

## "THE NECTAR OF ETERNITY"

IN an article on education which appeared in *Resurgence* for January, 1974, Vinoba Bhave (who died last year) began by quoting the *Kena Upanishad*, "He knows who says: we do not know." The Upanishads are part of the *Vedas* of India. They are said by Radhakrishnan to be "the utterances of the sages who speak out of the fullness of their illumined experience." They are the study not only of those born to Hindu religion, but also of those who find that they ring true to human experience. Their brief generalizations provide keys to essential questions; pondering them enriches the understanding.

The quotation given by Vinoba is a paraphrase of a line which says, in the precise rendering provided by Radhakrishnan, "if you think you have understood *Brahman* well, you know it but slightly, whether it refers to you (the individual self) or to the gods." The idea behind this caution is that *Brahman*, the Supreme Spirit, the "All," cannot be conceptualized, and supposing that one has contained the All in a concept is a form of ignorance. Concepts are tools for understanding the realities of finite existence. They lose their meaning when stretched toward infinite dimensions (an expression which is a contradiction in terms).

Yet knowledge exists, wisdom is a reality, though it can hardly be defined. We recognize knowledge and wisdom by evidences of its presence in action, but definitions only make it disappear from view. The understanding of this is the goal of education. Applying its implications is the art of life. It involves recognition of what can and what cannot be defined—the heart of the art of teaching. Vinoba discusses this:

Teaching must take place in the context of real life. Set the children to work in the fields, and when a problem arises there give them whatever knowledge of cosmogony, or physics, or any other science, is needed to solve it. Set them to cook a meal, and as need arises teach them chemistry. In one word, let them live. The children should have someone with

them, but that someone should not belong to a special category called teacher, he should be a man living an ordinary life in the practical world. The man who is to guide children should conduct his life intelligently and be capable of explaining the processes of life and work to the children as opportunity arises. It is not education to fill students' minds with information, but to arouse their thirst for knowledge. Teacher and pupil both learn by their contact with each other. Both are students. True education is that which is experienced, tasted, digested. What can be counted and recorded is not education. Education cannot be doled out; it cannot be weighed and measured.

It is appropriate to recall here the distinction made by Ortega between the content of the sciences and our need to live our lives. In *Mission of the University* he wrote:

Life cannot wait until the sciences may have explained the universe scientifically. We cannot put off living until we are ready. The most salient characteristic of life is its coerciveness: it is always urgent, "here and now" without any possible postponement. Life is fired at us point-blank. And culture, which is but its interpretation, cannot wait any more than can life itself. . . . Science is not something by which we live. If the physicist had to live by the ideas of his science, you may rest assured that he would not be so finicky as to wait for some other investigators to complete his research a century or so later. He would renounce the hope of a complete scientific solution, and fill in, with approximate or probable anticipation, what the rigorous corpus of physical doctrine lacks at present, and in part, will always lack.

The internal conduct of science is not a *vital* concern; that of culture is. Science is indifferent to the exigencies of our life, and follows its own necessities. Accordingly, science grows constantly more diversified and specialized without limit, and is never completed. But culture is subservient to our life here and now, and is required to be, at every instant, a complete, unified, coherent system—the plan of life, the path leading through the forest of existence.

The parallel between what Ortega says and Vinoba's reading of the *Upanishad* seems clear. Vinoba goes on:

In the *Upanishads*, the praises of ignorance are sung side by side with the praise of knowledge. Man needs not only knowledge but ignorance too. Knowledge alone, or ignorance alone leads him into darkness. But the union of fitting knowledge with fitting ignorance is the nectar of eternity. The world is so filled with the matter of knowledge that men would go mad if they were to attempt to cram it all into their heads. The ability to forget is just as necessary to us as the ability to remember. . . .

There is an infinite sum of knowledge in the world, and each one needs some finite portion of it for the conduct of his affairs. But it is a mistake to think that this life-knowledge can be had in any school. Life-knowledge can only be had from life. The task of the school is to awaken in its pupils the power to learn from life.

