VOLUME XXX, NO. 45
NOVEMBER 9, 1977

"THE ROAD NOT TAKEN"

DURING the year since its appearance, the article by Amory Lovins with this title, which appeared in *Foreign Affairs* for October, 1976, has had a growing impact among scientists. "The Road Not Taken" in energy production is what Mr. Lovins calls the "soft path," involving what E. F. Schumacher would term intermediate or appropriate technologies—decentralized solar systems and the use of renewable fuels, including dry wastes (called "biomass"), which are admitted to have an energy potential that "has been largely overlooked." (*Science*, Aug. 19.) It is to the credit of the scientific community that the powerful rational appeal of Lovins' critique of centralized (including nuclear) power sources has been taken quite seriously by a number of scientists, although he is called "optimistic" in his projections of the costs of alternative systems. A writer in *Science* for May 27, Allen L. Hammond, sums up the response:

> For all its flaws, the Lovins critique is easily the most comprehensive and technically sophisticated attempt to put together an energy program compatible with environmental values. And continuing reaction to it in Washington and elsewhere would seem to indicate that the intellectual vigor and political muscle of the environmental movement is far from spent, but rather is escalating from a purely defensive focus on particular sites and technologies to consideration of energy systems as a whole.

In his *Foreign Affairs* article Mr. Lovins draws attention to the fact that while the diverse technologies of the soft path are for the most part "already known to work well," the success of the high technologies of the hard path (nuclear) is "by no means assured." He then says:

> The soft path also minimizes the economic risks to capital in case of error, accident or sabotage; the hard path effectively maximizes those risks by relying on vulnerable high-technology devices each costing more than the endowment of Harvard University. Finally, the soft path appears more generally flexible—and thus robust. Its technical diversity, adaptability, and geographic dispersion make it resilient and offer a good prospect of stability under a wide range of conditions, foreseen or not. The hard path, however, is brittle; it must fail, with widespread and serious disruption, if any of its exacting technical and social conditions is not satisfied continuously and indefinitely.

This passage gives only a few of Mr. Lovins' common sense arguments, but it illustrates the sort of generalizations he is prepared to support—and does support—along with some suggestive psycho-social analysis:

> [Even] if nuclear power were clean, safe, economic, assured of ample fuel, and socially benign per se, it would still be unattractive because of the political implications of the kind of energy economy it would lock us into. But fission technology also has unique sociopolitical side-effects arising from the impact of human fallibility and malice on the persistently toxic and explosive materials in the fuel cycle. For example, discouraging nuclear violence and coercion requires some abrogation of civil liberties; guarding long-lived wastes against geological or social contingencies implies some form of hierarchical social rigidity or homogeneity to insulate the technological priesthood from social turbulence; and making political decisions about nuclear hazards which are compulsory, remote from social experience, disputed, unknown, or unknowable, may tempt governments to bypass democratic decision in favor of elitist technocracy.

This is abstract language and sober rhetoric, used in a calm exposition which comes close to hiding the actual terrors Mr. Lovins is talking about. Fortunately, a great many people are reading his article in its entirety (widely distributed as a reprint by Friends of the Earth).

Interestingly, there is a section in Lewis Mumford's *The Pentagon of Power* which could easily have been titled "The Road Not Taken." Mr. Mumford calls it "The Buried Renascence," meaning to suggest that there were historic

possibilities for the Western world, evident at the beginning of the sixteenth century, which, had they been given full play, might have radically changed the course of modern history. Leonardo da Vinci is taken as the type through whom a "new order" might have gained shape. Mumford sees in Leonardo—

> the forerunner of an age that has still to dawn: an age different from his own period, and in sharp contrast to that we live in today. The very traits that seem to mark him as a failure, and are taken as a reproach, give Leonardo, from the point of view developed here, a special distinction.

How can Leonardo be made the hero of "the road not taken" in the Renaissance? After all, he was, as Mumford says, "one of the greatest technicians of all time." The very diversity of his proposals, Mr. Mumford maintains, and the moral sense he applied in developing some of them, while putting others aside, make him the pioneer of the road not taken at the dawn of the Enlightenment:

