

BLIGHT AND DELIGHT

AN old Persian maxim declares: "Truth is of two kinds—one manifest and self-evident; the other demanding incessantly new demonstrations and proofs." It was the reading through of a daily newspaper—one of the better ones—which recalled this ancient verity, its present application being that reading the paper is an inordinate waste of time. Yet this must be admitted again and again. What conclusion does one reach after reading the paper? Well, you usually get a vague, insecure feeling that something ought to be made to happen in some part of the world, followed by immediate recognition that you can do absolutely nothing to bring it about. And then you might reflect that if you really "researched" the matter, you'd probably change your mind.

Reading the paper is an exercise in passivity. What sort of "action," after all, is called for by learning that area experts now believe that Marxist notions are slowly spreading throughout the Caribbean region, and that Fidel Castro is still a popular figure in that part of the world, even though Cuba hasn't solved the problems of its mono-crop(sugar) economy? And are we really better informed for life by finding out that the Salvadoreans have murdered a respected Bishop, or that Basque "separatist guerrillas" have shot another Spanish businessman, the third killing in twenty-four hours—the thirty-first of their political assassinations so far this year?

It goes on and on. The Iranians are angry because the Shah found refuge in Egypt, Chinese authorities have warned that Communist Party members must not have any religion, the new president of Uganda has announced that henceforth his country will be a one-party state, and a California school district painfully announced that a needed new school cannot be built because nobody wants to buy bonds that pay only eight per cent, and a state law prohibits

school bonds that pay more. Portland, Oregon, wants to penalize people who won't insulate their homes, and a politician in Illinois, who is appealing his conviction of income tax fraud, believes he should remain in office until the courts finish with him.

So, the truth that needs "incessant" repetition—in a fifty-six-year-old version by G. K. Chesterton—is this:

Newspapers not only deal with news, but they deal with everything as if it were entirely new. Tut-ankh-amen, for instance, was entirely new. It is exactly in the same fashion that we read that Admiral Bangs has been shot, which is the first intimation we have that he has ever been born. There is something singularly significant in the use which journalism makes of its stores of biography. It never thinks of publishing the life until it is publishing the death. As it deals with individuals it deals with institutions and ideas. After the Great War our public began to be told of all sorts of nations being emancipated. It had never told a word about their being enslaved. We were called upon to judge of the justice of the settlements, when we had never been allowed to hear of the very existence of the quarrels. People would think it pedantic to talk about the Serbian epics and they prefer to speak in plain every-day language about the Yugo-Slavonic international new diplomacy; and they are quite excited about something they call Czecho-Slovakia without apparently having heard of Bohemia. Things that are as old as Europe are regarded as more recent than the very latest claims pegged out on the prairies of America. It is very exciting; like the last act of a play to people who have only come into the theatre just before the curtain falls. But it does not conduct exactly to knowing what it is all about.

In our own time criticism has become more incisive. In the *Nation* for March 1 Neil Postman examines the collective ill he calls "Television News Narcosis." He begins by noting that in the TV trade news programs are called *shows*—a giveaway, he thinks.

A show implies an entertainment, a world of artifice and fantasy carefully staged to produce a particular series of effects so that the audience is left laughing or crying or stupefied. This is exactly the business of a news show, and it is puffery to claim, as producers do when they accept their Emmy Awards, that the purpose of such shows is to make the public knowledgeable.

They certainly have no such intent.

Moreover—

whatever else one may say for or against TV news shows, it is clear that the audience can do practically nothing about the things it is shown or told. If knowledge is power, if the function of information is to modify or provide direction to action, then it is almost precisely time that TV news shows give nearly no information and even less knowledge. Except of course through their commercials. One can be told about Bounty, Braniff and Burger King, and then do something in relation to them.

A sample program:

On a recent CBS show (February 4, 11:00 P. M.), it went like this: 264 seconds for a story about bribery of public officials; thirty-seven seconds for a related story about Senator Larry Presler; forty seconds about Iran; twenty-two seconds about Aeroflot; twenty-eight seconds about a massacre in Afghanistan; twenty-five seconds about Muhammed Ali; fifty-three seconds about a New Mexico prison rebellion; 160 seconds about protests against the film *Cruising*; eighteen seconds about the owners of Studio 541; eighteen seconds about Suzanne Somers; sixteen seconds about the Rockettes; 174 seconds for an "in-depth" study of depression (Part I); twenty-two seconds about Lake Placid; 166 seconds for the St. John's-Louisville basketball game; 120 seconds for the weather; 100 seconds for a film review.