What may stick in the mind here is the idea of uniting "fitting knowledge with fitting ignorance." What can that possibly mean? Can it be illustrated? One illustration, we think, would be by a passage by John Holt in *The Underachieving School* (Pitman, 1969), in a talk he gave in England. He said:

Well, the question then is, if piling up bodies of knowledge and expert data—if packing our heads full of ideas faster and faster—is not the answer, what is it, then, we have to do? In this connection I think of a letter a student of mine wrote me when she was in college. I had taught this girl in what we call the ninth grade, that would be your third form, and again in the eleventh grade, your fifth form. When she was in her second year of college she wrote me a letter, talking of many things, and at one point she said, "What I envy about you, John, is that you have everything all taped." This is American slang by which she meant that I had everything all figured out, in its place, organized, and so forth. Now, I don't blame her for feeling this. This is precisely the picture that most educators try to give children of what it means to be educated: that you have everything all taped. You not only know everything, you know where it fits and how its parts relate to each other. This poor girl, in her confusion and ignorance and bafflement, wrote how much she envied me. I supposedly had everything all figured out. I wrote her back and said, "You could not possibly be more mistaken. The difference between you and me is not that I have everything all taped, it's that I know I don't and never will, I don't expect to and I don't need to. I expect to live my entire life about as ignorant and uncertain and confused as I am now, and I have learned to live with this, not to worry about it. I have

learned to swim in uncertainty the way a fish swims in water."

Holt goes on to say that this is the natural capacity of childhood. The children improvise from moment to moment, without fear and without embarrassment, and do this eagerly and joyfully.

The young child is continually building what I like to call a mental model of the world, the universe, and then checking it against reality as it presents itself to him, and then tearing it down and rebuilding it as necessary, and then checking and tearing it down and rebuilding it and checking again. He goes through this process I have no idea how many times a year or even a day, and he's not afraid to do it. What happens to him later, to a very considerable extent as a result of his schooling, is that he begins to get such a vested interest in this mental model, whatever it may be, that he becomes increasingly unwilling to consider or look or hear about whatever doesn't fit into it. It becomes a bed of Procrustes.

And that, very largely, is the fix we are in, except that *our* mental model is largely put together with pieces borrowed from other people—authorities in whom we place our trust. And since we didn't really make the model ourselves, we are afraid to let it go. In this situation, it is something of a comfort to feel that there are people in the world who really know how to handle it and who are able to tell us what we need to do.

We require more illustrations, and a good one, we think, is found in the "educational theories" of Jeremy Bernstein, professor of physics at the Stevens Institute of Technology. At hand is his article, "Science Education for the Non-Scientist," in the *American Scholar* for the Winter of 1982-83. We quote first his opening paragraph, in evidence that he is the sort of teacher one would feel comfortable going to school to. He says:

Although I have been teaching physics and related subjects for some thirty years, it has never occurred to me to think of myself as an educator. An educator, I have always thought, is either a dean or someone who has taken at least one course in education. While I did once get an offer to become a dean—to which, incidentally, I replied that I was either too old or too young to become a dean—I have never taken a course in education. For better or for worse, physicists, like most scientists, are simply set adrift in the classroom, and one hopes for the best.

The results, needless to say, are mixed; but since we are dealing, in large part, with apprentice physicists, we can probably safely assume that their interest in the field will carry all of us through. I. I. Rabi once remarked to me that nascent physicists seem to be able to survive any amount of bad teaching. Rabi never had, at least until he received his Ph.D., anyone he can recall who was a good teacher. Einstein's only favorable recollections of *his* teachers dated back to the year he spent in a progressive high school in Switzerland. When he went to college in Zurich, he simply cut most of his classes figuring, correctly in his case, that he could teach himself more, and better, physics than he could acquire in the classroom. This attitude was not lost on his teachers, who seem to have thought that he was—although the phrase was not yet current—something of a "flake."

Jeremy Bernstein seems, by Vinoba's standards, to be a good man to have around the young. This makes of interest his ideas of how to teach physics to non-scientists. Why attempt it at all? Because, he says, a great many non-scientists are curious about science, and this is reason enough. A second reason seems equally good or important. He names it "technological bewilderment," going on to explain:

Most of us, myself included, are increasingly surrounded by objects that we use daily but whose workings are a total mystery to us. This thought struck me forcedly about a year ago. One day, for reasons I can no longer reconstruct, I was looking around my apartment when it suddenly occurred to me that it was full of objects that I did not understand. A brief catalogue included my color television set, a battery-operated alarm watch, an electronic chess-playing machine, and a curious fountain pen that tells the time. Here I am, I thought, a scientist surrounded by domestic artifacts whose workings I don't understand. I then began asking several of my colleagues in theoretical physics if they had the same feeling. (I didn't ask the experimenters I know because *those* people really do understand how things work.) They, too, reported similar feelings.