> If Leonardo's example of diversification had been more widely followed, the whole tempo of mechanical and scientific development would have been slowed down. This means that the pace of change might have been established in relation to human need, and that valuable parts of man's cultural heritage might have been kept alive, instead of being ruthlessly extirpated in order to widen the empire of the machine. Instead of rapid advances, on the basis of uncoordinated knowledge, in specialized departments, mainly those concerned with war and economic exploitation, there would have been the possibility of a slower but better-coordinated advance that did justice to the processes, functions and purposes of life.
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> Had Leonardo's example in fact been followed, naturalization, mechanization, organization, and humanization might have proceeded together. Thus one method could have influenced and sustained the other, maintaining continuity with the past, yet alertly absorbing useful or significant novelty, constantly reviewing and correcting past errors, and seeking a wider selection of possibilities; introducing new values, not to destroy but to enrich and fortify those already achieved by other ages and other cultures. Such a practical syncretism of technologies and ideologies would have been an open one, open indeed at both ends, to past and future—constantly absorbing and refining more of the past while projecting and remodelling in a richer design ever larger tracts of the future. Unlike the technocrats of a later day, Leonardo was full of admiration for his predecessors. . . .
>
> At all events, he maintained his many-sidedness and his balance. Had his moral sense not been awake, he would not have suppressed his invention of the submarine, because he felt that the soul of man was too devilish to be trusted with it. Just as, in the world of organisms, ecological complexity and variety prevents any single species from achieving complete dominance, so in human society, Leonardo's mode of thinking—had it prevailed and governed our system of education—would have prevented megatechnics from taking command.

Only a little reflection makes it evident that Lovins and Mumford are talking about the same thing. Both want less powerful and more diversified technologies; both see megatechnology or centralized high technology as a threat to future civilization. Both, in terms of argument, are taking on virtually all the champions of prevailing opinion. And for both the practical and the humane are never opposed, but two sides of the same coin. Meanwhile, in the place of the humane, their opponents simply argue from the imperatives of survival of the status quo, declaring or implying that any alternative to continuing with our present means and goals is unthinkable, too ridiculous to talk about. The contrast of Leonardo's outlook with this blindly stubborn position is dramatic. Mr. Mumford concludes this chapter:

> Not the least notable thing about Leonardo's mind was the lurking doubts beneath his ardent experiments and imaginative trials. While making meticulous anatomical dissections, which preceded Vesalius' studies by almost half a century, he recorded his wish to know the mind and social institutions of man as well as his body. There were counter-currents running in Leonardo's anxieties and inhibitions that may account for the fact that despite his immense creative energies he did not turn to early publication: perhaps these reluctances made him the more willing to leave his work tentative and incomplete. Success might have come easily through specialization and publication, but at the price of forgetting wholeness,

> of becoming crippled and unbalanced, perhaps irrational and destructive.

This mode of writing is instructive. Mr. Mumford is not trying to *nail down* such contentions. He is inviting his readers to open their minds. He is suggesting ideas which have a vast weight of probability, but the weight is moral as well as physical. He seeks an assent that can grow only from measured consideration of what happens to people when they stop listening to thinkers like Leonardo, essayists like Mumford, physicists like Amory Lovins.

Involved is an inner assent which can't be compelled. It is a form of agreement that is possible only to minds that are still free, that are still able to choose among alternatives. But Mr. Mumford knows that this Platonic form of persuasion has little effect on modern Aristotelians:

> What I am saying here in praise of Leonardo must seem a mere mockery to the busy specialists of today, addressed from the beginning of their careers to some early application of newly achieved knowledge or technical expertise: each eager to jump with all possible speed to a post of authority, to the direct application of his knowledge to some overt form of control over the physical environment or over organic reproduction, and finally over other human brains—as *soon* as *possible!* For such minds to follow Leonardo's example, to spend a whole lifetime in their work with only a handful of small projects or publications to show for it would be an act of vocational suicide. Such diversification of interests as Leonardo practiced, such continence and self-control, such voluntary censorship, lie beyond the Power Complex's intellectual horizon. To hold Leonardo as a model before the success-prone scientists and technicians of today would be to invite scorn. In no sense was Leonardo their model or their forerunner.

Yet the road taken by Leonardo—not taken by the world—is a road that may still be followed.

> It is an error, nevertheless, to hold that Leonardo's example is an impossible one for our age. The example is impossible only because those who seek power are unwilling to pay the price of achieving balance and are unattracted by the human reward. What one must give up, in any effort to achieve a many-dimensioned and coherent world picture, is the idea of early achievement and instant exploitation. Whatever the field of invention, or organization, one must be ready to go forward at a slower pace, looking before and afyer; to make fewer discoveries, to spend as much time assimilating knowledge as in acquiring it; to do less, perhaps, in a whole lifetime in any one department than the concentrated specialist is able to do in a decade. From the standpoint of the power system this demands an impossible sacrifice: the sacrifice of power to life.

