VOLUME XXX, NO. 48
NOVEMBER 30, 1977

THE DUAL OCCUPATION

IN one of his management courses, Peter Drucker—a remarkably sagacious man—gives advice on how to pick a candidate of about age thirty for a job involving executive responsibility. You need, he said, someone who, by that time, has either learned how to do one thing particularly well, or has gone through some excruciating ordeal of failure, almost complete failure, and has already made a fresh start.

What is the basis of this recommendation? Well, these are forms of experience from which human beings learn essential lessons about how the world's processes work. There is universal instruction in becoming exceptionally good at a particular and demanding skill. One absorbs the *principle* of excellence in this way, or has opportunity to. False optimism and sentimental expectations are ground into dust. The stubborn recalcitrance of raw materials is recognized as a fact of life. That no one can make much of anything without real knowledge of the materials he works with is lesson number one. Lesson number two is that you have to have a clear idea of what you want to make, and be able to define the level of refinement or finish that is required for functional completion. These lessons apply, whether you are coaching a high-school football team, running a plant that produces farm equipment, or making and selling low-cost funky fireplaces out in your backyard for the growing market of alternative-minded people.

A manager is someone who has somehow learned how to avoid doing what works poorly or not at all. This is the value of falling on your face. No one is silly enough to argue with gravity. You have to learn how it works and use it. Freedom is knowledge of necessity, as numerous philosophers have said. A manager needs to know the ranges and limits of the freedom to which the project and his job give access. If he doesn't, he'll take the company into bankruptcy unless someone stops him in time. A good manager, besides knowing a lot of other things, knows what not to do, where to stop. Blake said that the heart of being an artist is the power of imagination, but that of almost equal importance is controlling its flights. No drawing is worth looking at unless the draftsman knew where to draw a limiting line.

Peter Drucker is saying that a young man with no experience of the trauma of failure is not a good candidate for responsibility in business. He is probably still living in a world of adolescent illusions. Drucker is in effect quoting Ortega's *Revolt of the Masses* to the effect that only the man who has been made to feel completely lost knows how to locate firm ground. "He who does not really feel himself lost, is lost without remission; that is to say, he never finds himself, never comes up against his own reality." Ferdinand de Lesseps made a shambles of the French attempt to dig the Panama Canal because he had never learned to encounter geographic reality with an open mind. He thought his dream could define the facts of engineering. This delusion made a fiasco of the end of what seemed to many a heroic life, ruining thousands of trusting investors.

Mr. Drucker is explaining how to make a well calculated risk out of hiring somebody to run a business, or some department in it. When it comes to human beings, there can be no sure thing. But there are always necessary, even though not sufficient, conditions which can be clearly defined. A man with no sobering failures in his life has not even begun to live in any effective sense. A man who has no distinctive skills has no idea of what doing a good job will demand of him. Put this way, the realities are obvious enough. Mr. Drucker is valuable to his readers because he knows ingenious ways of

making such common sense seem fresh and impressive. He knows how to dramatize certain essential lessons—lessons all humans need to learn.

What has this to do with the creation of a good society? The answer has to be: nothing and everything, or almost everything. Hell, they say, is paved with the illusions of people who were convinced that they meant well, but who lacked working knowledge of both success and failure. How, after all, would you define success except in terms of the avoidance of some level of failure?

A business expert was once called in as a consultant to help salvage a large but failing ceramics business. After wandering around the plant for a time, he had a long session with the production superintendent. He had been out in the warehouse, looking over the stock waiting for shipment to fill orders. Over on one side of the warehouse was a large assemblage of pottery kept separate from the rest. He asked why it wasn't placed in stock. The superintendent told him, "Those are seconds—they don't come up to our standards." The expert looked at a few of the pieces and couldn't see what was wrong with them. The flaws were almost microscopic. He also saw that twenty per cent of the plant production was in the "seconds" category. He turned to the production boss and asked: "How much perfection do you think the public is willing to pay for?" There was a big argument, followed by long conferences. Eventually, the company got the point. But the production man's notions of achievement and success suffered almost mortal injury. Probably he had to be replaced. Somehow, during his previous experience, he had never been confronted by the need to find a working balance between technical perfection and the wants of the buyers.