Well, Bernstein had his allotment of both knowledge and ignorance, and he didn't like it much. A scientist, after all, is supposed to understand how things work. So—

My first impulse was to try to build something—say, a radio—with the hope that if I could actually put it together with my own hands I might understand it, so to speak, on its own terms. I went so far as to

order an electronics kit from a large scientific mail-order house in New Jersey. Following directions, I managed to make several radios, one of which actually worked. The only problem was that the components of the kit were so modular that I couldn't understand them either. A few of my friends have actually designed and built small computers. I envy them this ability. It then occurred to me that an entire course could be taught on how one non-trivial thing, say a small computer, actually works. I don't mean how to program a computer (this is a skill that is now readily being acquired by elementary school students). I mean actually building one—designing the logic circuits and the rest. If such a course were taught for lay people, I would take it myself.

A somewhat similar course was designed something over ten years ago by Edwin H. Marston. He was more interested in how a city, rather than a computer, works, and he put together an Urban Physics Course based on the mechanisms (physical) of cities (testing and using it for five years in classes in a college and a university). The physics of a city has vital importance because—

A metropolitan area does not stand alone. It uses various urban technologies to draw on surrounding regions for food, water, resources, energy and recreation space. Urban areas could not survive a moment without such lifelines as aqueducts, highways, railroads, power grids, fuel pipelines and telephone networks.

To understand our society requires a knowledge of the physical, economic, and social nature of these life support systems. Widespread lack of such understanding can threaten society, since an ignorant population is likely to make extravagant physical demands on the technological infrastructure and to act on political issues such as transportation or pollution-control bond issues in an uninformed way.

Not only does this ignorance of technology interfere with the physical functioning of society, but it also has a cultural impact. Technology—whether it is autos, massive dams, or spaceships—is one of the ways by which our society expresses itself. But it is a means of expression many can only be in awe of or be hostile to—not understand. And without understanding we become urban barbarians—camping in rather than living and participating in our cities. At best, the work of experts and the distribution of resources by the economic system may allow such a society to survive. But as we are

gradually learning, this is not a very satisfactory solution.

We should add something of how this course works with students, and the use made of it by the teacher:

The excitement of the course is that it allows one to investigate profound and subtle questions at a relatively unsophisticated level. The course raises compelling questions for those students who have some imagination and do not accept running water and autos as natural immutable phenomena. For example, the historical survey shows the great technological distance we have come over the past several centuries. And implicitly, it asks why such "miracles" as mammoth dam-reservoir-aqueduct systems, steam turbines and electric energy have not brought us heaven on earth, or at least a more satisfactory physical and social environment than the one we have. It also raises the question of what can reasonably be expected from the next generation of technology, be it fusion power, domed cities, holographic television, or control over the weather.

The students learned the rudiments of first-year college physics along with how their city works. And, what may be more important, they were exposed to the question of "whether technology is under our control or is obeying an internal dynamic of its own."

In his account of the three reasons for teaching science to non-scientists—Curiosity, Technological Bewilderment, and Technological Necessity—Jeremy Bernstein describes a course motivated by Technological Necessity, planned by himself. The subject was Energy, and he called the course science writing for scientists. He gave it at Princeton and to add substance he invited working scientists to lecture and be interviewed by the fourteen students—sophomores and graduates. These lecturers were "experts" on nuclear power, either strongly for or strongly against. The course work was concluded with a ten-thousand-word essay on: "How would you solve the energy problem?" The idea, which Bernstein took from Felix Rohatyn, the physicist "whose clear thinking and determination pulled New York City through its fiscal crisis," was to "bring things down to choices." Of this course, Bernstein comments: "When we began, none of them (the students) knew much, if anything, about the general

details of the general energy problem. The students—and their teacher—learned about it as they went along."

He describes one other technological necessity course—on world hunger. After the facts of world hunger had been blocked in, the key question was asked: "Whom shall we choose to feed?"

The moral dilemma is clear. Feeding people raises health standards, especially the health standards of children. Hence, it produces a growth in world population, which, in turn lowers the standard of living for everyone. This discussion got quite personal. Individual students were asked if they were willing to lower their standards of living—for example, to reduce their consumption of meat, which is a notoriously inefficient way to use both food and energy—in order to feed people they did not know. What are our moral and ethical obligations? How do we balance our self-interests against what is possible and what is right? These are immensely difficult questions and the students, rightly, so were deeply serious about them. The discussion affected all of us, and, one would think, helped the students to think about a future that is, after all, theirs.

This is Prof. Bernstein's case for teaching science to non-scientists—an argument that Vinoba would certainly endorse: "when a problem arises . . . give them whatever knowledge of cosmology, or physics, or any other science, is needed to solve it."

