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THE DESIGN FACTOR

WHIPPING boys and scapegoats vary from age to age as much as do the idols of the tribe and the gods of the market place. We need, for others if not for ourselves, explanations of our frustrations and failures. "The fault, dear Brutus, is not in our stars, but in ourselves, that we are underlings," is a text familiar to moralists, but it has no place in political thinking, nor in any system which habitually externalizes the sources of trouble, interference, or defeat. A few centuries ago the Devil was claimed to be the author of all our woes, but today that personage has no existence for us except in a secularizing transformation and multiplication as his Epigoni the Bureaucrats.

Two recent books, both excellent, find in bureaucracy the principal cause of the decline and disorder of modern society. They are Richard Goodwin's *The American Condition* and H. R. Shapiro's *The Bureaucratic State* (Samizdat Press, 1975, $4.95). For both Goodwin and Shapiro, Bureaucracy is the take-over institution—the receiver in moral and social bankruptcy of the failed community of man. Shapiro's book is a study of the gradual decline of self-governing communities in the United States and their replacement by political parties whose machines become self-perpetuating bureaucracies which deny the people effective access to governmental decision. Toward the end, Mr. Shapiro makes this general analysis:

> The heart of republican structure is, to use Madison's phrase, "the federal principle," the division of public power into *autonomous* geographic spheres of government. . . . By the act of foundation, the federal principle was automatically extended throughout the Republic, for in each state power had already been dispersed, in one form or another, among local self-governing townships or, at the least, counties. . . . The local communities, in short, were the ultimate source of the framers' authority to make a federal constitution at all. And the dispersal of power among local self-governing communities remains the ultimate foundation of freedom and equality.
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> It is in local self-governing communities that citizens enjoy an immediate share in power and thus the immediate possession of their freedom. Because visibility and nearness of power makes it possible for citizens to hold power more equally responsible to them, it is in these communities, too, where men can most nearly realize the condition of equality. Because the members of a self-governing community live under the shield of their own representatives, they can hold representatives at higher levels of government faithful to them.
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> Such then is the political constitution of freedom and equality. That constitution, supplemented by civil rights, is the Republic. The means by which freedom and equality have, in fact, been impaired, the means by which public power has been turned into irresponsible power, belongs not to the Republic but to the legal, political, social and economic institutions that have impaired that structure and defeated its principle, which is freedom and equality. . . . A legislature corrupted by party politics is not a republican legislature; it is simply a legislature corrupted by party politics. . . . If, for example, representatives do not represent the electors but the interests of parties, the citizen's share in public power has to that extent been usurped. That *and that* alone defines the corruption.
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> If the republican principle ceased to be recognized we could make no distinction between corruption and good faith. We would suffer at the hands of irresponsible power but we would cease to recognize that power as irresponsible power. Politically speaking, we would have lost our capacity to think and to judge. Insofar as the republican principle has grown dim and shadowy in our time, we have lost that capacity. So young people, as incapable as their elders are of distinguishing between the Republic and irresponsible power, denounce "the structure," as if the constitution of freedom and equality and the agencies which destroy them were one and the same thing. Without the republican principle we wander in abstractions and ideology and become unwitting allies of our enemies.

The remedy, for Mr. Shapiro, is to take power away from the parties and restore it to the citizens of self-governing communities. He has practical suggestions as to how this might be accomplished. He advocates functional decentralization in practically every direction—political and economic—since centralization requires and creates bureaucracy:

> It is because bureaucracies hold power out of reach of the citizenry that the wielders of irresponsible power have seen fit to create them. They are, for the most part, unnecessary and, in accordance with the republican principle, citizens would see to it that they are drastically reduced in number and scope. The way is open. Many federal bureaucracies were justified by the failure of state governments to represent the public interest and insofar as this condition is remedied that justification ceases to operate. State and municipal bureaucracies would be dismantled by restoring the maximum amount of power to the self-governing communities. Most importantly, the citizenry could see to it that where government action is required it takes the form of general laws, not provisions for establishing bureaucracies. If some form of public conduct is deemed undesirable enough to require public intervention, it should be outlawed, not "regulated." If some measure for necessary relief of a body of citizens—farmers, for example—is required, it should take the form of a law that provides the relief without creating a bureaucracy to control those being relieved.