This is where the issue is really joined—where the decision which must be made is posed in nakedly ethical terms. Not very many, Mumford seems to think, are ready to trust the balances which the ecologists and some others tell us will be sufficient to support life at an appropriate level of well-being. And even among those who claim to be ready and willing to live by natural balances, not very many believe this will be possible without first achieving the power to compel the sacrifice of power by others who disagree.

So, again and again it is asked: How can we turn away from power when we need so much of it—both political and physical power—simply to assure our continued existence?

This is the question the world asks, although with a few exceptions. But the world neglects to recognize that in a time of necessary change, it may be the exceptions who count for the most. It is the exceptions, most frequently, that afford "shining examples" of what is possible. Such examples, of course, are minimized by disputants who argue that exceptional people cannot be taken as models for the mass society. The big institutions are too powerful, they say, and the great majority of the members of the mass society seem largely indifferent and unmotivated. We know, it is argued, from statistical studies how mass societies behave. They never act; they only *react.* You have to appeal to self-interest to make them go in the right direction. Usually, the people who say this don't believe that there is or is going to be an energy shortage. They don't accept either the figures of physicists like Lovins and numerous others, or the metaphysical propositions of

philosophers who declare that in principle self-interest exploits and devours power until, finally, there isn't any left. Sacrifice, they say, is for sentimentalists. We know, they claim, why people do what they do.

Obviously, the ones who make this argument don't believe in any sort of *human* evolution at all.

These are some of the reasons why the institutional adaptation to the necessities pointed out by ecological scientists, by energy physicists like Amory Lovins, and by humanist economists such as E. F. Schumacher and Leopold Kohr, seems close to nonexistent, although, here and there, a little movement in the right direction can be discerned. The real instruction which comes from the early symptoms of these necessities has appeal only to those whose imaginations are at least in some measure awake. And it becomes apparent, if you think about it, that there is little or no human freedom without the exercise of the imagination. A choice compelled by immediate and inescapable necessity is no choice at all. You do what you do because you must, because there isn't anything else to do. No human decision is involved.

So with the idea of "sacrifice of power to life." When, at last, there is little power left to sacrifice, there may be very little life.

But this analysis is too pessimistic. A large number of people already have a feeling "in their bones" about what is happening to the world, and what is likely to happen to themselves, if they don't take some form of action. They have this feeling, this hunch, and so they may unearth a copy of the *Whole Earth Catalog* and *buy* something that will get them closer to nature. They join groups dedicated to the simple life and choose an entire new wardrobe as a uniform proclaiming their righteous intentions. They support what they hope are the righteous lobbies in Washington.

It is easy, of course, to make fun of such frothy developments, but how else would you expect a mass society to show signs of change right at the beginning? It takes clear thinkers and totally committed individuals to do everything right, starting at the beginning. The rest can hardly do much more than inch along, slowly growing hospitable to some good ideas, gradually getting used to unfamiliar conceptions—such as "sacrifice," for example—speeding up the process of change only after feeling the pinch of necessity.

But meanwhile other people join little groups where, in time, they may be exposed to thinkers like Mumford or Lovins. Now the process of change gains another kind of momentum from moral self-persuasion. In some relationships, sacrifice doesn't feel like sacrifice any more, but the sensible thing to do. It makes a considerable impression on his neighbors when a very smart fellow—a computer programmer or an engineer who understands rockets and jet propulsion—decides to ride to work on a bicycle. There are also people who get along without television, who quit eating meat, and others who grow their own sprouts, ferment their own yogurt, and stay home in the evening and make their own music. Often, the reason they do these things is more important than what they do.

All these examples are trivial enough, as critics are quick to point out. But as Emerson said, every great reform was once a private idea in some private person's mind. And every penetrating retrospective understanding of the past—from which we may learn so much—was once the brooding insight of an essayist like Lewis Mumford. We are now, we could say, in at the beginning of such changes, and *of course* they look trivial and even silly from the viewpoint of the all-or-nothing debaters and stand-patters.

One can even find small towns which are doing sensible things. These communities are of a size still susceptible to the direction of human intelligence. They are places where the forward glance of a human imagination can make itself felt. There are now magazines and books which report

the accomplishments of such places, and their circulation is growing.