For a conclusion we report the statement of a young American who is working in West Africa to develop the means to a sustainable food supply for the people there. Asked what hope he had of success, he said:

I think that if you sit back and contemplate the enormity of what has to be done, and you see the insane growth of the arms race, you can be discouraged. We don't have the luxury of getting discouraged. We don't have the luxury of being cynical. Not at all! Certainly as Americans we have been given tremendous opportunities of education, power, wealth, the possibilities for affecting change. I don't believe we can sit back and philosophize about whether or not there is hope. That is doomsday politics. We must get on with the work that needs to be done.

Is that an outlook that can be "taught"?

## *REVIEW*

### THE FRAUD OF WORDS

ON the last page of *The Origin of Philosophy*—a brief book Ortega wrote in the 1940s, published in English by Norton in 1967—the author arrives at an answer to the question: How did philosophy originate? It began, he says, when thinkers who used the language of poets inquired into the nature of Being. "People," he says, "glibly repeat that philosophy is a questioning of Being. As if questioning oneself about such an irregular persona were the most natural thing in the world."

When philosophy is said to be a questioning of Being, the premise is that it is going to try to discover the constitutive attributes of Being or of "beings." This implies however that one already has Being in front of him. How did it come to exist in men's minds? Does it not seem more likely that men, having lost the fundament of their lives, questioned themselves about some X phenomenon that would possess certain *prior* attributes—precisely the ones that justified the quest?

This anticlimactic conclusion, however, intimates hardly anything of the rich content of the book. Ortega devotes the other hundred and twenty-four pages to a delightful sequence of explorations, preparing for his final statement, showing how we think about the pursuit of truth. In one place he speaks of how little "words" convey. The word is not the thing, just as the map is not the territory. He makes sure that this is understood. Ortega's approaches seem far more valuable than his destinations, no doubt because in philosophy all of us are still making tentative forays, having learned to be wary of conclusions from a long series of mistakes. He speaks of what words can and cannot do:

Names are a "reference to things." They stand in their stead, in place of them. Language is therefore a symbol. Something is symbolic when its presence serves *as* a representative for another thing that is not present, something that we do not have before us. . . . The word is thus the presence of the thing that is absent. This is its genius—it permits a reality to continue to exist in some way in the place from which it has gone or where it never even was.

The "Himalayas," for example, conveys to me here, in Estoril [a coastal town in Portugal], where the only mountain in view is the puny Cintra—it conveys to me "something akin" to the Himalayas, a vague, shadowy, spectral form of its huge bulk. And while as we now *talk* about the Himalayas, we possess it, in some small measure, we tread it, we are in contact with it—that is we are in contact *about* it.

Ortega, we begin to see, is a philosopher who uses the language of poetry. His truth becomes persuasive through its *vividness*. It seems a toss-up whether this is better or worse than the precise language of reason with only the dull content that has been reduced to *terms*. Prose—nonpoetic prose—eliminates any ranging by the reader's imagination. It deals—can deal—only with finite (definable) considerations. Poetic language, on the other hand, suggests octaves; it generates harmonics. In this sense poetry is better than prose, which takes no risks and for this reason can hardly lead to discoveries. Prose is the language of established fact. It is dull in the sense that it concerns what is already known. Yet prose, in using the abstractions believed to represent certainty, leaves out all the other abstractions that might apply, resulting in an orthodox impoverishment. Its purest form, perhaps, is mathematics, which is bare of any implication other than quantitative—unless, of course, a mathematical genius is at work who begins, almost without knowing it, to make mathematical poetry.

Ortega continues with warnings about the use of words:

However, the presence endowed by the word to the absent object is, of course, neither solid nor real. The representative is never the thing represented. Hence as soon as a chief of state arrives in a foreign country, his ambassador in that country ceases to exist. That's how things are! A name, with respect to the thing named, represents, at best, only an outline, an abbreviation, a skeleton, an extract: its concept. That, *if* properly understood, is not such a soft task!

One begins to see why academic philosophers almost never speak of Ortega. They don't know what to do with him! He writes for himself and

for people, not for "the profession" in the schools. He goes on:

Hence a word's magical power of enabling a thing to be simultaneously in two extremely remote places—there where it actually is, and there where it is being discussed—should be held in rather low esteem. For what we have of the thing, when we have the name, is a caricature: its concept. And unless we proceed with caution, unless we evince distrust for words and attempt to pursue the things themselves, the names will be transformed into masks, which instead of enabling the thing to be in some way present for us, will conceal the thing from us. While the former is the magical gift of words, their feat, the latter, is their disgrace, the thing language constantly verges on—a masquerade, a farce, mere jabber.