Apart from the difficulties of getting this done, it seems like eminent common sense. What, then, are the obstacles? Judging from Mr. Shapiro's book, our problem is that there are too many villains and not enough heroes. Not enough people *believe* in freedom and equality and are ready to act on their belief. The idea, then, is to spread the doctrine of freedom and equality along with better understanding of the dynamics of both their achievement and their loss.

Mr. Goodwin's explanation of the rise of bureaucracy also lies in the failure of community, but his analysis goes deeper in that he looks behind the ideas of freedom and equality to the qualities or purposes which they serve and preserve. He says:

> Communities originated as enclaves of the natural world. Since the connection with nature was established through the senses rather than by ideology or authority, the individual's perception of himself was strengthened—but within the framework of a shared experience that helped to sustain the bonds of community.

This natural social matrix of community, Goodwin suggests, has been weakened and almost destroyed by the American attitude of conquest of nature and the motive of acquisition. The rule of self-interest breaks the bonds of community, putting in their place the adversary relationships of commerce and law. The rise of the technological society isolated us from the subtly corrective aspects of the natural environment:

> The elimination of nature from our daily life loosens the ties of community through its effect on our emotional capacities and by removing a traditional bond of shared experience.
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> The fragmentation of social existence, having destroyed previous forms of authority, also makes inconceivable the establishment of an accepted system of values and moral conduct. What is to be valued inevitably becomes, or seems to become, a matter of opinion—a situation that infuses life, work, and human relations with enervating confusions cripples the commitments necessary to the fulfillment of existence, and imposes on each individual the enslaving and impossible task of legislating an entire ethic. Modern individualism has increased the fragility of all human relationships, weakening the responsibility—the assumed obligation—that supports friendship, love, community, and all other forms of shared life and endeavor. The relationships between human beings become externalized, and, to that extent, subsist as a form of coercion, not as an expression of freedom. . . .
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> Moreover, without an authoritative system of values and moral conduct the community necessary to freedom does not exist and cannot be created. Values and codes of conduct are the framework of society. A receding belief must yield to enforcement. Laws, force, and the purposes of the economic institutions that govern us take the place of inner restraint. This requires an enormous growth in the coercive apparatus of the society, and, given the nature of the state, of bureaucracy, and of political man, that apparatus extends beyond its mandates to steadily reduce the power and the freedom of the individual.

Mr. Goodwin's prescription is not exactly encouraging, but seems generally accurate, in the terms used:

> Where does one strike from within a process whose elements are constantly reinforcing and re-creating each other? The question is unanswerable in terms of description. . . . A society whose inhabitants lack the shared values and purpose necessary to freedom will not make radical changes in economic relationships and if such changes should occur they would change only the sources of oppression. . . . If an enlarged awareness does evolve, its source may be the immense and widening gap between our physical capacity for increasing freedom and the conditions of modern life. . . . This essay could not have been written in a society devoid of that awareness. But awareness of loss is not awareness of self, and the expressed urges toward association remain, at most, isolated pockets of uncertain resistance to the progress of coercion and fragmentation, presided over by structures whose scale, reach, and capacity for control are unprecedented. . . .
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> All wants are historical. We want what it is possible to want—choose what it is possible to choose—in our time and place. No one can ask for more. But most of us are content with far less. In order to choose, we must be aware of what is possible.

That is about all a writer of books and essays can attempt—to increase awareness of what is possible, giving the reasons for reaching after it and pointing to the available means. Meanwhile, it should be pointed out that during the three years since Mr. Goodwin's book was first published, the "isolated pockets of uncertain resistance" have developed into a recognizable movement that seems to tee "rowing daily in both strength and articulate purpose. There are those ready to make "radical changes in their economic relationships," and a considerable number who have already done so. According to a 1976 report by the Stanford Research Institute, some four or five million adults are choosing to live lives of "voluntary simplicity," and the trend in this direction is expected to increase. The SRI social scientists, Duane Elgin and Arnold Mitchell, say:

> First, the period of most rapid expansion of full voluntary simplicity is expected to be the coming 20 years, with the highest rates of gain in the 1975-85 decade. During this period, VS will probably appeal especially to those in the younger age group. The figure implies that 10 million to 11 million will take up full VS living by 1980, perhaps 21 million by 1985, and 60 million by the year 2000.
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> Second, growth of partial voluntary simplicity is expected to parallel that of full VS, but not to be so swift. . . . to 30 million in 1985; and to over 60 million in the year 2000.
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> Third, the size of the large group of people sympathetic to some of the principles of voluntary simplicity but not moved to action will remain roughly constant [beginning] to dwindle by 1980. The idea is that "Sympathizers," under the influence of increasing economic problems and mounting evidence that VS can indeed be a satisfying way of life, will increasingly meld into the "Partial" category even as many now in the "Partial" group are melding into the "Full" group. . . .
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> Even if voluntary simplicity does expand in the coming quarter century to the degree indicated, it certainly will not emerge in the smooth fashion suggested by . . . S-curves . . . . Rather it will develop (if at all) with jumps and drops and plateaus, reflecting a variety of specific events, perceptual insights, charismatic leaders, and many types of regulatory and legislative policies.

An illustration of a "specific event" that precipitated a series of changes in both diet and food-marketing in America—in the direction of simplicity or "natural" foods—was the heart attack of President Eisenhower in 1955. In the years thereafter, nutritionists at last began to get a hearing from the general public. The *Reader's Digest* gave attention to the dangers in fatty foods and the capacity of the human body to deal with cholesterol became a topic of everyday conversation. Producers of health food products were delighted to find the buyers for the supermarkets knocking at their doors, and the circulations of papers like *Organic Gardening* began to go up. The newspapers did their part. Twenty years ago Omar Garrison, writing in the *Los Angeles Mirror-News* for Feb. 20, 1957, described the condition of the arteries of 300 young men who had died in the Korean war. Many of these soldiers—said to be "a fair cross-section of America's young manhood, whose

average age was 22"—were found by autopsy to have coronary arteries typical of men of sixty and over. In brief, they "showed gross evidence of coronary atherosclerosis—partial obstruction of the heart's own arteries, which could lead to heart attack." Put stories like this together with J. J. Rodale's chatty book about the Healthy Hunzas, who have no heart attacks at all, and there is little mystery in the fact that, a few years later, growers of organic foods began to discover that they could make a living out of truck gardening.

How is this related to bureaucracy? It is related by being part of a web of changing behavior—changing as the result of a constellation of new attitudes. The SRI researchers say:

> Personal values associated with a simplification of external material life ways include: Self-sufficiency, frugality, independence, self-employment, sharing of ideas and goods, self-respect, self-discipline, concern with aesthetics.
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> A second tenet of voluntary simplicity is its insistence upon living as naturally as possible. This theme implies an ecological ethic that accepts our earth as limited, with all that that implies for pollution, use of raw materials, industrial processes, recycling, and so forth. . . . The naturalism theme underlies the VS preference for rural living, for crafts and "organic" foods. It supports the drive toward "intermediate" or "appropriate" technology. . . .
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> Preference for smallness is a cardinal aspect of voluntary simplicity. Gigantism is equated with complexity, anonymity, artificiality, dehumanization, manipulation, and wastefulness. In contrast, "small is beautiful." . . . Cities that engender anonymity should be converted into clusters of distinctive neighborhoods. Owner-built items are preferred to those mass-produced. Technology should be brought down to a size the individual can comprehend.

So far as goods and services are concerned, there will be two market places, the old and the new, as there are already in some towns and neighborhoods. With the spread of simple living, there will be a drop in unemployment, the SRI analysts say, although plenty of people will be available for part-time work. Unions will not be so important or so strong. People will do with less but pay well for durable quality goods. As enterprises grow smaller, bureaucracy—which is common to both business and government—will diminish. The tendency will be precisely the reverse of the fragmenting process that created the bureaucratic society.