Mr. Postman comments:

This way of defining the "news" achieves two interesting effects. First, it makes it difficult to think about an event, and second, it makes it difficult to feel about an event. By thinking, I mean having the time and motivation to ask oneself: What is the meaning of such an event? What is its history? What are the reasons for it? How does it fit into what I know about the world? By feeling, I mean the normal human responses to murder, rape, fire, bribery and general mayhem. During a recent survey I conducted, I was able to identify only one story to which audiences responded with recollectable feeling of disgust or

horror: the burning to death of a "demon-possessed" baby by its mother.

Wonderingly, the writer asks who or what decides that the St. John's game is worth 120 seconds, and Iran only forty, and what relation there may be between bribed officials and the Rockettes. The commercials on the Feb. 4 show took almost ten minutes—twenty-one of them.

Given such juxtapositions, what is a person to make of the world? How is one to measure the importance of events? What principles of conduct are displayed, and according to what scheme of moral order are they valued? To any such questions the TV news show has this invariable reply: There is no sense of proportion to be discerned in the world. Events are entirely idiosyncratic; history is irrelevant; there is no rational basis for valuing one thing over another.

Indeed, one cannot even find in this world-view a sense of contradiction. Otherwise, we would not be shown four commercials celebrating the affluence of America, followed by the despair and degradation of prisoners in a New Mexico jail. One would have expected the news reader at least to wink, but he took no notice of what he was saying.

What it all adds up to is that a TV news show is a form of absurdist literature which nightly instructs us on how we shall see the day. Here is your window on the world, we are told. It will reveal to you the fevered discontinuities of modern times. You need not think much about them, feel much about them, or even remember the details. There is nothing you can do about this. No need to be depressed. Pan Am will fly you to Hawaii for \$60 down, the rest to be paid later.

It would appear that reading the paper or watching the "news" is worse than a waste of time—it's pollution! Well, Mr. Postman keeps track of the news shows, if only to tell us what is wrong with them, and he no doubt reads the papers, too, for the same reason. Having such critics, so alert to the worthlessness of the programs, should we give the media any time at all? Is it important, these days, to be aware of what is claimed to be "going on"? The question might indicate the value of a small experiment: let your subscription to the newspaper lapse for two weeks, or even a month, to see how much the

resulting isolation matters; you may decide that a weekly is all you need, and even this, one may recall, proved too much for Thoreau.

Oh, Thoreau! You'd expect that of Thoreau. But if Thoreau was some kind of nut, why do so many people keep on reading him? Why has his strange kind of sense survived so well? He's wonderful, but unbelievable, people say, because they've never run into anyone like him. A pity for us all. He would probably explain that too much reading of the papers is the reason there are not more like him. "Thus men will lie on their backs," he mused, "talking about the fall of man, and never make effort to get up."

Thoreau's reasons for ignoring the media go further than the other critics we have quoted, despite their iconoclastic attainments. He said (in "Life without Principle," in the *Atlantic Monthly* for October, 1863):

I do not know but it is too much to read one newspaper a week. I have tried it recently, and for long it seems to me that I have not dwelt in my native region. The sun, the clouds, the snow, the trees say not so much to me. You cannot serve two masters. It requires more than a day's devotion to know and possess the wealth of a day.

We may well be ashamed to tell what things we have read or heard in our day. I do not know why my news should be so trivial,—considering what one's dreams and expectations are, why the developments should be so paltry. . .

All summer, and far into the autumn, perchance, you unconsciously went by the newspapers and the news, and now you find it was because the morning and the evening were full of news to you. Your walks were full of incidents. You attended, not to the affairs of Europe, but to your own affairs in Massachusetts fields. If you chance to live a move and have your being in that thin stratum in which the events that make the news transpire,—thinner than the paper on which it is printed,—then these things will fill the world for you; but if you soar above or dive below that plane, you cannot remember nor be reminded of them. Really to see the sun rise or go down every day, so to relate ourselves to a universal fact, would preserve us sane forever. Nations! What are nations! Tartars, and Huns, and Chinamen! Like insects they swarm. The historian strives in vain to

make them memorable. It is for want of a man that there are so many men. It is individuals that populate the world.

Thoreau sets his sights high, not because he ought to but because he wants to. His morality is his taste:

Not without a slight shudder at the danger, I often perceive how near I had come to admitting to my mind the details of some trivial affair,—the news of the street; and I am astonished to observe how willing men are to lumber their minds with such rubbish,—to permit idle rumors and incidents of the most insignificant kind to intrude on ground that should be sacred to thought. Shall the mind be a public arena, where the affairs of the street and the gossip of the tea-table are discussed? Or shall it be a quarter of heaven itself,—an hypæthral [unroofed] temple, consecrated to the service of the gods? . . . Think of admitting the details of a single case of the criminal court into our thoughts, to stalk profanely through their very *sanctum sanctorum* for an hour, ay, for many hours! to make a very bar-room of the mind's most inmost apartment, as if for so long the dust of the street had occupied us,—the very street itself, with all its travel, its bustle, and filth, had passed through our thoughts' shrine! Would it not be an intellectual and moral suicide? . . .