This illustration, of course, ignores other lessons. Take a man who makes beautiful hand-made furniture—*honest* furniture, as some craftsmen would say. A fine chair is the delight of his life. He will hate to sell it, and when he does the money won't pay for his time. He can't earn a living at making furniture his way, and if he accepts public relief to stay alive he has to go out of business. He is, many people would say, an impractical man, a failure if there ever was one. But he is *not* a failure in the eyes of the young fellow who wants above all to learn to be a true craftsman. The old fellow has kept alive a craftsman's *ideal*—he has kept present in the world a quality of work and an idea of the good that is so important it can have no price. He is, you could say, a Socrates among workers with wood. People—some people—laugh at him condescendingly while paying a little more than usual for a chair which seems to have in it something of the radiance of the man who made it. In their possession it fades, but, some day, some youngster with an urge for working with hand tools will see it, understand it, and set out to be another Socratic craftsman, and probably remain a bit hungry all his life. This matters to him, but not enough to change.

Or take Cesar Chavez. Is the United Farm Workers, which, you could say, he built out of practically nothing, a "successful" union? There is both sense and silliness in the question. Is it as successful, say, as the Teamsters Union? But Chavez has another goal, different from what the Teamsters seem to be trying to do. An incident—a lot more than an "incident"—which occurred during the time when Chavez was signing up the grape growers in the Coachella Valley illustrates the strange and wonderful differences in the ways people think about unions and what "success" means to them. While Chavez and the American Farm Workers were negotiating contracts there with the growers, interesting things began to happen in the Central Valley. Chavez relates (in *Cesar Chavez* by Jacques Levy):

> One day a strike started at a peach ranch in Kingsburg, about twenty miles south of Fresno. I think it started over someone being fired. Then it developed into a community strike. People came from town, put up tents next to the road by the orchards, and set up stoves. Women cooked, and men

came day and night to eat there. The spirit was so strong, the strike was still going after a week.

When we investigated and learned the orchard belonged to Hollis Roberts, Dolores went to talk to him. We almost flipped when he agreed to negotiate. We thought we were fishing for trout, and we caught a whale. Roberts operated more than forty-six thousand acres spread over five San Joaquin Valley counties, and he employed more than four thousand workers. Later the press reported that he grew about eighteen fruit and nut crops; that he was the largest producer of walnuts, almonds, persimmons, and canned figs, and that he had more acres of citrus than any other grower in the country.

I met Hollis Roberts during the negotiations, a huge man about six feet four inches tall. He was an Okie who came with his wife to California during the depression. They were so poor they worked together in the fields picking cotton and other crops.

Then they made it. He's some sort of organizing genius in business. Now they live in a huge, fancy house. I remember having to use the phone there, and Roberts leading me into his bedroom. The house seemed to go on and on and on.

Roberts was very honest, and I felt I was dealing with a rich farm worker—no pretense or anything. But he had a rough way of talking. At different times he talked about those "niggers" in the fields and he called the Mexicans "my boys."

I finally shook my head and said, "That's all. No more!" I told him, "These are grown men. Why do you keep calling them boys?" He couldn't understand what was wrong. "Well, I've always called them that, and they don't mind, so why should you care?"

"Even if it's all right with you and your men, it's not all right with the Union. So we will no longer call them boys or riggers." It was the same education we seem to go through with everybody.

After the contract was signed covering all his crops, Roberts told me, "Cesar, you're a big man now. You got to get yourself a Cadillac. Don't play around with those Fords." And when I complimented him on his huge office, he said "Well, you should have one this size, maybe even bigger. You're a big man now. You gotta have a bar, all those things." And he meant it. He wanted me to buy a Cadillac right away.

He became very helpful, very active rounding up other growers to sign up. For a while I felt like making him my number one organizer. But I learned long ago you can't get too dose to those you have to deal with across the table.

Not many of the American Farm Worker contracts are with ex-Okies who have forty-six thousand acres in fruit and nuts, and are honest and friendly, but that such things happen at all is an aspect of the matter of "success." Both Roberts and Chavez are great successes, each in his way. Chavez for a long time lived on five dollars a week with food and lodging for his wife and eight children. He did this because he wanted to—because he thought it was the only way for him to live and accomplish what he was determined to accomplish. And his co-workers did the same.

So success, unless you have a clear idea of what you mean to do, and what are some of the ways and conditions for doing it, is a meaningless word.

That is why there is value in the moral neutrality of Peter Drucker's analysis. Each individual has to add to the equation the light which establishes consistency between his means and his ends. Only experience, plus the capsule sort of generalization given by Peter Drucker, helps toward grasping the meaning and application of consistency.

Both Chavez and Roberts had been "smashed." Roberts was a wiped-out Okie. Chavez was a young farm boy dispossessed of the family land and thrown out with his family on the roads to harvest crops for about the meanest set of employers of mass farm labor in the country or the world. Both Chavez and Roberts learned how to do things well. Both grew in their stature by reason of doing things well. Roberts grasped the essentials of successful agribusiness. Chavez knew his countrymen, what farm workers needed and had to have to stay alive, what was in their hearts, and how their minds worked. Roberts has a vast farming area, four thousand employees, a big office, a Cadillac or two, and finds himself able to be honest and fair in his relations with a union organizer like Chavez.