Another writer who long ago devoted attention to the road not taken was the Japanese novelist, Tanizaki Junichero. In a wistful reverie Tanizaki broods about the ugliness of the Western-made stove that keeps him warm—so efficiently!—during cold spells. He *needs* the stove—

> But it is on occasions like this that I always think how different everything would be if we in the Orient had developed our own science. Suppose for instance we had developed our own physics and chemistry: would not the techniques and industries based upon them have taken a different form, would not our myriads of everyday gadgets our medicines, the products of our industrial art—would they not have suited our national temper better than they do? . . .
>
> The Westerners have been able to move forward in ordered steps, while we have met a superior civilization and have had to surrender to it, and we have had to leave a road we have followed for thousands of years. The missteps and inconveniences this has caused have, I think, been many. If we had been left alone we might not be much further now in a material way than we were five hundred years ago. Even now in the Indian and Chinese countryside [this was published in the *Japan Quarterly* in 1934] life no doubt goes on much as it did when Buddha and Confucius were alive. But we would have gone in a direction that suited us. We would have gone ahead very slowly, and yet it is not impossible that we would one day have discovered our own substitute for the trolley, the radio, the airplane of today. They would have been no borrowed gadgets, they would have been the tools of our culture, suited to us.

This is a wonderful nostalgia—an imaginative reconstruction of how things might have been. Our own task is much more difficult—the development of the tools, not of our culture, but of the culture we want for tomorrow, and ought to have. And we're by no means sure we know what that culture should be!

REVIEW
PROCESSES AND GOALS

PROPOSALS for ideal schools or colleges are as numerous—and about as fruitful—as plans for ideal cities. One does not pick up such books with much enthusiasm; the writers, you say to yourself, are self-deluded and therefore likely to deceive their readers. There are, however, exceptions, of which Plato's *Republic* is the first, and best, example. Plato wrote about both an ideal school and an ideal community, being aware, no doubt, that a good school cannot exist except in a good community; in fact, for him, the two are one. There is only one serious objection to Plato's plan: the likelihood of it being applied seems virtually nil.

But this interferes hardly at all with the value of his book. The reason, we suspect, is that both city and school are living processes, not "goals" to be reached at some future golden moment. When a writer, even a writer of the stature of Plato, sets up his ideal as a goal instead of a process, he commits something of a fraud. Why does he do this? Because he knows that for the most part his readers are far more interested in goals than in processes, and he wants to get them started. Unless he uses the tricky facade of goals, they won't even read what he says. All Utopias suffer from this defect, but their writers may be forgiven it, especially if they give quiet evidence of knowing what they have done. In any case they may be forgiven because from studying the requirements of Utopia, people may recognize some very good processes and adopt them here and there.

We now have a book for review—*Proposal for a New College,* by Peter Abbs and Graham Carey (London: Heinemann, 1977, £1.50)—to which this reasoning applies. It is certainly a utopian study, as the last chapter describing the college makes clear, but its rich implications about process, critical as well as affirmative, suggest that the book might prove endlessly valuable to readers who decide to use it as a focus for thinking about an educational community. The writers say all the somewhat familiar good things that need to be said again and again. But they also press their criticism beyond this point, reaching what seems a fresh plateau of cultural understanding:

> . . . in our view, scientific enquiry, with its empirical and mathematical procedures, cannot adequately meet the existential and so, compelling, questions raised by human existence. The deep questions that rise up from within, turning our own natures into riddles and enigmas—such questions as "Who am I?" and "How can I become what I am?"—cannot begin to be answered or even (at the moment) adequately comprehended by the scientific disciplines. They can only be elaborated, celebrated, explored and interpreted through the symbolic and communal discourse of Art and through a continuous study of the Humanities, humanly conceived. The delicate study of symbol and meaning would, therefore, be the focal point of our college's academic and creative studies. When we are witnessing in industrial society the relentless suppression of the ontological dimension, the value of such a commitment to existential understanding and imaginative re-creation cannot be too highly esteemed. It is commonplace now to find many of those irreducibly human questions, relating to existential meaning, cunningly transposed into technical problems and, then, falsely solved. Such a steady and ubiquitous process of reductive interpretation and crude extrapolation must culminate in man seeing himself as little more than an assemblage of functions, drives, components: parts which can be easily taken apart and reassembled according to the dictates of fashion or the needs of the industrial state. Only the philosophical and creative discovery or rediscovery of man as *being,* can halt this movement and prevent that human catastrophe which, if unchecked, it must lead to—for life follows in the track of concepts and images.

This transposition of existential or moral problems into technical problems goes on constantly all about us. Probably nine tenths of the laws we pass are false solutions of this sort. Any undertaking which requires a large bureaucracy is likely to be confounded by a number of similar mistakes.

What has this analysis to do with "education"? It has everything to do with education, since it reveals how we think. What could be more important? One might say that the only importance of the study of history is what it can tell us about how we think. *Critical* study of how we think spurs the search for alternatives—better ways to think.

A question likely to be asked is why we have fallen into our present bad habits. Much could be said in reply—too much, perhaps—but the simplest answer we know of is both cosmological and ontological. It occurs in some lines of the *Katha Upanishad:*

> The Self-Being pierced the opening outwards, hence one looks outward, not within himself. A wise man looked towards the Self, with reverted sight, seeking deathlessness.