He rises to high Spanish dudgeon:

Whether we like it or not, though, the only thing that each of us possesses of most things is its niggardly nominal mask—"words, words, words"—emanations, drafts wafted by the social atmosphere, which we infuse and which are lodged within us through inhalation. Whereupon—because we possess the names of things—we think we can *talk* from them and about them. And then someone comes along and says to us, "Let's talk *seriously* about such and such a thing." As if that were possible! as if "talking" were something that could be done with ultimate radical seriousness and not with the pained conscience of someone performing a farce! If one truly wishes to do something *seriously* the first injunction is to keep quiet. True knowledge, as we shall methodically see, is silence and reserve.

Ortega has the grace to speak to the reader as an equal. He does not pull rank, although he may wag his finger and say, "Now listen carefully!" In this respect all his books are the same. Why did he write so many, if he believed in silence and reserve? For the same reason that Plato wrote book after book, mostly in dialogue form. Both Plato and Ortega are playful, poetic writers—their way of preventing admiring belief.

Since our idea is to persuade the reader to read Ortega, we'll go on with quoting what he says about words and writing, instead of trying to summarize the content of his book. Summaries are usually an offense to meaning.

Here he is talking about how to read Parmenides, who wrote a philosophical poem on Nature.

. . . *adhering strictly* to a text, to what a thinker says, can mean two highly different things: adhering to what is actually said; adhering to the thinker's thought as a whole, but *without* going beyond it to find precursors in other thinkers and in collective thought.

We shall take the latter course, what I consider *adhering strictly* to a text. For the first—confining ourselves literally to the textual content—would limit our understanding of that particular text and the assimilation of the thought therein expressed. Furthermore it would ignore the universal law of language whereby no statement is an adequate summation of its intention, but merely an abbreviation, an insinuation of what it *means to say*. All articulated language partially states or considers as stated many things that act upon the thinker, that *form part* of his thought but are either "left unsaid because they are assumed" or that he himself, because they seem so self-evident to him, neglects to pursue.

The soil of mind, from which the thinker derives his ideas, has its importance:

It is the soil in which he is grounded, and from which his own unique thought and ideas stem. Hence he does not refer to it, just as one does not indicate to people the ground on which one's feet tread at each moment. Finally, all thought represents *thought against*, whether so indicated verbally or not. Our creative thought is always shaped in opposition to some other thought, which we believe erroneous, fallacious, and needful of correction.

A little later Ortega applies this form of analysis to Parmenides' "mythological-mystical poem," in the terms of which he no longer believes, but uses "as a vocabulary."

The defunct beliefs lasted for a long time transformed into mere words. Mythology, once it is dead, has an awesome tenacity. While a belief that is not ours remains alive in others, we take it seriously and grapple with it, and at least take care so that what we say is not confused with what its adherents say. . . . Not only does Parmenides speak about divine maidens, but of a formidable Goddess who will teach him the Truth. . . . All of this constitutes a solemn theatrical wardrobe extracted by Parmenides from old trunks to serve as a disguise. . . . All that we are

obliged to explain is why this man needed a disguise to say what he wished. . . .

Parmenides, in great seriousness (everything about Parmenides is terribly serious), rejected didactic prose, avoided personal comments, and transferred all his elocution to vaguely religious characters and figures. *It is a stylistic necessity.* It is not a whim. Style is the distortion of common language to suit the author's special motives. It manipulates tepid, ordinary, insipid language, kindling and sharpening it, making it reverberate and quiver. Not only does Parmenides reveal his discoveries but—with a justification soon to be apparent to us—he is dazzled by them, he is so overcome with exalted emotion that they acquire a mystical value for him.

Ortega nowhere attempts to say what Parmenides taught. He assumes that his reader is serious enough to have gone to the text and read the solemn poem. He will not denature it with a paraphrase. Rather, he considers what is involved in becoming able to understand this founder of Greek philosophy, this man who used the intellectual soil of his time in order to transform it. Ortega's conclusions may or not be correct—a question which is the least of his value. His book remains a living instruction in how humans think.

## COMMENTARY

### VINOBA'S POINT

IN the Winter *Daedalus* several contributors to this issue on "Reading" give attention to comparison of reading with electronic communication—film, radio, television, and screened computer material. It becomes obvious that by another generation vast changes in our relations to our environment will have taken place. How those changes will affect our thinking and our decisions is still a speculative question, but these writers for *Daedalus* make various predictions, some optimistic, some dire in implication.