Both, in other words, qualify as great executives according to Peter Drucker's formula.

Time is a crucial factor in any definition of success. How long does it take to do a thing properly and well? You have to decide whether you are doing something that can be "finished" at all. The measures of effectiveness vary a great deal, depending upon such questions. Chavez says:

> Naturally, nonviolence takes time. But poverty has been with us since the beginning of time. We just have to work for improvement. I despise exploitation and I want change, but I'm willing to pay the price in terms of time. There's a Mexican saying "Hay más tiempo que vida"—There's more time than life. We've got all the time in the world. . . .

What made Chavez select the calling to which he has devoted his life?

Mr. Drucker has no rules for identifying such individuals in a given population. There *aren't* any such rules. They have to identify themselves. Yet such men have existed and exist today. They have this extraordinary motive of service to other human beings in need, and they *also* know something about how things work along the way to fulfilling that need.

It seems desirable to notice here that teachers who are more than expert technicians on how the world works—more, that is, than sophists, and there are good as well as bad and indifferent sophists—have their own way of selecting followers or students. They look for people who share in the motives of that rare band of humans determined to work for the rest of mankind. The Buddha was willing to explain how things work to people who wanted just to stop hurting. He told them what to do, how they had to control their cravings and to stop thinking in ways that put them in psychological jails. But to those who wanted to know the whole truth, he said that they would have to make up their minds to become Buddhas themselves, and also be willing to arrest their development at the Bodhisathic level—stay around, that is, to help their fellow men, giving up Nirvanic bliss.

Socrates—or Plato—in another epoch and among men of another culture, set similar qualifications. Socrates wouldn't talk much to people unwilling to take their first principles out and look at them. He sent them to the Sophists, the career-designing technicians. The Sophists didn't seem to care what sort of person they taught their skills to. If the pupils paid their tuition they could learn the tricks. What is a good trick? It is being able to manipulate the everyday materials of life in a way that impresses other people. They don't know how you do it and they'll pay you good money to work for them or go in some kind of show. The intellectual skills involve the manipulation of symbols—the currency of the life of the mind. Socrates had these skills, too—he had them amply—and he used them as a sort of come-on, hoping that the people who saw the penetration of *some* of the things he said would begin to ask themselves questions that not even a Socrates could answer. Those, he knew, are the only important questions—the *eternal* questions—since turning them over in your head, time after time, now and then results in a wonderful pregnancy for a human living in time and space, and then a great if finite wonder of the world is born. That's all that can he born in our world—finite wonders. But the splendor of a finite wonder is a reflection of the timeless gleam of what can't ever be born because it doesn't belong *in* time and space and can't be dragged in, yet is somehow the parent of everything good and great.

That is what Socrates knew, as he went around the streets of Athens, trying to stir things up in the minds of young men, trying to get them to think thoughts which have divine parentage. It takes forever, of course, and Socrates knew that, too. No man who feels the touch of eternity gets discouraged or even impatient. Although, sometimes, he may get temporarily disgusted and just go away. Lao tse, they say, got disgusted and

went away, but he left behind a book which has kept him with us yet.

From the world's point of view, the great teachers are the world's great failures—the Buddha, the Christ, Plato, and a few others, too recent, perhaps, to be named in easy generality.

We can use Aristotle to advantage here. Aristotle said that there are four levels of causation. There is the efficient cause making something visibly be. A carpenter is the efficient cause of a house. He takes the wood and other things and makes the house exist. The carpenter's skills can be learned, and there is delight in being a good carpenter, just as there is money to be paid for a good house.

Well, there is also what Aristotle called the material cause in the case of a house, the wood and stone and all the other things that get used today in a house metal, plastic, clay—a house is not a simple thing any more. The efficient builder understands the material cause. A mechanic is no mechanic unless he has working knowledge of the properties of the materials to which he applies his skills.

Then there is the ideal cause—the ideation transferred to blueprints by the architect. The builder takes the idea as given and puts up the house. But there is also—and it should have been named first—the final cause, without which nothing would happen—without which there would be no events at all in the world, not even a world, but only some sort of cosmic entropic drift. The desire to have a dwelling is, then, the final cause—basically, the will to *be*.