A passage in *Proposal for a New College* seems a clear contemporary expansion of the Upanishadic truism:

> From the time of Galileo onwards, the philosophers of science and its many practitioners tended to deny inward space and inward time. They denigrated, in effect, all that spoke of the mysterious inwardness of man-within-nature. Their gaze upon the world's surfaces was, as we have said, rigidly masculine. It was the early empiricist, Francis Bacon, who, that knowledge might be won, recommended chaining Nature to "the rack" that she might be examined "with levers and screws." The genders we find ourselves using here, masculine scientist and feminine nature, are, we believe, not only of semantic interest but of the profoundest significance. Nor can there be little doubt that the exploration of physical space—the discovery of vast oceans and immense unknown land-masses, the discovery of new flora and fauna, of precious stones, minerals and a surplus of materials hitherto undreamed of—coinciding with the rise of science, reinforced its powerful, if exclusive, frame of reference, providing it with all the qualities of high drama, of adventure and of conquest.

The *Upanishad* continues:

> Children seek after outward desires; they come to the net of widespread death. But the wise, beholding deathlessness, seek not for the enduring among unenduring things.

We may sense the verity here, but find ourselves unable to spell out its meaning in terms that touch our everyday lives. This, one could say, is the value of the book we are considering, which puts deeply intuitive insights into the language of present-day understanding:

> That great adventure of Western consciousness into outer space is now effectively over. In our own lifetime our planet has become alarmingly small and, simultaneously, more heavily populated. There is little remaining space to tempt the appetite of the individual explorer. The world is closing in on us. In our sprawling cities of cement and glass, life moves to the quiet hands of the clock, measuring two spans of organized time, one for production, the other for consumption: work and leisure. Even the recent conquests of distant matter, passively watched by millions on their color television screens, are achievements more of the computer than the independent pioneer. . . . In all outward pursuits—and in this we would include scientific exploration—the audacity of the explorer, the dedication and will-power of the pioneer, have given way to "expertise," "group coordination," "computer feedback," all dependent on state planning, finance and approval. Qualities of character have become curiously dated. Collective civilization can find no room for them.

The *Upanishad* called this "widespread death"; Shelley, writing before the word "scientist" began to be used, saw it coming. He said in his *Defense of Poetry:*

> The cultivation of those sciences which have enlarged the limits of the Empire over the external world has, for want of the poetical faculty, proportionally circumscribed those of the internal world; and man, having enslaved the elements, remains himself a slave.

It seems appropriate to use a passage from the ancient Upanishads for consolidating the relevance of the criticism by the authors of *Proposal for a New College.* First, these writers are convinced that in past simplicities lie the keys to future excellences. They say:

> We go back in order to go forward. There can be no question of a return to primitive modalities, no question of obliterating the great cultural

> achievements of Western civilization. The task is one of transformation, not regression.

Second, what we have quoted from the *Katha Upanishad* is a brief account of the polarities of human nature—*natural polarities*, we may think. The pursuit of externalities is natural to the once-born human, while inward learning gradually becomes the spontaneous inclination of those who would be twice-born, aspiring to transcendental possibilities. The attraction of this outlook is that it suggests an evolutionary reason for changing our ways, leaving the condemnations of evil-doing to the moralists.

Our childhood as a race or civilization, in other words, is reaching its end; the time has come to seek something more important than outward desires. What better way is there to describe the encouraging tendencies which are now appearing, in so many areas, to give expression to the best we know?

For those who want an account of what an ideal college might be, it is all there in the concluding section of the book: How many students it will have, where the college should be located, how it will be sustained, and how it may be run. And the teachers—who will they be? Well, without remarkable teachers, the college won't be worth talking about. They are the heart of the matter, as the authors say. What sort of teachers? The answer to this question is given by a quotation from John Rice, founder of Black Mountain College:

> Teaching is a secondary art. A man is a good teacher if he is a better something else; for teaching is communication and his better something else is the storehouse of things he will communicate. I have never known a master in any field who was not also a master teacher.

Where will such teachers be found? They exist. Rice was able to locate several. So, hopefully, the authors say at the beginning of their book:

> We have little doubt that such a college [as they have in mind], sympathetic to historic culture, drawing on present creative energies and anticipating the shape of things to come, would draw to itself a number of distinguished teachers who find they can no longer teach with heart in the bureaucratic and mass institutions in which they find themselves unwillingly imprisoned.