Richard Goodwin tells how the cash nexus took the place of personal obligation: "You no longer owed yourself; you owed money." And what could not be expressed in monetary terms was removed from the accounts of the "real" world. No longer, for example, is it possible to have a simple, sensible adjustment of the results of an automobile accident—even a little one. The two people who drive cars *can't* settle it between them. Both the legal and insurance bureaucracies control the situation, and they tax everybody heavily for their services. The incredible charges to doctors for malpractice insurance show how this mode of thinking can get out of hand.

What is bureaucracy? Well, it's habit. Bureaucracy gives order and continuity to complex organization. What is habit? It governs activities that have been learned, then delegated. A good habit frees you to do other things, just as a good bureaucracy frees people from burdensome routines. What is a bad habit? A bad habit takes more freedom, time, and energy than it gives or saves. A bad habit dictates choice and so reduces freedom. A bad bureaucracy does exactly the same things. How do you change a bad bureaucracy into a good one? The method is the same as with a habit—cut it down to manageable size or get rid of it entirely. There is no other way.

When habit becomes boss, your life as an independent being is practically over, for the duration of the habit. Ask any alcoholic or drug addict. So with bureaucracy. When it becomes boss bureaucracy thinks only of itself and its multiplying requirements for survival.

There is a difference, of course, between human beings and organizations. Humans have a fighting chance to overcome their bad habits. They can talk such matters over with themselves.

"All my means are sane, my motive and my object mad," Captain Ahab said to himself. But the Eichmanns, to take the extreme case of bureaucratic mindlessness, never talk things over with themselves. The whole system is against it and they don't know how. *They don't know how*, which is why Hannah Arendt called her book on Eichmann *The Banality of Evil.*

The design remedy for the evils of bureaucracy is not a reformed or better-trained bureaucracy, but *less* bureaucracy—and, in time, none at all. E. F. Schumacher gave the governing principle in an article in *Resurgence* two years ago (May-June 1975):

> A large organization, to be able to function at all, requires an elaborate administrative structure. . . . The administrators of a large organization cannot deal concretely with real-life problems and situations: they have to deal with them abstractly. . . . Their task is to anticipate all possible cases and to frame a minimum number of rules. . . . We all know that life, all too often, is stranger than fiction, the dilemma of administrators, therefore, is severe: either they make innumerable rules the enforcement of which then requires whole armies of minor officials, or they limit themselves to a few rules which then produce innumerable hard cases and absurdities calling for special treatment; every special treatment, however, constitutes a precedent which is, in effect, a new rule.
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> Small units are self-administrating in the sense that they do not require full-time administrators of exceptional ability; almost anybody can see to it that things are kept in reasonable order and everything that needs to be done is done by the right person at the right time.

We called this a "design" remedy for the reason that people are able to adopt it for all areas under their control, simply from seeing its common sense. The *moral* remedy is of course the ultimate solution, but transformation of character takes time, and it always requires the assistance of design. People with some vision recognize that there are design remedies which are naturally on the side of moral discovery and characterological change. There is a natural beauty in such approaches to life. When nature makes a matching contribution to whatever you do, you know you are right because the beauty appears. Just now, as anyone can see, small is beautiful.

REVIEW
WONDERS AND IRONIES

IF it is desirable and it often is—to go back a hundred years in history and to try to understand the hopes, motives, and capacities of the leaders in human affairs of those days in both Europe and America, David McCullough's *The Path Between the Seas* (Simon & Schuster, 1977, $14.95), the story of the building of the Panama Canal, would be an ideal text and guide. Mr. McCullough traces to its sources the inspiration for the Canal, recreates the atmosphere of confidence which supplied the enthusiasm, and identifies in individual character studies the diverse talents which, in less than fifty years, brought the project to its dramatic and lasting success. The Panama Canal might be called the last great positive achievement of the Enlightenment. Its completion, in 1914, came almost exactly at the time of the outbreak of the first world war, which was the beginning, one could say, of a very different epoch of history.

Two modern nations were involved in the enterprise, France and the United States, and while we can hardly say why, it can be pointed out that while everything went wrong for the French, everything went right for the Americans. Disaster and disgrace attended the French period of the undertaking, focusing on Ferdinand de Lesseps, the hero of the Suez Canal, who seemed doomed from the beginning to make nothing but mistakes in Panama. The threads of personal destiny weave in and out of this tale of industry, technology, and empire, almost as though some Mysterious Stranger had composed a plot to punish and reward the major players, while never revealing, except in the language of prevailing illusions, what was going on.