If we have thus desecrated ourselves,—as who has not?—the remedy will be by wariness and devotion to reconsecrate ourselves, and make once more a fane of the mind. We should treat our minds, that is, ourselves, as innocent and ingenuous children, whose guardians we are, and be careful what objects and what subjects we thrust on their attention. Read not the Times. Read the Eternities. Conventionalities are at length as bad as impurities. Even the facts of science may dust the mind by their dryness, unless they are in a sense effaced each morning, or rather rendered fertile by the dews of fresh and living truth. What sort of world is it that Thoreau would have us construct for ourselves? He says at the end of this essay:

What is called politics is comparatively something so superficial and inhuman, that, practically, I have never fairly recognized that it concerns me at all. . . . Those things which now most engage the attention of men, as politics and the daily routine, are, it is true, vital functions of human society but should be unconsciously performed like the corresponding functions of the physical body. They are *infra-human*, a kind of vegetation. I

sometimes awake to a half-consciousness of them going on about me, as a man may become conscious of some of the processes of digestion in a morbid state, and so have the dyspepsia, as it is called. It is as if a thinker submitted himself to be rasped by the great gizzard of creation. Politics is, as it were, the gizzard of society, full of grit and gravel, and the two political parties are its two opposite halves,—sometimes split into quarters, it may be, which grind on each other. Not only individuals, but states, have thus a confirmed dyspepsia, which expresses itself, you can imagine by what sort of eloquence. Thus our life is not altogether a forgetting, but also, alas! to a great extent, a remembering, of that which we should never have been conscious of, certainly not in our waking hours. Why should we not meet not always as dyspeptics, to tell our bad dreams, but sometimes as *eupeptics*, to congratulate each other on the ever-glorious morning? I do not make an exorbitant demand, surely.

It would be pretty hard to get an ideal community going with just a bunch of Thoreaus. They don't marry, you know. For a community you need children, and a lot of the kind of people who are happy doing what comes naturally, out on the land, instead of the people who write books. But how, after all, are you going to find out about those people without reading books? It's probably impossible, unless you make your own tour of rural country, locate them, live with them a while, and then write your own book. But they do exist. And a lot of them do without reading the papers a lot of the time.

Noel Perrin, who wrote *Giving Up the Gun* (reviewed in MANAS, March 5), is one who moved to the country fifteen years ago, and is still going strong as a combination farmer and writer. Naturally enough, he has written a book about what it's like. Happily, he doesn't say a word about the messes around the world, although he has a lot to say about central Vermont—things he has a part in himself. One chapter of *First Person Rural* (Godine, 1978) begins:

QUESTION: Why is Vermont more beautiful than New Hampshire? ANSWER: Because of Vermont farmers. Remove the farmers, and within ten years New Hampshire would surge ahead.

This is a serious argument. If you just consider natural endowment, the two states are both fortunate, but New Hampshire is more fortunate. It has taller mountains, it has a seacoast, it even owns the whole northern reach of the Connecticut River, except a little strip of mud on the Vermont side.

But New Hampshire's farmers mostly quit one to two generations ago and started running motels or selling real estate. The result is that most of New Hampshire is now scrub woods without views. Dotted, of course, with motels and real estate offices.

A lot of Vermont farmers, however, are holding on. Almost every farmer has cows, and almost every cow works night and day keeping the state beautiful. Valleys stay open and green, to contrast with the wooded hills behind them. Stone walls stay visible, because the cows eat right up to them. Hill pastures still have views, because the cows are up there meditatively chewing the brush, where no man with a tractor would dare to mow. (That's the other argument for butter besides its taste. I once figured that every pound of butter or gallon of milk someone buys means that another ten square yards of pasture is safe for another year.)

What you find out from this book is how an ordinary (not really ordinary) American begins to find out how to do things himself, enlarging his plastic potency. We don't know what he reads in his spare time, but it's not likely to have the same effect on him as reading the daily paper in the city. His polarity has changed a bit.