COMMENTARY
AN UNDEFINED FUTURE

To say, as our lead article concludes, that we don't yet know what the culture of tomorrow should be like, is not so much a confession of planless ignorance as it is anticipation of the kind of "progress" Lewis Mumford speaks of (page 2), and Tanizaki (page 8) dreams about—involving the unpredictable ingenuities and adaptations of a great many individuals and groups. You don't "plan" such developments, you make room for them.

Getting to where we are going—an undiscovered country—from where we are is bound to begin with what seem only "token" solutions: a few people allying themselves in a new sort of rural communities, a handful of city dwellers organizing urban homestead projects. Here and there a coastal town may find a way to regulate its population growth by control of sewage disposal and water supply, setting a practical example to other towns with similar problems. Then, after a while, whole regions may begin to preserve the everyday welfare of their inhabitants by preventing the wrong sort of highway construction and centralized power installations The evils of strip mining may release the kind of inventiveness that results in the rapid development of forest farming (as has already happened in Pennsylvania), while water shortages may awaken the common-sense admission of intelligent land-use that John Wesley Powell recommended a century ago.

Cooperation with nature has two practical effects. First, it confirms the vague intuition that a balanced individual life fits the necessities of a balanced ecology. Second, it releases the human mind from the slavery Shelley spoke of in his *Defense of Poetry* (opposite). As the imagination begins to work in new directions, any and every status quo is recognized as the raw material for ingenious change. From the "objective" point of view, such changes must seem like a lot of "happy accidents"—inventive choices by free minds always look like random events to the mechanists—but artists and educators will know better: they will see the synergistic effect emerging at the *human* level.

These developments are bound to have an extraordinary influence on social and philosophical thinking. An economic life increasingly based on ecological harmony instead of the dynamics of appetite could frame and elicit a redefinition of human purpose that might, in time, simply wipe out the cultural dilemmas described by Mr. Arons in this week's "Children."

CHILDREN
. . . and Ourselves
RELIGION, SCHOOL, AND STATE

MORE than fifty years ago the Supreme Court of the United States decided that no state has the power to compel children to attend a public school. (*Pierce v. Society of Sisters*, 1925). The state is not the authority in this situation, but the family or parents, who may choose to send their young to a non-public school. Curiously, the decision in this case makes no reference to the First Amendment ("Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof"), but was based on what are called "substantive due-process" considerations involving situations in which the letter of the law permits the defeat of its substance. In an article which appeared in the *Harvard Educational Review* for February, 1976 (reprinted as a pamphlet by the Center for Independent Education), "The Separation of School and State: *Pierce* Reconsidered," Stephen Arons looks at the subsequent transformation of what were once regarded as "religious" freedoms into common human rights, and wonders what can be done about assuring or preserving them. He asks in effect, does government, through the public schools, have the right to influence the young in ways that violate the convictions of the parents?

This is a large and difficult question. Its implication becomes clear from a passage from Mill's *On Liberty*, quoted by Mr. Arons at the end of his essay:

> Over a century ago John Stuart Mill observed that state sponsored education "is a mere contrivance for moulding people to be exactly like one another; and as the mould in which it casts them is that which pleases the predominant power in the government, whether this be a monarch, a priesthood, an aristocracy, or the majority of the existing generation, in proportion as it is efficient and successful, it establishes a despotism over the mind.

To give this judgment a contemporary flavor, Mr. Arons adds the pithy words of Ivan Illich: "The school has become the established church of secular times."

Religion, as we know, was held by the Founding Fathers to be untouchable by law. Government must not fool with it. The schools must remain silent when it comes to issues of religious belief.

But what about those deep ideas and feelings of value which, while not identified with any particular religious formulation, are nonetheless precious to human beings and serve non-church-going people in the way that religious teachings are believed to serve?

Mr. Arons points out that ours is a society in psycho-moral transition. To speak of a person's "religion" is no longer a matter of denominational identification. How far should the Court go—how far *can* either courts or legislative bodies go?—in attempting to protect individual feeling and ideas in the indeterminate region of "values"?

Telling about the *Yoder* decision—a case Mr. Arons has written about extensively elsewhere (see MANAS, Feb. 23, 1972)—the writer shows how an issue which seemed definitively "religious" at the outset became the basis for a much broader consideration of human rights. A Wisconsin court had found the members of an Amish community in violation of a compulsory schooling law when they refused to send their fourteen- and fifteen-year-old children to either public or private school after the eighth grade. The Supreme Court held that conforming to the Wisconsin law would compel the Amish to violate their religious convictions and the resulting value system. As Chief Justice Burger put it:

> They [the Amish] object to the high school and higher education generally because the values it teaches are in marked variance with Amish values and the Amish way of life; they view secondary school education as an impermissible exposure of their children to a "worldly" influence in conflict with their beliefs. The high school tends to emphasize intellectual and scientific accomplishments, self-distinction, competitiveness, worldly success, and social life with other students. Amish society emphasizes informal learning-through-doing, a life of "goodness" rather than a life of intellect, wisdom rather than technical knowledge, community welfare

rather than competition, and separation rather than integration with contemporary worldly society.