Be what? What one has been, only in some richer, better way. There is no use talking about original starting-points in causation. They don't exist. The structure of thought about causation collapses completely if you push too hard back toward some unthinkable moment or circumstance of absolute beginning. There is no knowable beginning without a prior ending. There is no stick with only one end. All events have both antecedents and consequences. All talk about events requires them. So there are only relative beginnings, relative endings.

To be a human being is to have some inkling about what is going on all around and inside ourselves. Now and then the inkling explodes into some great insight about the nature of things, and then a cycle of history or culture begins. Elaboration of the implications of the insight makes the structure of the civilization. When you know something about structure, you know something about how things work, and this keeps the technicians busy until they run out of raw material, or until another explosion renders obsolete all the clever things they know.

Well, there are the fascinations of structure and the fruits of toil and manipulation, and also the satisfactions of doing the things we know how to do well. Ninety-nine per cent of education is involved in all these techniques of an epoch. But from the Buddha's point of view, and that of Plato and Christ, this is only the Jack Homer stage of civilization. "What a great boy am I!" people keep saying. Don't *we* have a *great* society! the politicians orate, not waiting for an answer. They don't need an answer; they got elected by repeating such nonsense. But it isn't nonsense to people unless they are able to take to heart Shelley's poem about Ozymandius of Egypt.

If someone thinks to himself, There is something in me that will last forever, and I ought to be doing something, or even living a life, that lasts forever, he starts going to school to Buddha or Plato or Christ. He enters the first grade. But he also has a mortal life to live and a house to build. It really gets confusing. But sometimes this dual occupation results in a magnificent tapestry of life. A more stately mansion, you could say.

REVIEW
POLANYI'S LAST BOOK

THE horrors of totalitarian rule drove the late Michael Polanyi (he died in February, 1976), an eminent chemist, to inquire into the roots of human behavior. For him this meant seeking an answer to the question: Why do men think as they do? The turning-point in his outlook may have come when he saw what happened after the uprising of Hungarian humanists in 1956. The moral reality of their devotion to Truth above the formulas and dictates of ideology was wholly ignored by the world of Western scholarship. He saw that the language of devotion to truth had become alien to modern thinkers.

Polanyi wrote in the *American Scholar* for the Autumn of 1966:

> This analysis shows that a science that claims to explain all human action without making a value judgment discredits not merely the moral motives of those fighting for freedom but also their aims. That is why the Hungarian revolutionary movement, which revived the ideals of 1848, and which claimed that truth and justice should be granted power over public affairs, has met with such a cold reception by the science of political behavior. Modern academic theories of politics, on the contrary, give support to the doctrine that denies that human ideals can be an independent power in human affairs.

Finding this intolerable, the chemist turned philosopher and investigator of the thinking processes which have led to this condition. In the preface to his major work, *Personal Knowledge* (University of Chicago Press, 1958), he said that he was inquiring into "the nature and justification of scientific knowledge." He had found that the way people think about scientific knowledge affects a much larger area, leading to "a wide range of questions outside science." His book undertakes a radical reform in the idea of knowledge. As he says:

> I start by rejecting the ideal of scientific detachment. In the exact sciences, this ideal is perhaps harmless, for it is in fact disregarded there by scientists. But we shall see that it exercises a destructive influence in biology, psychology and sociology, and falsifies our whole outlook far beyond the domain of science. I want to establish an alternative ideal of knowledge, quite generally.

Thinkers of the stature of Abraham Maslow and a number of others became convinced that Polanyi achieved this objective. While the spread of his influence has been slow, virtually all the leaders in new ways of thinking about science and society have been influenced by him. Readers wanting to inform themselves about Polanyi's thought might begin by reading his *Science, Faith and Society* (Phoenix, 1964) and *The Tacit Dimension* (Anchor, 1967), which briefly embody the essence of his ideas. But for the full impact of his work, study of *Personal Knowledge* is essential.

We now have for attention what amounts to a final distillation of Polanyi's philosophical thinking concerning the idea of knowledge in a volume titled *Meaning*, which he wrote with the help of Harry Prosch. It was published in 1975, shortly before his death (University of Chicago paperback, $3.95).

The general problem of knowledge is set in this way:

> The rebellion of scientific rationalism against religious authority was based on the appeal to facts against dogma. Positivism merely pursued this movement to its logical conclusions by repudiating metaphysics along with dogma. . . . This view in effect discredits all ethical statements . . . to call something immoral, unjust, or evil is to speak with no empirical meaning; and it appears doubtful then whether such a statement could have any meaning beyond the kind of exclamation one may make when biting into a worm in an apple or when shouting to stop others from doing things one finds distressing. . . As long as science remains the ideal of knowledge, ethics cannot be secured from complete destruction by skeptical doubt.

How does this affect mankind at large?