One contributor, Dan Lacy, a publisher (McGraw-Hill), draws this comparison:

To convey meaning through print is a demanding enterprise. From an unbounded flow of reality, the author must abstract just those elements—an almost infinitely small fraction of the whole—that he will attempt to convey; must define each by selecting a particular word for each; must describe how he believes these elements relate to each other by arranging the words into sentences (and in more extended communication, such as print is commonly used for, the sentence into paragraphs, hence into chapters, and into the whole complex architecture of a treatise); and must encode all this into complex patterns of ink or paper. The reader, in turn, must decode this pattern, perceiving a meaning for each of the words, and construct an image of the complex structure of conceived reality the author has created. It is simply impossible for any idea or information to be conveyed by print without both author and reader having *thought* intensively about the message.

This seems a finely-drawn account of what Vinoba speaks of (see page one) as "the union of fitting knowledge with fitting ignorance," and which we may call the art of the writer. The art of reading is the ability to recognize and share in the art of the writer.

Yet electronic communication is far better, Dan Lacy points out, when it comes to visual and oral imagery—"to read a description of the Mozart quartet is but a thin and dessicated

experience as compared with hearing it by record or radio; to read a description of a sunset or of an El Greco painting is similarly but a poor substitute for seeing it on a slide or film." But on the other hand:

*Meaning* is a phenomenon created by the reduction of experience into words organized in sentences. The process of understanding is the very process involved in reducing an event to writing. A television documentary about El Salvador or Lebanon can help the viewer create an image more vivid and moving than any conveyed by print; but unless the documentary is accompanied by a spoken analysis—which is, essentially, print read aloud—the documentary will fail to give the auditor the kind of understanding, the kind of *meaning*, he would derive, say, from an article in *Foreign Affairs*. Reading is inherently a different way of constructing an image of reality than is viewing or listening. And it is an indispensable one when the purpose is to require a structured understanding, rather than an impression or an emotional experience, of reality.

This seems the heart of the matter, well put by a man with the skills of a writer. Writing gives the values involved hierarchical structure.

## CHILDREN

### . . . and Ourselves

BY AND FOR THE PEOPLE

THERE is a great deal of talk, today, which calls upon the public schools to make themselves responsible for a renaissance of character. But the schools of today are largely the creatures of government and a reflection of the demands of industry and commerce. All that such institutions can produce is more of the same. Institutions, in short, are effects, not causes, when it comes to exercising influence. Is there any exception to this rule?

We know of only one exception, on a broad historical scale—the Danish folk schools, which began and remained private undertakings in which government played little or no part. The primary inspiration for the folk schools came from a nineteenth-century theologian, Nikolaj Frederik Severin Grundtvig, who throughout his life was concerned with bringing the advantages of education—the resources of history and literature—to the common folk, the peasants, of Denmark. He began thinking along these lines in the 1830s, and attempted to convert the Soro Academy, not far from Copenhagen, into a national academy for the people. As a writer in the March-April 1982 issue of the *Community Service Newsletter*, Finn Slumstrup, says:

But this idea was never to materialize. No State school has ever been created. Instead, during the years that followed, hundreds of smaller Folk High Schools were started, all with a private group of people behind them.

The first of the folk schools was begun in 1851 in the home of Kristen Kold, a cobbler, who at first had only two or three students with himself as teacher. Grundtvig was convinced, as were many Danes of that time, that Denmark needed a national rebirth. Other folk schools were started to enrich the cultural awareness of the peasants, and by the time the Germans defeated Denmark and annexed Slesvig-Holstein, in 1864, there were

fifteen of them. Slumstrup says: "Luckily, the spiritual and social turmoil, of which the Folk High School was a part during the first half of the century, had opened up so much folk-energy that the Danes were able to rise from military defeat and discover new resources both in the country itself and in the spiritual life." On the quality of Grundtvig's inspiration, expressed in a book and in pamphlets, the writer says:

Grundtvig's brilliant ideas, which were almost anarchistic in their boundless confidence in the ability of the human being to govern himself and work towards the common good when placed in a loving and stimulating milieu, were taken over by the teachers who had to try to put these ideas into practice in the often harsh light of reality.

While Grundtvig was a theologian, something of his quality is evident from the following:

Christianity was a given subject in schools of the first generation [before 1864], even though Grundtvig often stressed that Christianity was not a school subject and that atheists could be excellent Folk High School teachers as long as they were not too materialistic in their philosophy of life.