The Amish, in short, were understood by the Court. Mr. Arons comments:

> The conflict of state-sponsored socialization with private values appears in bold constitutional relief when these private values can be articulated as a religion. Yoder holds, therefore, that state-imposed socialization is unconstitutional when it conflicts directly with religious tenets. But none of the value conflicts the Court cited—competitiveness versus cooperation, intellect versus wisdom, or disagreement over the status of manual work, for example—is necessarily religious. Any non-Amish family might be equally committed to such values and see them as threatened by state-sponsored socialization in schools. Religion provided the constitutional nexus between the plaintiff's injury and the state's policy, but the evidence the Court found compelling also supports a broader doctrine: Any conflict between public schooling and a family's basic and sincerely held values interferes with the family's First Amendment rights. Thus, even though the opinion was couched in terms of religious beliefs and practices, the Chief Justice's recognition of the various elements of value inculcation, none of which is itself of religious character, has the effect of eroding the meaningfulness of the distinction between secular and religious values upon which the Court has relied so heavily.

Accordingly, Mr. Arons concludes:

> The history of religious liberty and persecution prior to the writing of the First Amendment pointed clearly to religion as a prime source of these basic values and to religious intolerance as a prime source of factionalized governments and oppression. This view must be translated for a modern America in which religion is no longer basic. The great issues of conscience and belief are no longer fought under religious banners. Instead, they concern racial and sexual equality, the allocation of power, institutional alienation, and the basic conceptions of human worth underlying economic systems. The principle of neutrality indicates that the transmission of beliefs about such issues must be insulated from government sanction if repressive systems in schooling and society are to be avoided.

This seems an extraordinary development. We must either agree with Mr. Arons that in America "religion is no longer basic," or say instead that our working definitions of religion must be broadened and radically changed. How does this affect the idea that a person's religion is a private affair? It seems evident that not only one's religion, but any *definition* of religion, becomes an untouchable, private affair. And then religion can be made to include or apply to practically every kind of human decision, as no doubt it should.

The question arises: How can the schools possibly remain "neutral" concerning so large an area of decision?

The character of the confusion on the way is indicated by the attack last year on the teaching of secular humanism in the schools. An Arizona Congressman, John B. Conlan, declared that the "religion of secular humanism" is infiltrating the schools in the guise of ordinary instruction. A Catholic spokesman also declared that "the questions once answered by religion in the schools are being answered by the state in terms of secular humanism," which, he said, is "a religion offensive to many believers." In support of his claim that secular humanism can be identified as a religion, Congressman Conlan cited a 1961 Supreme Court decision holding it unconstitutional to require public officials to take an oath declaring belief in the existence of God. This decision said: "Among religions in this country which do not teach what would generally be considered a belief in the existence of God are Buddhism, Taoism, ethical culture, secular humanism, and others." (See the *Los Angeles Times*, Sept. 11, 1976.)

Mr. Arons concludes his discussion with some potentially explosive observations:

> Because it protects against involuntary government intrusions upon individual consciousness, the First Amendment may require changing the economic and political structure of compulsory schooling to separate school and state, just as the First Amendment requires separation of church and state. If this view is correct, compulsory education may have to be revised to eliminate its economically discriminatory nature and to preserve freedom of belief for families in search of adequate education.

FRONTIERS

The Water Wasters

IN *The Dynamic Environment,* Edwin Marston devotes a chapter to urban water systems. It starts with history:

> In 1801 Philadelphia became the first American city to have a waterworks. Two steam engines lifted water 100 feet from the Schuykill River to a distribution reservoir. From there the water flowed by gravity throughout the city. At first it was used mainly to wash the streets and fight fires. Few Philadelphians were willing to pay to hook their homes into the new water system. People were used to free water—just as we are used to free air—and as late at 1810 Philadelphia's water system had only 2,000 customers out of a population of 90,000.

By 1860 the sixteen largest cities in the country had water systems, with average consumption of water per person of about 25 gallons a day. At present we use 150 gallons a day and are expected to use more in the future.