> Philosophy could never have much effect upon the masses. But ours is an age of philosophic mass movements. A glance at current books or at the daily

> newspaper reveals the same corrosive passion for destroying man's moral image or himself. . . .
>
> Can we get rid of all these malignant excrescences of the scientific outlook without jettisoning the benefits which it can still yield us both mentally and materially?
>
> This appears to be a large order. But we can start mending this supposed break between science and our understanding of ourselves as sentient and responsible beings by straightening out our conception of scientific knowledge. Let us therefore do something quite radical, something quite forbidden by our current views of science. Let us incorporate into our conception of scientific knowledge *the part which we ourselves necessarily contribute* in shaping such knowledge.

Much of this book is devoted to tracing the cultural and moral results of scientific thinking. Polanyi is intent upon showing that the neglect of moral longings, ethical intuitions, and the essentially human devotion to truth, virtue, and brotherhood has in large measure destroyed the foundations of civilization and undermined the integrity of science itself. These human qualities are the substance of art, poetry, metaphor, myth, and religion—the carriers of all our intellectual and moral riches—and must be restored, Polanyi maintains, to positions of respect and reverence.

What is lost by ignoring these qualities becomes evident from Polanyi's comparison of archaic thought with the scientific outlook:

> In evaluating the differences between the archaic and the modern approaches, we have to maintain that the archaic mind is better in many ways. It is right in experiencing names as part of a named person and an image as part of its subject; for a name is not a name, nor an image an image, except as a subsidiary to the focal center on which it bears. And such is the nature of all meaningful relations. Admittedly, the archaic mind tends to exaggerate this coherence to the point of absurdity, but it is closer to the truth than the modern view, which has no place for the quality and depth of these coherences nor, therefore, for the full extent of the subsidiaries that are necessary to their composition. This difference becomes essential in the observation of those comprehensive entities that can be observed only by indwelling. The archaic mind recognizes indwelling as the proper means of understanding living things. Modern biology and psychology abhor this approach to life and mind. The import of their teaching tends rather to be that we are all machines and, in the last analysis, mere atomic topographies. These ideas of Galileo, Gassendi, and John Locke, coupled with Humean associationism, have paved the way to the achievements of modern science, but at the same time they have deprived everything that is of primary interest in the world of any grounds of meaning for us.

The assumptions of science, far more than the impact of technology, are responsible for this collapse of meaning:

> The main influence of science on modern man has not been as is often supposed, through the advancement of technology; it has come, rather, through the imaginative effects of science on our world view. The industrial revolution came about without substantial aid from the scientific discoveries made up to that time, but the imaginative effects of the Copernican revolution were already widespread. The visible universe had been immensely expanded, the earth thrown out of its supposed central location, and the ultimate grounds of man's existence reduced to the mechanics of matter in motion. During the past eighty years or so the progress of science has become a mainspring of technical progress, and this has changed many of our habits, improved our material welfare, and brought us certain special problems; but it has not had anything like the profound effect upon our conception of ourselves as human beings that Darwinism had and Darwinism has been responsible for no technical progress. It was not technology that produced the totalitarian ideologies which brought the disasters of the twentieth century into being, along with the feeling of absurdity and contempt for human society that are current today. We may thank the scientific image of the world, as reflected in the modern mind, for these.

Polanyi shows that the rejection of all moral authority and all tradition soon found expression in the arts, it being held that only one's personal feelings or opinions can have integrity, since the standards of society are by definition hypocritical. In time this bohemian independence developed into philosophic nihilism, which became armed nihilism after the first world war. There was, however, a twofold effect:

> Because painters and poets condemned the world as absurd, they represented it as a heap of fragments. But because they were artists, their vision brought this supposedly dead pile to life in their works of art! These artists thus preserved the honor of their nihilistic protest by cutting the world to pieces; but they inadvertently triumphed over this destruction of meaning in our social life by evoking in this rubbish meaningful images never witnessed before. . . . Modern art has clearly been influential in discrediting all affirmations of noble sentiments, and we may regret this, but this baleful influence does not efface its achievements. It accentuated the decomposition of meaning by crying out against it, but its power to transcend this decomposition by new ranges of visionary experience has revealed to us new worlds of the imagination. On balance, therefore, it would seem to have achieved more meaning, in spite of itself, than it has destroyed.

These passages illustrate the level of Polanyi's analysis and the direction of his criticism. A grasp of the reconstruction he proposes will require the reader to absorb the thesis of *Personal Knowledge* and the conception of knowing developed in *The Tacit Dimension*—ideas which are repeated at some length in this book.