There is a lot of reading which fits in with this sort of life. We should say that this life is not limited to rural Vermont, but in speaking of these things the outdoor life makes a better symbol of what we are trying to get at. The same thing is quite possible in the city. The subtitle of *The Integral Urban House* (Sierra Club, 1979), by the staff of the Farallones Institute in Berkeley, Calif., is "Self-Reliant Living in the City." A book like that might prove more important reading than nearly all the current news stories that get printed. Along with five hundred pages of useful information are passages like this:

Once at a Farallones Institute staff meeting to discuss the future direction of the Institute Max Kroschel made the comment that for himself, he was

out to develop a bioethic, not just build a little hardware to help him over the rough spots of an energy or resource crisis. This same objective motivated us when we first conceived of the integral urban house idea. Whatever such a home might be, it is not merely a collection of solar or energy-saving devices, or even a backyard garden to help save on high food prices. Those components are admirable, but, as we have pointed out before, collected together they are not an integral urban house. . . . the emergent quality of the system we were hoping to create in the Integral Urban House can thus be restated as the overall objectives in our design plan for the project:

1. To encourage a way of living that minimizes negative impact on the larger environment.

2. To provide a habitat that promotes as much self-reliance as possible, given the constraints of climate, urban lifestyles, and varying individual circumstances such as income, family structure, health, and personal aesthetics.

Such ventures, as they come to fruition, should give currency to another kind of "news."

REVIEW

THE WATERING OF CALIFORNIA

WATER, air, fire or heat. and earth are the primal factors necessary to produce and sustain life. No one of these materials alone is sufficient; all four are necessary. But they must be brought together and combined, and the combining agent is the plant. The plant, through photosynthesis, produces from these elements the food to support all life on the planet. Water, a basic requirement of the plant, is necessary for virtually all chemical reactions and biological processes. It can be said that water is to this earth as blood is to our body: each nourishes, sustains, and carries away impurities in a system of circulation. So water has been called "the blood of the earth."

The space age has shown the earth to be the "water planet" of the solar system. But the quantity of water in all its forms has for practical purposes remained fixed since the formation of the globe. We have used the same water over and over again, requiring only that it be purified for re-use. This purification is accomplished by the hydrological cycle in which water rises by evaporation from the great oceans, and then, as vapor, is carried by air currents over the land masses where it is precipitated as rain and snow. Most of the water on the earth is unavailable for use because of its salinity, or because it is held captive in the great ice caps, or filtered so deep within the earth as to be beyond recovery. Less than half of one per cent of the total water can be used directly to support human life. It is this minuscule amount that men have attempted to turn into property, to impound reservoirs, and to manage through elaborate collection and delivery systems. All the ancient civilizations of the drier areas of the globe have created water management systems. Remains of those systems may be seen today in Egypt, Greece, Rome, Europe, and the Americas.

Water management is necessary in any region where superabundance of it exists in one area,

with deficiency in another. A delivery system must be constructed from the area of plenty to the area of need; water storage facilities controlled flow must be provided; a wide variety of diverse consumer interests must be reconciled through a system of laws and policies. Organizations must be created to administer delivery and distribution; financing seeds and costs must be met. Water quality must be considered and maintained, and volume of use must be adjusted to existing or prospective supply. These are some of the problems of a complete water management system.

The state of California has within its borders all the conditions requiring an elaborate system of water gathering and distribution. Heavy precipitation occurs in the northwest, and the Cascade and Sierra Nevada mountains, but the drier areas of need, the rich agricultural San Joaquin and Imperial valleys, lie at a distance, requiring delivery of water. The major population centers are also apart from major water sources. Los Angeles, the largest desert city in the world, can be likened to that desert plant, the creosote bush, which thrives in a desert climate because its widespread root system near the surface catches the intermittent rainfall while its tap-roots penetrate to a distance of fifty or sixty feet to find a more permanent water supply. Thus, Los Angeles catches the local water supply by wells and flood control, while its tap-roots—the California Water Project, the Owens Valley Aqueduct, and the Colorado River Aqueduct—gather water from distant sources as far away as northern California, the eastern Sierra, and the Rocky Mountains in Wyoming and Colorado.

The state of California has published a most unusual book covering all aspects of water as it affects the welfare and growth of the state. *The California Water Atlas* was prepared by the Governor's Office of Planning and Research in cooperation with the Department of Water Resources. The editor of this valuable compendium is William L. Kahlrl. The title

description of "atlas," of a bound collection of maps, graphs, charts and photographic plates, does not fully convey the scope and importance of this work. As stated in the foreword, water is the biggest story in the state:

The history of the state is in large part the history of water development. The problems of water supply and delivery for the future are emerging among the critical issues facing not only California but the entire American Southwest over the next ten years. And yet, at a time when environmental consciousness is high and complex problems of world energy supply and international finance are part of the normal fare in our daily newspapers, water remains probably the least popularly understood of our natural resources.

There are good reasons for this. Water is an immensely complex subject which requires the mastery of many disciplines ranging from the practical sciences of hydrology, engineering, and chemistry to an understanding of history, social organization, and the law. . . . The atlas will not answer every question the reader may have. In fact, if our work has been done well, the reader should emerge after completing this book with many more questions than he ever thought to ask before. The atlas can, however, establish a context for understanding how those questions should be posed and where to turn for the answers. And it is by prompting this kind of inquiry that the atlas will succeed in its ultimate purpose of enhancing the opportunities for the people of California to take a direct role in shaping public policy in this critically important area.