> Today, indoor running water is so built into our lives that we could not live as we do without it. Backyard privies just barely served nineteenth-century cities with their five-story walk-ups. Today's high-rise apartment and office buildings, immense shopping centers, sports arenas, and restaurants could not function without running water. . . . One hundred years ago we used less water and our lives had a different pace. Devoting several hours a day to pumping water, chopping wood, and emptying ashes was perfectly natural. Today our lives are more structured, we have no time for such activities. Running water—originally a labor-saving device and convenience—is now an absolute necessity.

Well, since Philadelphia started all this development, what is the present situation there? Malcolm Wells, an architect concerned with the ravages of modern enterprise, gives an answer in *Progressive Architecture* for June, 1974. Writing on "Environmental Impact," he says:

> The city of Philadelphia, in whose suburbs I live, has an area of 135 sq. mi. Its annual rainfall is 45 in. If you convert all these miles, inches, acres, and feet into gallons you get a staggering 122 billion as Philadelphia's annual share of the nation's rainfall. And do you know how much water her thousands of homes and water-wasting factories consume each year? 125 billion gallons! You might think, then, after reading all this, that Philadelphia has no water shortage. But there's a catch: Philadelphia hardly uses the water that's given her. No, most of those sweet, fresh raindrops are poured away, unused and polluted, into the city's two vile rivers. Then the city goes upstream to get its own supply. It drinks diluted sewage and throws its rainwater away!

Monstrous, you might say. But then you add, What can anyone do about a thing like that? The city's built and millions of people are living there. Mr. Wells thinks a beginning can be made at changing this situation, which is hardly a local problem. First, a wider view:

> But don't blame the Philadelphians. They do only what you and I and the people of Tokyo and Chicago are doing. We've all waterproofed ourselves so that the rain just can't soak in. We've changed the very nature of entire continents. I wonder if anyone has ever made a study of American placenames in the light of this massive nature-bungling. Has anyone lately thought about the Mesas that are no longer Verde, the Rios no longer quite so Grande, the thousands and thousands of pineless Pine Streets, the nowbrown Greenvilles, and murky Clearwaters? Each of us is surrounded by a roster of vanished riches. Near my home in Cherry Hill (which, incidentally, has neither cherry trees nor hills) are Haddonield, Collingswood, and *Maple Shade,* no one of which could possibly be recognized by its descriptive name today. And I can't even bear to tell you about *Fairview.*
>
> What an eye-opener it would be if we updated those names to the more appropriate Deadways, Shedwells and Graymuds! The most appropriate and probably the most common new city-name would have to be Runoff (which has a kind of cosmopolitan, Russian sound to it, now that I think about it—Runoff, U. S. A. , my home town).

Stop the runoff is Mr. Wells' solution. Take away those pretty green lawns. They really seal the earth to rainfall—"they repel up to 50 *trillion* gallons each year . . . half of the U. S. water budget."

> Impressive, wouldn't you say? It points up one of the reasons why most of us in the United States are in big water trouble: we throw the stuff away by building and landscaping as we do. We could build watergates on our roofs, devices for slowing the rush

> to the rainspouts, so the rain would have time to soak in when it reached the ground. We could even use giant sponges. But the best way is by far the natural way: do what nature always did on the land: plant trees and shrubs or grasses in deep, cheap mulch. Such watergates have to be done with care, of course, from the initial planning to the final coverup, but they hold great promise.

Mr. Wells is talking about underground architecture an idea that may seem ridiculous, at first. But its sense grows on you when you look at his book of plans—*Underground Designs,* sold by the author for $6 (address: Box 183, Cherry Hill, N. J.—next door to Philadelphia).

Cutting into a side hill to combine sunlight with the advantages of subterranean space has obvious charm and numerous ecological bonuses, but it must be terribly expensive. No doubt it is, but skyscrapers going up hundreds of stories are very expensive, too, and an insane way to use the land. There are in fact lots of underground buildings, but we don't think of them in that way:

> Look at the Strategic Air Command and the city of Los Angeles [all those dungeons for parking]. A sad commentary on our times is the fact that most underground buildings are built for the purposes of war or for additional parking space. . . . Never do we see roofs full of tangled wild landscapes, waist-deep in wild-flowers on rain-saving mulch.

Expensive or not, the idea is catching on. A feature story on underground construction in *Popular Mechanics* for March of this year drew the largest mail response in the history of the magazine. Mr. Wells concludes:

> Whether or not underground architecture will have wide application in the downtown areas of large cities, the fact remains that it has definite applications everywhere else. It offers hope that the great blighted areas around the city centers and along the highways may some day become green and beautiful again. Underground architecture is no cure-all. It is only one way—one legitimate way—of bowing to the great life cycle we're so quickly destroying.