The concluding chapter of *Meaning* presents the idea of a society which preserves its qualities of freedom and openness by refusing to insist on "perfection," recognizing? instead, that, since humans are themselves as yet imperfect, their society will inevitably reveal defects.

COMMENTARY
"THE DOMINANT SOCIALIZING FORCE"

AT the end of this week's "Children" article Nicholas Johnson is quoted as saying that he plans to do more "research" on the effect of TV-watching on the young. He would do well to talk to a few teachers. For example, Peter Abbs says in *Tract* 22 (published by the Gryphon Press, 38 Prince Edward Road, Lewes, Sussex, England at £3.50 a year for American subscribers):

> We need to consider commercial culture as a whole. We need to discover how a child's sensibility is affected when he grows up in a family where Radio blares out most of the day and TV images flicker most of the night. We need to ask what parts of the child's mind and body are being alerted and trained by his cultural environment. What parts are being numbed? What parts remain untouched and, thereby atrophy? We need to inquire how the child's mind is affected by the poetry and mythology of advertising. We need to know whether television, by providing so much detail and that so constantly, effaces imagination and, in so doing, develops a deep passivity of mind, an unwillingness to grapple with life, an inability to initiate events. We need to know whether the casual stance adopted by the intelligent young today derives from a profound sense of cultural relativity fostered by the arbitrary flow of the serious and the trivial, the real and the unreal, which marks television entertainment, magazines, newspapers and radio alike. Today's university students form the first TV generation and they manifest a fear of deep seriousness and deep feeling. . . . We know that the reading of literature demands privacy and calls upon complex powers of the imaginative reconstruction and, thereby, tends to develop a sense of inwardness. Is it true that what comes through electronic culture does not demand or foster the same qualities? Is it possible, also, that in thousands of homes television has now become the dominant socializing force having more influence than even the surrounding family?

What about the effect of TV on adults? The effect TV programs are *meant* to have is a part of the answer. In a review in the *Nation* for Oct. 29, Herbert Schiller, author of books on this subject, observes that in media presentations "economic and cultural elements are combined in imaginative ways that seem to deny the existence of the former and to affirm the priority of the latter, when the reverse is actually the case." Ten years ago this writer declared that "Monopoly, profit maximization and a public-be-damned stance are located in the most dynamic, modernized, and 'cleanest' industries." . . . "The situation today is appreciably worse. . . . Television and radio are, in the truest sense, the bought instruments of huge, consumer goods producers. ."

CHILDREN
. . . and Ourselves
WAYS OF BEING SILLY

EVERY now and then—probably more often than we recognize—we come upon apparent problems that shouldn't be solved for the excellent reason that the only real problem is the continual emergence of such problems. There is for example what is called the "knowledge explosion." It is well known that, academically speaking, there can be no more Renaissance men. Today no one could achieve a "well-rounded" education even by spending his whole life in school. There is too much to learn—too many specialties, too many fields and too many "facts."

This "problem" translates into a spread of technical difficulties for libraries, which must store and make accessible material now growing at an unprecedented rate. According to the Ford Foundation *Letter* for June 1:

> During the past few decades rising costs and an information explosion have placed a tremendous burden on the nation's libraries. For example, the subscription cost of periodicals has more than doubled in the past ten years, and the purchase price of books has nearly doubled. In addition, the modern library is expected to acquire and care for a staggering amount of nonprint materials, including films, tape cassettes, photographs, and records. It must also respond to the needs of the growing number of adults continuing their education and scholars seeking specialized data. Last year members of the Association of Research Libraries alone (ninety-nine libraries, not counting the nation's 8,382 public libraries and thousands of school and college libraries) reported some 300 million items in their collections (including nine million new books acquired in 1975) and $522 million in operating expenses.

Who among the librarians will have any time simply to *read*, when they are so busy putting all that stuff away and then digging it out again for the people who want to look at it? (Librarians ought to want to read, or they shouldn't be librarians.)

Such problems are of course a great "challenge" to the technologists. It is now possible, for example, to shrink a page of type down to the smallest size that can be read with a high-powered microscope, and according to John Platt (*The Step to Man*) electron microscopy is able to reduce printed matter 100,000 times, so that all the books in the world can be contained in a tiny stack of films half a millimeter high—no bigger than the head of a pin! But there remains, as Platt observes, the crucial problem of *selection.*

Platt wrote in 1966, noting that then there were about twenty million books that should be in all the important libraries. How many more should—or shouldn't—be there today? This problem is not merely "overwhelming"—it is ridiculous.

