else picks books and does things, it's good enough for us. But Feynman is a scientist by preference, schooling, and self-education, so he quit. Do read his book, and see what you think you, whether or not you have children, ought to do.

FRONTIERS A Good Man

A BACK issue of the *Nation* (Jan. 21 of this year), which should have received attention months ago, has a three-page review of a recent book on Dwight Macdonald that we hope readers will look up—the book, of course, which is *A Critical American* by Stephen J. Whitfield (Archon, \$19.50), but also, and even more, the review, which picks out things to emphasize that the book neglects.

Why is Macdonald important? Part of the answer is given by the reviewer, Casey Blake, who teaches history at Reed College, in his closing paragraph:

. . . Macdonald's insistence on the interconnections between culture and politics, between personality and society and between human agency and radical change remain the starting point for all current discussions of where we should go next. With the revival of the cold war, the left needs more than ever to heed voices such as his, voices that ask uncomfortable questions and take up positions that often have no official defenders. The real test of the intellectual left in the coming years will be its ability to stand aside amid the reruns of the ideological cold war and to resist (perhaps more consistently than Macdonald did) the clamor to take up sides once again.

Mr. Blake recommends—

. . . turning to "The Root Is Man," *Memoirs of a Revolutionist* and other documents in the proudly unorthodox tradition of American radical thought, and sorting out their legacy. If that seems like an irresponsible avoidance of concrete proposals and programs, well, there are worse things radical intellectuals could do in a period of isolation and powerlessness. At its best, a self-critical left might answer Macdonald's stirring call to arms at the conclusion of "The Root Is Man":

"We must emphasize the emotions, the imagination, the moral feelings, the primacy of the individual human being once more, must restore the balance that has been broken by the hypertrophy of science in the last two centuries. The root is man, here and not there, now and not then."

These words appeared in the July 1946 *Politics*, the magazine Macdonald founded in 1944 when he left the *Partisan Review*. The first part of "The Root Is Man" had come out in the April issue. It so happened that the MANAS editors, who started the paper in 1948, had been readers of *Politics* since the first issue in February, 1944, and the early volumes of MANAS quote a great deal from Macdonald and his contributors, among whom were Simone Weil, C. Wright Mills, and Paul Goodman. A few years later the MANAS editors decided that the best of Macdonald's writing ought not to languish in the back numbers of a magazine file, and offered to bring out the "Root" articles and an earlier piece, "The Responsibility of Peoples" (from the March, 1945 *Politics*), on the German Death Camps, together as a book. They made sixty-four pages of a nine by twelve volume, with a foreword by Macdonald. The publisher (in 1953) was the Cunningham Press in Alhambra, California, a printing concern founded by the MANAS editors in 1947 to produce MANAS and to help support it if necessary. (It was necessary; a paper like MANAS, whose expenses inevitably exceed income from subscriptions, always runs out of money.) Well, the book came out—handsome if we do say so—and copies were sent out to magazines around the country, but there were only two reviews, and it just didn't sell. So we used the copies in other ways, often as gifts. The inventory of *Root*, which was not large, became the property of MANAS when the print shop was sold to the employees a few years ago. Today, something over a hundred copies (in paperback) are still on the shelf and may be purchased at \$4.00

What is "The Responsibility of Peoples" like? Here is a concluding passage:

"Modern war," wrote Simone Weil, "appears as a struggle led by all the State apparatuses and their general staffs against all men old enough to bear arms. . . . The great error of nearly all studies of war . . . has been to consider war as an episode in foreign

policies, when it is especially an act of interior politics, and the most atrocious act of all."

The common peoples of the world are coming to have less and less control over the policies of "their" governments, while at the same time they are being more and more closely identified with those governments. Or to state it in slightly different terms: as the common man's *moral* responsibility diminishes (assuming agreement that the degree of moral responsibility is in direct proportion to the degree of freedom of choice), his *practical* responsibility increases. Not for many centuries have individuals been at once so powerless to influence what is done by the national collectivities to which they belong, and at the same time so generally held responsible for what is done by those collectivities.

It is as Casey Blake puts it in the *Nation*: "Even today, Macdonald's best reads as if it had just been written." Whitfield, the author of the new book on Macdonald, misses the importance of "The Root Is Man," thinking it dated and lifeless, whereas Blake recognizes that this essay contains Macdonald's "important distinction between 'progressive' and 'radical' politics," which he quotes:

The Progressive makes history the center of his ideology. The Radical puts Man there. The Progressive's attitude is optimistic both about human nature . . . and about the possibility of understanding history through scientific method. The Radical is, if not exactly pessimistic, at least more sensitive to the dual nature of man; he sees evil as well as good at the base of human nature; he is skeptical about the ability of science to explain things beyond a certain point; he is aware of the tragic element in man's fate not only today but in any conceivable kind of society.

Another aspect of Macdonald's thought or character is revealed by what he wrote about Gandhi in *Politics* (Winter, 1948) a year or so after the assassination of the Indian leader.

Gandhi was the last political leader in the world who was a person, not a mask or a radio voice or an institution. The last on a human scale. The last for whom I felt neither fear nor contempt nor indifference but interest and affection. He was dear to me—I realize it now better than I did when he was alive—for all kinds of reasons. He believed in love, gentleness, persuasion, simplicity of manners, and he came closer to "living up to" these beliefs than most

people I know—let alone most Big Shots, on whom the pressures for the reverse must be powerful. . . . He was dear to me because he had no respect for railroads, assembly-belt production, and other knick-knacks of liberalistic Progress and insisted on examining their human (as against their metaphysical) value. Also because he was clever, humorous lively, hard-headed, and never made speeches about Fascism Democracy, the Common Man, or World Government. And because he had a keen nose for the concrete, homely "details" of living which make the real difference to people but which are usually ignored by everybody except poets. And finally because he was a good man, by which I mean not only "good" but also "man."