The high quality of the presentation deserves comment. The format is equivalent to the best coffee-table publication, but its content has substance and depth. Aerial and satellite photographs reveal large areas of the state in a single picture. Screens of color on the illustrations identify features such as water bodies, vegetation and barren areas and give dramatic emphasis to selective information. These camera-on-satellite plates have an impact that no map or drawing could possibly contribute.

The graphics are stunning! Yet they are not to be understood at a glance. They must be studied and interpreted with due regard to color

shades, configurations, and other keys, and with thoughtful consideration for their implications. The text uses a water vocabulary which has been refined to accurate, economical expression through long use. But the language is not jargon and should be easily understood by the reader. The content of the book is a synthesis of all available water information pertaining to the State of California. This includes the accumulated experience of various Departments as well as the specialized background of twenty-three contributors in fields such as history, law, water sciences, economics, and geohydrology, to name only several.

The *Atlas* is a book of facts and only rarely and obscurely indicates any judgmental opinion as to the relative merits of contending interests and uses of water. The facts it presents are so great in number and varied in character that one can generalize only major impressions. All factors concerning water in the state are so interrelated that every aspect has a bearing on all other phases of water management. The uncertain weather pattern of the Pacific Ocean is shown as it impinges upon the 800 miles of California coastline to precipitate water over the land. The run-off of water follows the topography, which is graphically presented and described as forming water sheds, drainage patterns, and river systems. Superimposed on the state's natural storage and drainage systems is the artificial system of dams, reservoirs, canals, ditches, and wells. All these man-made facilities bring water to users—agricultural, commercial, industrial, residential and recreational. Each subject presentation is supported with factual data and a variety of illustrative material.

A non-partisan account is given of the play of the human factor in the story of water in California. The system constructed by men for the collection, control, and delivery of water—a system which is unique in the world—is a key to understanding the State. The human factor has two aspects. The constructive side enable the

state to grow in population and allowed that population to distribute itself according to individual preference rather than by proximity to natural water resources. Water management has enabled California to become the richest agricultural state in the nation and allowed the development of large-scale industry. The darker side is the rapacious exploitation of water as a resource and the unremitting clash of power between contending interests in the use of water. These power battles have involved individuals, regions, neighboring states, diverse interest groups, and governmental bodies at every level. There has never been a water project of any magnitude that has not been an arena of contention from its inception as an idea to its conclusion as finally constructed. All these elements are presently active in regard to proposed water projects such as the peripheral canal to divert the Sacramento River around its delta and thus retain the water for use.

A brief account is given of the exploitive use of water during the gold rush days. Hydraulic mining—requiring powerful jets of water under high pressure—gutted whole mountainsides. The resulting silt in the streams and rivers raised their beds, causing extensive flooding and contributing to the need for levees.

After the turn of the century the city of Los Angeles began to accumulate property and water rights in the Owens Valley for the purpose of diverting water to the city through an aqueduct which was completed in 1913. The city's role was one of capture through power, and the struggle involved gunfire and dynamiting before the Owens Valley was subdued. The comparable water project for San Francisco was the Hetch Hetchy dam and reservoir established in Yosemite National Park. This reservoir drowned a beautiful valley—approximately a half-size duplicate of the incomparable Yosemite—and effectively withdrew this area from public use in the National Park forever.

The Colorado River—sometimes called "the American Nile"—"has become one of the most litigated, regulated and argued about rivers in the world." The voracious use of Colorado River water by seven western states and by Mexico has had the surprising result that "there has been almost no flow to the Gulf of California since 1961." The construction by Los Angeles of the Colorado aqueduct, completed in 1941, involved years of negotiation and litigation among the seven states, which entered into mutual treaties like nations. At one point the State of Arizona sent a ridiculous little navy of armed men against California construction crews who were building facilities for the aqueduct.

Ground water in the San Joaquin Valley is being depleted at a rate of 2 per cent per year by the pumping of wells, and 10,000 new wells were drilled by desperate farmers during the 1976-77 drought. At the present time, due to additional diversion of water from Mono Lake on the east side of the Sierra, the city of Los Angeles has so lowered the lake level that an entire eco-system is endangered.

The *Atlas* makes clear that the halcyon days of meeting water needs from "new sources" are over. Whatever the future growth of the state, the existing supply must suffice, and this will be possible only by conservation, reclamation of used water, by preventing the chemical contamination of wells (occurring recently throughout the Los Angeles Basin), and by not growing water-demanding crops such as rice. The verdict of the *California Water Atlas* is inescapable—the future of the state will depend on meticulously intelligent and efficient use of its limited water supply

The *Water Atlas* is available from William Kaufmann, Inc., 1 First Street, Los Altos, CA 94022, for \$37.00, plus \$2.50 for shipping, and a 6 per cent sales tax for Californians.