Another writer, Erling Duus (in *North Country Anvil* for November-December, 1979), relates that Edmund Gosse, after hearing Grundtvig preach in Copenhagen, remarked: "He did not seem so much a Christian clergyman as he did some ancient troll . . . who would never die." Grundtvig, he added, never denied the old Gods of the North—they are "transformed, but never denied." Thus "Paganism lives on in the language, in the mythology, in the memory of the people." Duus quoted from Grundtvig:

If we are vain enough to shape our children and our descendants as a full-blown lithograph of ourselves, we bring shame upon ourselves and we help to make the coming generations unhappy. Man is not a monkey destined to imitate other animals or, eventually, to imitate himself.

He is a marvelous and wondrous creature in whom divine forces are proclaimed, evolved, and clarified through thousands of generations. He is a divine experiment, which demonstrates how spirit and dust can interpenetrate one another and be transfigured in a common divine consciousness. In

this manner man must be regarded, if we are to have a spiritual scholarship on earth.

Finn Slumstrup gives an account of the folk schools and of their rapid spread:

The students came, almost without exception, from rural areas and in many districts there was an intimate connection between the Folk High School and the economically better-off and spiritually awakened farmers.

Christian Kold introduced a Dalum Folk High School where he, as principal from 1862 until his death in 1870, established the pattern of a long winter school for young men and a shorter summer school for young girls.

There were no examinations at the school. One came voluntarily and had to pay for the stay. The vocational part of the program played a greater role than Grundtvig, in his ideas, had imagined.

With various nuances from school to school, there was agreement that the goal of a Folk High School stay should be to enable the students, through their meeting with history and poetry, to regard themselves as part of something bigger than themselves—namely the Danish people. And this awakening gave them a personal confidence so that they, with freedom and courage, can go out and participate in the daily life of the people and become conscientious citizens.

Other influences contributed to the multiplication and success of the folk schools:

The development of the Folk High School after 1865 corresponds to the progress of the farmers through the establishment of the cooperative movement and other gains, just as it develops along with the gains of the workers' movement and the cities after the founding of the Danish Social Democratic Party in 1871.

In 1870 there were 52 High Schools. Ten years later there were 64 and in 1890 the number was 75. In 1880 a figure was reached which held true through all fluctuations: that yearly 10% of the youth in the twenty-year-old bracket participate in courses at the Folk High Schools.

In 1905 a Folk High School addressed to the needs of youth in commercial fields was begun. Other such schools were started, somewhat independent of the Grundtvigian-Kold schools.

At the outbreak of the first world war one could only with great difficulty perceive the 70 Folk High Schools as one united movement. . . . a new group of teachers came in and influenced the schools so that the lecture-room was no longer the central classroom. This center was now moved to smaller locations where study-groups worked with a more international outlook than the previous Folk High Schools had had.

More recently there was another spurt in growth:

Paradoxically, one can ascertain that it was in the 70s—a decade which otherwise is often talked about in pessimistic terms—that the Folk High School again took a great leap forward. There were 54 schools at the beginning of the Second World War and the same number when it ended. The number rose slowly to 55 schools in 1950, to 62 in 1960 and to 80 in 1970. The number has, however, reached 91 in 1980. The highest ever!

Short courses of from one to three weeks were greatly expanded, with almost 500 during 1981. In the previous year, 32 thousand students participated in these courses. There was also an increase in the number of students attending the long courses—the traditional core of the Folk High School. By reason of the diversity of the courses offered, it has become quite difficult to tell what happens in a Danish High School. Important to notice is that this is an educational movement sponsored and maintained by the people.

## *FRONTIERS* The Only Known Cure

A QUESTION raised in the December 1982 *Institutional Investor*—"Will the 21st Century Be Worth Waiting for?"—gains the answer of a decided "Yes" from the featured writers, Herman Kahn and Isaac Asimov among them. This was our first experience of *Institutional Investor*—published for bankers and stock brokers—and likely to be the last, since such journals do not normally come our way. The magazine is large, heavy, obviously prosperous (filled with "institutional" ads), and so optimistic about the future that you wonder whether the editors ever read the daily press. One thing is plain from its pages: contributors, and doubtless readers, measure all the possibilities of good and bad in economic terms. With an exception or two, the delirious expectations of the writers leave the anticipations of old theologians concerning the material appointments of Heaven far behind.

Herman Kahn begins by giving ten reasons why he believes that "the future looks mostly good," with the global economy in the year 2000 "more stable and productive" than at present. He repeats the fears of some observers, commenting: "I don't believe that any of these are likely obstacles to economic revitalization." But it would be disastrous, he thinks, if Iran and Iraq should make peace and expand "oil production by about 2 million or three million barrels per day."