Another sort of problem listed in the Ford Foundation *Letter* has to do with the paper we produce in such enormous quantities (decimating our forests):

> Since books and other printed items still comprise the bulk of library collections, research on ways to halt the deterioration of paper remains a high priority. Since 1957 the Council [on Library Resources] has supported the pioneering work of the late William J. Barrow, who discovered that acidic chemicals used in the manufacture of paper were responsible for its subsequent decay. He developed a bath to deacidify books, initially by immersing them one sheet at a time. Today, staff at the Barrow Research Laboratory are testing a new vapor deacidification device that can treat between 50 and 100 books in less than half an hour.

This sounds quite ingenious, but more important, surely, would be to figure out how to deacidify the lakes, streams, and littoral regions poisoned by waste discharges from the numerous papermaking plants.

It may be romantic or medieval to recall that in the days when paper was made by hand, only pure water was used. (Dard Hunter tells about this in *Papermaking*, Knopf, 1947.) Why couldn't there be an intermediate papermaking technology that would be more than a hand operation, but not

require acids to break down the cellulose structure?

This question will doubtless seem silly so long as libraries continue to acquire nine million books a year. But in the not so long run the "final solution" for this insane congestion may be far more limiting to our lives than the pastoral simplicities of a once and future harmless technology.

There is another sort of silliness which many good people seem to be indulging—the effort to force the producers of television shows for children to clean up their programs—reduce the "violence" and other spectacles that it is felt children ought not to watch. The "silly" aspect of this movement was effectively noted by Nicholas Johnson, son of Wendell Johnson, who has been campaigning for reform in television and other mass media. In a review of *The Plug-In Drug* (Viking) by Marie Winn, a *Los Angeles Times* writer (March 24) reports:

> One person who already has been moved by Miss Winn's book is Nicholas Johnson, the former Federal Communications Commissioner who is now at the forefront of the media reform movement as head of National Citizens Committee for Broadcasting. *The Plug-In Drug* will have a serious impact on the thrust of media reform, he says.
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> "The whole media reform movement for the last ten years has been addressed to 'bad TV,' and the effort to substitute 'good TV'—trying to make something more out of TV than just a time-waster," Johnson said. "Now along comes Marie Winn and says that TV is dope and that the difference between good TV and bad TV is the difference between good dope and bad dope—and there ain't no good dope."
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> He said his group already is pursuing the reasoning in her book and looking for more research material on the subject. He hopes to come up with some public policy recommendations in a year or two but sees tremendous political problems in effecting change at anything but the individual level. "How do you mobilize addicts to protest the availability of their addictive drug?" Johnson says.

Attempting this would indeed be silly, and anticipating "tremendous political problems" at all but the individual level is a way of declaring that it could not possibly work. On the other hand, Marie Winn's book, the *Times* writer says, "makes a compelling case for the individual to take control of his own set." There is this summary:

> The essence of that [television] experience, Miss Winn maintains, is that it is a passive, escapist, addicting activity requiring virtually no input of any kind from the viewer, adult or child. Where that might be thought of as relaxing by an adult, to a growing child it is interfering with his need to interact with his family and peers, to develop a capacity for self-direction and thus independence, to acquire fundamental skills in communication, to create his own make-believe situations and to learn about himself through work and play. . . . What she finds most insidious about this drug-like bondage is that frequently it is induced by the parents to meet their needs, not the child's. . . . She strongly recommends that parents ask themselves how and why the child is looking at TV before concerning themselves with what is being looked at.

Mr. Johnson speaks of doing more "research."

FRONTIERS

The Lesson of Bronxville

THE blackout which last July cut off the light and power of some nine million customers of Consolidated Edison in New York has had several follow-ups in the press, most of them focusing. on the looters who broke into stores, costing merchants millions of dollars in stolen goods and vandalism. The question was: Why did they loot? Were these people unemployed and in dire need or were other forces at work? Later analysis of the looters arrested showed that 45 per cent of them had jobs (not, perhaps, good jobs), and that in one area in Brooklyn only a few food stores were invaded, while furniture, appliance, and jewelry stores were major targets. Summarizing, a *Saturday Review* writer said that "the atmosphere that night and next day was more festive than desperate and that greed and a carnival spirit were stronger motives for the pillage and arson than need or rage." In general, the looters preyed on their own neighborhoods, ruining "the shops that serve them every day." Various morals have been drawn from these reports, such as a woeful lack of community spirit, or the inability (whose?) to make cities "respectable to their own residents." A spokesman for a community redevelopment agency in New York blamed the compulsive appeal of "something for nothing," and UN Ambassador Andrew Young laconically remarked, "If you turn out the lights, folks will steal."