COMMENTARY

EARLY CHAMPION OF FORESTS

THE beneficent and stabilizing effect of forests on climate and water supply has long been known, although not, perhaps, in terms of the statistical refinement of Richard St. Barbe Baker's account, given in this week's *Frontiers*. In his *Man and Nature*, first published in 1864, George Perkins Marsh, America's first great ecologist, made his chapter on forests the longest in the book—250 pages. Marsh was a Vermont lawyer and statesman, but at heart he was a scholar. Master of twenty languages by the time he was thirty, he devoted most of his life to study of the effects of human action on the natural environment. Appointed as Minister to Italy by Abraham Lincoln in 1861, he devoted his leisure, which was ample, to collecting what Stewart Udall has called "a veritable encyclopedia of land facts." A European reviewer of that time said his book had "the force of a revelation." Marsh was an informed and eloquent writer:

When the forest is gone, the great reservoir of moisture stored up in its vegetable mould is evaporated. . . . The well-wooded and humid hills are turned to ridges of dry rock. . . . the whole earth, unless rescued by human art from the physical degradation to which it tends, becomes an assemblage of bald mountains, of barren, turfless hills, and of swampy and malarious plains. There are parts of Asia Minor, of Northern Africa, of Greece, and even of Alpine Europe, where the operation of causes set in action by man has brought the face of the earth to a desolation almost as complete as that of the moon.

Advocates of steady-state economics will appreciate Marsh's closing words to his countrymen in the chapter on Woods:

It is time for some abatement in the restless love of change which characterizes us, and makes us almost a normal rather than a sedentary people. We have now felled forest enough everywhere, in many districts far too much. Let us restore this one element of material life to its normal proportions, and devise means of maintaining the permanence of its relations to the fields, the meadows, and the pastures, to the rain and dews of heaven, to the springs and rivulets

with which it waters the earth. The establishment of an approximately fixed ratio between the two most broadly characterized distinctions of rural surface—woodland and ploughland—would involve a certain persistence of character in all branches of industry, all the occupations and habits of life, . . . would . . . help us to become, more emphatically, a well-ordered and stable commonwealth, and, not less conspicuously, a people of progress.

CHILDREN

. . . and Ourselves

PERIODICAL REVIEW

THE AMERICAN SCHOLAR continues to be about the best magazine we see regularly, and we probably read it more carefully than any other. It is never stuffy; the contributors have a mellow maturity, with a high grade of humor. It comes out four times a year, allowing ample time for absorbing each issue. All its content bears on education, but in pleasantly diverse ways.

An example is the essay by René Dubos in the Spring 1980 issue. (He is in every issue, as "The Despairing Optimist.") Dr. Dubos writes seriously, but he never pushes or pulls the reader. In this discussion, which begins with examples of the various messes industrial or technological societies have created—both practical and cultural—he ends by saying:

Schumacher's phrase "Small is beautiful" achieved such rapid and widespread acceptance and popularity that it must correspond to some deep human longing in particular to a desire for greater simplicity and decentralization. Most people feel that institutions must be reorganized on a more human scale so that they can be more readily comprehended by the human mind. . . .

The history of the past two hundred years demonstrates, beyond a doubt, that technological societies know how to create wealth; but their ultimate success will depend upon their ability to formulate a humanistic culture which is compatible with industry. The shift from obsession with quantitative production of material goods to the achievement of a better life will require changes not only in the attitudes of adults but, perhaps even more in the philosophy of education. Ever since the Industrial Revolution society has placed a premium on the kind of intelligence best suited to the invention of manufactured articles, and to their production on a large scale. In contrast, a humanistic society would prize more highly the understanding of human relationships and of the interplay between humankind, nature, and technology. The most valuable people then might be, not those who are the most productive of material wealth, but rather those who have the gift to spread goodwill and happiness—

a gift that may be largely innate but that can be cultivated and enhanced by experience and education.

How, one wonders, do you go about cultivating this gift? Choosing for teachers those who already have it, and letting the rest go would be one way. Attitudes are communicated by subtle means. A certain warmth of heart, illuminated by discipline of mind, is the result. One thinks particularly of Karl Polanyi. It is impossible to absorb his thinking about economics without being affected by his spirit. He maintained that economic functions should be a part—a subordinate part—of the processes of human community, a governed, not a governing part, as it is today. This might involve, for a start, not to submit to the designation "Industrial Society," as though industry is the defining aspect of human community. Industrial man is an obsessive, aberrant conception, so we should declare the project to be the adaptation of the activities of *Homo faber* to the vision of *Homo sapiens*, not the other way around. This means full acknowledgment that the technological society is not here to stay, that it must be altered from the ground up. Pioneers are already working at the ground level, and would make the best teachers. Fortunately, some of them write books. Dr. Dubos' concluding paragraph hints at this:

It is not likely that such a profound change in educational goals can be achieved by decrees from central authorities. The most promising approach would seem to be the creation of experimental program—the successful ones serving as example—and eventually the creation of a new consensus. One of the main defects of rigid institutional systems is that they resist innovations and tend to regard experiments as deviations and threats, or at best as eccentricities. And yet societies can adapt to new conditions and really progress only by encouraging experiments and giving license to take risks, whether in technology, employment policies, land use, health, or education. In fact, this is the way nature proceeds to achieve adaptation and evolution. Nature is not efficient; it is redundant. It always tries to do things in many different ways. I believe that industrial nations will have to follow a similar course if they want to be successful—to really improve human life instead of simply producing more material wealth.

They will have to devise many different ways to approach problems instead of depending on the decisions of a few specialists—because specialists tend to be concerned primarily with efficiency rather than the creative diversity which is essential for the full development and expression of human beings.

Here is the tail-end of another *Scholar* article, this one by Aristides, in which the writer has garrulously recounted failures and oddities of memory—mostly his own:

Santayana thought "inheritance and memory make human stability," and in *The Life of Reason* he wrote: "In endowing us with memory nature has revealed to us a truth utterly unimaginable to the unreflective creation, the truth of mortality." Others have felt that memory, with the ability it bestows to allow a person to live vividly away from his body and immediate environment, is a possible sign of the ability to continue to live after the body has disappeared. I am not ready to argue that this is true, but it is a point I do not intend to forget.

Curiously, at this level of inquiry what is compelling evidence for one person means little or nothing to another. Was Coleridge right? Is there a philosophic organ which in some is well developed, in others hardly at all? Conceivably, conscious immortals—if any can be found who admit to this identity—do not think it at all odd that memory should be taken as clear evidence of a life after death.

Of the greatest charm, however, is Jean Hollander's report to the *Scholar* on teaching a course in literature to New Jersey policemen. Another last paragraph:

The Law Enforcement Education Program at Trenton State College, in which I was involved, was instituted about eight years ago at the request of the Plainfield Police Department. Unlike so many foundering adult education programs these days, this one is self-supporting and succeeds because of the interest, dedication, and energy of the participants. Although most of the men attend classes four evenings a week, it usually takes them almost eight years to obtain a degree. Since most of the courses offered are in the area of their special interest, criminal justice, rather than the humanities, I have not been involved in the program for the past semester. But a recent Steiner cartoon in *The New*

Yorker reminded me what fun it had been to teach literature to the cops of Piscataway and Plainfield. The cartoon showed two burly policemen about to arrest a sorry-looking criminal. The caption has one of the officers, who is holding a book in his hand, saying, "First I'm going to read you your rights, then I'm going to read you a brief passage from *The Merchant of Venice*." I doubt whether any of my former students are now going about their duties reciting *Othello*. But I do think that some of what we have read and discussed remains with them. And I, too, have learned and remember.

The policemen, Jean Hollander found, had a sure instinct for writing short stories, and showed "an impressive willingness to see the other side, while taking a firm stand on one side." "Their stories made me realize that most of them chose their profession, not out of a need to bully, but out of a sincere respect for order, a conviction that there is a right way to behave and that law and order are valid components of the good life." Another comment:

In the drama sections, they again surprised me by rejecting Synge's modern, rather easily understood *Riders to the Sea* as uninteresting. Perhaps the play's message of failure and despair, against which Synge holds us all to be helpless, displeased them. Perhaps a universe in which nature and the sea are deemed enemies was alien to their own experience. On the other hand, the ancient dilemmas found in *Oedipus Rex*—character versus fate, man against the gods, crime and the acceptance of guilt—did interest them. There were the usual discussions of justice. Was Oedipus's punishment too great for a crime committed in ignorance. . . . Antigone's rebellion against Creon's rule, her need to uphold a higher moral order against his edict, aroused surprising sympathy and agreement. A group of cops seemed a strange assembly in which to find such strong feelings against authority, and such admiration for this symbolic forerunner of women's liberation.

A select bunch of cops, perhaps, but what of that? One hopes that the people of Plainfield realize how lucky they are.

FRONTIERS

The Practice of Authentic Science

NEW ways of thinking about science—since science is bound to largely affect the future of all human beings—have high priority in the present. Some currently available reading gives a good idea of the direction such thinking might take. We have in mind biographical accounts of the work of certain scientists. Basic cultural advance would result if education in the idea of science—what it is, how it is used—were based on this sort of material. For example, in *Science* for March 5, Luther J. Carter, a staff writer, tells the story of the Leopold family—Aldo Leopold, who wrote *A Sand County Almanac* (1949), Estella, his wife, and five children, Starker, Luna, Nina, Carl, and Estella, all of whom became "passionate and skillful observers of nature," four of them professional scientists.