Azimov starts by celebrating all that scientists have learned from various "space probes." The list of accomplishments, he says, is endless, "and it has all been done cheaply, for in those 25 years the world has spent less on space than it has on tobacco and only 1 or 2 percent of what it has spent on war." The "energy problem," he thinks, could be efficiently solved by hanging a vast array of photovoltaic cells out in space—"22,000 miles above Earth's surface," right over the equator—and there are simply incredible things we could achieve by mining the mineral resources of the

moon. We could also transfer all unattractive and polluting industry to somewhere out in space—it's big enough. He says:

We are on the verge of a new industrial revolution far greater than any we have already experienced. There is no reason why many, if not most, of our factories should not be relocated in space, especially now that, thanks to the rapid development of computerization, they can be managed by robot labor supervised from a distance.

World peace might result from such a project:

The movement into space, however, will be so enormous an undertaking that it will surely require an international effort. It is possible that in the shoulder-to-shoulder work that would result, a sense of "globalism" would arise, a feeling of "Earthmen together" that would drown localisms.

While success, Azimov warns, is not inevitable—since nuclear war would be a fatal interruption—a "space-centered society" is a future worth striving for: "Shall we condemn ourselves to stagnation and death on a used-up, worn-out planet?"

Computers, another writer declares, will replace human secretaries in the offices, and magazines won't be printed but read on screens. A technology futurist predicts that cars will not be eliminated by public transport systems, arguing that "mass transit is used for only 0.2 per cent of urban travel," and that "improvement of only 0.2 miles per gallon in the average car would save more energy than doubling transit ridership." Anyway, we may have no fuel problems if the cost of using (making) hydrogen can be reduced. The technology is ready, with only production cost standing in the way. Meanwhile, the trains of tomorrow may run in tunnels across the continent—from New York to Los Angeles in less than two hours—with cars that "float on pulsating magnetic fields, driven forward like surfboards on a wave." These "mag-lev" trains, it is claimed, "could reach a speed of 6,000 miles per hour at the trip's midpoint."

We didn't read every page of this anniversary issue of *Institutional Investor*—our will to believe

isn't strong enough for that—but on page 289 we found a story which, unlike the other contents, seemed filled with predictions more likely to come true. Nancy Welles writes on "The Death of Paper" in a long letter to an imaginary student son in England, explaining why his parents sent him there. The time is December, 2005:

Your video cards make it clear you're still unhappy with being "packed off" to Cambridge to finish your education. The fact is, John, we searched for a long time for a qualified tutor to guide you through that magnificent library—Did you know it's one of the last traditional libraries left? And we insisted that you spend these years studying Western civilization because of our own sad experience with what has come to pass for education in this so-called information age of ours. Does that sound like an anomaly? (Look up the word in the dictionary I gave you, but be *careful* with that precious volume—it's a real collector's item.) But let me explain why I feel so strongly about this.

Do you recall at all the events leading up to the disappearance of paper? It was just five years ago, in 2000, that the transformation to our glorious "electronic society" was complete. What a sorry day that was, in retrospect—and what terrible consequences followed so soon afterward. Actually the whole process began in the early 1980s, a decade before you were born. That was when personal computers, the predecessors of our own computerminals but not nearly so powerful and with really no memory to speak of, began to become popular on a wide scale. They were crude, but people saw them as vast improvements over calculators or typewriters. (Do you remember seeing samples of those at the Smithsonian last summer?)

Nancy Welles traces, step by step, the abandonment of the use of paper. Ironically, she says, "the paper companies were among the least affected, because they caught on early." But office equipment makers couldn't comprehend the trend and were clobbered. The effects were far-reaching:

Massive unemployment, technostress—that plague of the 21st century—and the decline of literacy are our most serious problems today, and they can all be traced to the computer revolution . . . Massive numbers of sales people, who once made up the largest category of white-collar workers, were laid off

once consumers showed their preference for compushopping at home. And robots, of course, virtually eliminated workers from factories.

People got out of the habit of reading, and children learned to recognize only a few words. Nobody tried teaching them much of anything. Here, compassionately, Miss Welles brings her letter to an end:

As if this creeping illiteracy and rampant unemployment were not curses enough, there is technostress. You've seen what it's like. The initial spasm of violence—often directed, fittingly enough, at the computerminal—followed by the slow withdrawal from everything, and finally the catatonic stupor. The only known cure is complete physical separation from all electronic devices. Eventually, most people recover sufficiently to engage in rudimentary physical labor, like that former bank executive down the street.

Perhaps this little history lesson will help you understand, John, why we sent you to Cambridge. We devoutly hope that a classical education will equip you with the kind of vision that seems so painfully absent in this strange new world. . . .

Love, Mother