Neglected, in all this ad hoc moralizing, was the impressive fact that throughout the blackout a portion of the Village of Bronxville (a small municipality in Westchester County) had both light and power. This region of some two square miles is served by a small, efficient utility, the Lawrence Park Heat, Light and Power Co., originally established in 1902. In 1973 an energy management concern, Energy Unlimited, of New Britain, Conn., took over and rebuilt the Bronxville plant, turning it into a highly efficient source of energy through "cogeneration"—a method which recovers the heat discharged in the generation of electricity and uses it for local heating. As a result, The Lawrence Park Company is able to claim a fuel-use efficiency of approximately 75 per cent, in contrast to the efficiency of 31 per cent of the big utilities.

Bronxville's noteworthy immunity to the blackout illustrates exactly the sort of thing Amory Lovins strongly recommended in "The Road Not Taken." In that now famous paper (in *Foreign Affairs,* October, 1976), he stressed two things that need to be done: (1) Effective conservation of existing energy supplies, and (2) development of alternative and renewable energy sources such as solar installations, mainly small and decentralized. The cogence of this analysis shook the scientific community, leading to animated debate. The major argument opposing Lovins has been that his expectations concerning the cost of solar energy are too optimistic. Hans Bethe, Nobel Laureate in physics, pursued an extended (published) correspondence with Lovins (see *Not Man Apart* for Mid-August/September), presenting numerous objections. Eventually, however, he was convinced. "Your figures," Bethe wrote to Lovins, "appear to be based on solid statistics, and so I believe your results."

Lovins' figures on conservation through cogeneration are equally solid, as illustrated by the achievements of Energy Unlimited—a company whose Bronxville demonstration of competence is in dramatic contrast with the blackout suffered by nine million New Yorkers. In "The Road Not Taken," Lovins says of cogeneration ("the generating of electricity as a by-product of the process steam normally produced in many industries"):

> A Dow study chaired by Paul McCracken reports that by 1985 U. S. industry could meet approximately half its own electricity needs (compared to about a seventh today) by this means. Such cogeneration would save $20-50 billion in investment, save fuel equivalent to 2-3 million barrels of oil per day, obviate the need for more than 50 large reactors. . . . Another measure of the potential is that cogeneration provides about 4 per cent of electricity today in the United States but about 29 per cent in

> West Germany. Cogeneration and more efficient use of electricity could together reduce our use of electricity by a third and our central station heating by 60 per cent. Like district heating (distribution of waste heat as hot water via insulated pipes to heat buildings) U. S. cogeneration is held back only by institutional barriers. Yet these are smaller than those that were overcome when the present utility industry was established.

A recent report on cogeneration by the Congressional Research Service of the Library of Congress (well summarized in the Aug. 15 *Community Planning Report*) confirms what Amory Lovins says, noting that at one time cogeneration accounted for 17 per cent of the total electrical power generated in the U. S., this proportion, as Lovins notes, having since dropped to about 4 per cent. One problem is that plants needing steam are usually not near power-generating plants, and there is also anticipation of difficulties in deciding what public agency (state or federal) would regulate sales of steam and electricity.

These objections, apparently, did not apply in the case of Bronxvilleis utility, probably because it has been there for so many years. Speaking of how cogeneration works, as installed in the Lawrence Park plant in 1973, Sid Berson, president of Energy Unlimited, told a *New York Daily News* (July 24) reporter:

> By recapturing and using the heat that used to go up the stack, we saved more than 50 per cent of our annual oil consumption. When we took over, the plant was consuming 4.2 million gallons of low sulphur No. 6 oil. Last year, we burned only two million gallons and produced the same amount of electricity, heat and hot water for our customers.

Energy Unlimited owns or manages a number of small utilities in New England, Wisconsin, Kentucky, and one on Long Island. The company contends that energy production with 75 per cent efficiency could have wide application throughout the United States:

> Small district steam and electric companies such as "Lawrence Park" were initially all our country had. These companies were gradually elbowed out (initially by Westinghouse) with the carrot of low cost—not efficient. Today the utility companies cannot profess to have either low costs or efficiency.

Small plants have distinctive virtues—they are flexible and more adaptable to the policy changes required for intelligent management. Keeping the plant close to users makes efficient delivery possible. In the case of Lawrence Park, the customers are few but well served:

> The steam customers include Lawrence Hospital, 20 apartment houses, 50 office buildings and 50 residents, all without central heating units of their own.
>
> Electricity goes to 110 commercial users and 440 residents. Rates are about the same or slightly lower than Con Edison, which encircles the Lawrence Park Co. franchised area.

This sort of "intermediate technology" deserves both support and publicity, especially in a time of inevitable and largely unpredictable change.