Starting out early in the century with a forestry degree, Aldo Leopold soon became "a persuasive advocate of conservation." He succeeded in having the U.S. Forest Service set aside the half-million acres of the Gila National Forest "as a roadless, undisturbed wilderness." His *Game Management* is "the classic of its field," and his *Sand County* made him "a patron saint of the environmental movement." Its readers know what "science" meant to him; equally important is his quality as a human being. His son Starker, whose career in science has paralleled his father's, tells about his boyhood days:

"Starting when I was 5," says Starker, "Dad and I used to go down to the Rio Grande River on his bicycle, with me seated on the handle bars. I don't remember talking land ecology at the age of 5, but it wasn't very damned long after that that he would stand out on the hillside and talk about why quail were in one place and not another, or why ducks preferred a particular pond because of some food he recognized in the water. But Aldo usually began by asking Starker what he thought. "He treated us with considerable dignity—I suppose that had as much as anything to do with our being intensely interested in what he had to say," Starker says.

A family friend remarked: "He had this amazing courtesy to the young. You felt intelligent talking to him because he was so attentive and respectful of your ideas." The *Science* writer comments: "For the children, Aldo was a naturalist, teacher and master craftsman who impressed them by what they speak of as their father's quiet assurance and gentle example." The family life apparently had much to do with the careers chosen by the children:

Estella, Aldo's wife, was devoted to him and was for the children "the amplifier of a lot of what Dad was thinking and doing," says Carl Leopold. She joined in many of Aldo's outdoor activities, and even became Wisconsin's champion woman archer after Aldo took up bow hunting and target shooting.

Aldo was a superb craftsman. Luna remembers the duck decoys that his father made during the winter months in Albuquerque as "beautiful works of art." "Dad was a real perfectionist," Luna says. "He made a yew bow and 24 arrows that had a flatter trajectory than any of us had ever seen before or since. It shot point blank at 100 yards. Boy, that was a piece of equipment.'

Inspired and encouraged by their father's example, all the Leopolds became craftsmen. At Christmas, it was their custom to exchange handmade gifts. "The tradition was that, if you did it by hand, it was good," says Luna, who still counts as a prized possession a fly rod that Starker made for him years ago. Luna thinks this emphasis on craftsmanship helped prepare him and the others to become scientists. "Science is a craft," he says.

Luna is a hydrologist and expert in the behavior of rivers, Starker a wildlife biologist, Carl a plant physiologist, and Estella a paleontologist. All Aldo Leopold's children share in the conviction he recorded in *A Sand County Almanac*: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

These are some of the primary meanings of being a scientist. Education in science might well begin with the lives and work of such individuals.

Another exemplar of this sort of science is Richard St. Barbe Baker, now ninety years old, who founded The Men of the Trees nearly sixty years ago. This interchange is given in his autobiography, *My Life, My Trees*:

"Baker, I have read your book, *Sahara Challenge*, three times," were Nehru's first words. "Now what are we going to do about the Indian deserts?"

"The answer is the same," I said. "Trees against the desert. "

"But," he exclaimed, "the desert's only a hundred miles away and whenever the wind is blowing in this direction the visibility becomes poor and the windows have to be closed to keep out the dust."

"The fields must be tree-surrounded and reduced in size. Trees are needed to fix the soil and lift the spring water table and keep the land cool," I said.

In the *Ecologist* for last October-November, the editor, Edward Goldsmith, interviewed Dr. Baker, and the questions and answers were reprinted in the Spring *CoEvolution Quarterly*. What this man knows about trees and their importance to all life has the impact of "revelation." There is this, for example, on the relation of trees to agriculture:

If you want to double your supplies of food, then you should devote twenty-two per cent of your farm to trees, to strategically planted shelter belts. We found in Alberta that if we devoted twenty-two per cent of a quarter section, that's 160 acres, to trees we could double the crop output. Trees create micro-climates, reduce the speed of the wind; lift the water table and increase the population of worms. Darwin revealed all there was to be known about worms but he didn't tell us how to harness them. If the farmers only knew how to harness worms, they could double their crops. Trees provide the answer.

Asked what country is doing the most to reafforest its land, Baker answered:

China. I have been told by a geographer who recently returned from China that 32 million people are permanently employed by the government for reafforestation. Even white collar workers put on their oldest clothes over the weekend and help the peasant farmers to plant trees. All in all, they have

increased tree cover from 7 per cent to 28 per cent. I am very proud that Men of the Trees sent seed out to China forty-seven years ago.