Today we are experiencing a vast redefinition of human hopes. Last year a Roper poll found that 51% of Americans believe that the nation "must cut way back on production and consumption to preserve resources." Among the thoughtful leaders of the time, "simplicity" is the cry. "People," researchers say, "are being both pushed and pulled toward a new way of living." Even some of the leaders are of ambivalent mind, since behind the pretentious rhetoric of political problem-solving are unmistakable historical tendencies reflected in the realities of everyday living—endlessly mounting prices, the degradation of the environment, and shortages of fuel, water, and jobs. But in 1870, when President Grant despatched the first of the seven expeditions to Central America to look into the possibilities of a canal to unite the Atlantic and Pacific oceans, a very different mood pervaded the United States. Mr. McCullough captures the spirit in a few words:

> If there was one word to characterize the spirit of the moment it was Confidence. Age-old blank spaces and mysteries were being supplanted on all sides. The summer before, the one-armed John Wesley Powell, in the interests of science, had led an expedition down the Colorado River into the Grand Canyon. The great geological and geographical surveys of the West had begun under the brilliant Clarence King. Poking about in godforsaken corners of the western desert, Othniel C. Marsh, of Yale, who was not yet forty and the country's first and only professor of paleontology, had unearthed the fossils needed to present the full evolution of the horse, the most dramatic demonstration yet of Darwin's theory.
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> People were reading Jules Verne's *Twenty Thonsand Leagues Under the Sea.* The Roeblings had begun their Brooklyn Bridge. Harvard had installed a chemist as its president. In Pittsburgh, experiments were being made with a new process developed by the English metallurgist Bessemer. And within the preceding nine months alone two of the most celebrated events of the century had occurred: the completion of the Union Pacific Railroad and the opening of the Suez Canal. All at once the planet had grown very much smaller. With the canal, the railroad, the new iron-screw ocean steamers, it was possible—in theory anyway—to travel around the world in a tenth of the time it would have taken a decade earlier, as Jules Verne would illustrate in his next *voyage extraordinaire.*
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> The feeling was that the revealed powers of science . . . had brought mankind to a threshold. It was said that the power generated by one steamship

> would be sufficient to raise from the Nile and set in place every stone of the Great Pyramid. Men talked confidently of future systems of transport that would bring all peoples into contact with one another, spread knowledge, break down national divisions, and make a unified whole of humanity. "The barrier is down!" a French prelate proclaimed on the beaches of Port Said when Suez was opened. "One of the most formidable enemies of mankind and of civilization, which is distance loses in a moment two thousand leagues of his empire. The two sides of the world approach to greet one another. . . . The history of the world has reached one of its glorious stages."

There is a sense in which Theodore Roosevelt hit upon the underlying explanation of both the failures and the successes during the forty-four years (1870-1914) of planning and building the Canal. Speaking of the American attorney who represented the French Compagnie Nouvelle (which had taken over the holdings of de Lesseps' failed company), the American president said, "the trouble with Cromwell is that he overestimates his relation to the Cosmos." This was certainly de Lesseps' error. Nature cooperated with him in the building of the Suez Canal, and, convinced that the Cosmos was on his side, no matter what he decided to do, de Lesseps insisted until the bitter end upon building a canal without locks in Panama—something informed and intelligent engineers knew was practically impossible. He kept on raising money to pay for doing the impossible until the methods used to win over investors, including bribes to legislators, backfired, and the corruption was exposed. To the day of his death, de Lesseps found his failure incomprehensible. How could the Cosmos neglect to do its duty?

Curiously, Roosevelt, too, held himself to be on somewhat familiar terms with the Cosmos. The Canal, in American hands, became the obvious fulfillment of the Manifest Destiny so often declared by the President. But Roosevelt never thought of himself as an imperialist. American progress, he believed, was spearheading the advance of all humanity. His interest in the Canal dated from a reading of Admiral Mahan's *The Influence of Sea Power* (1890). With the isthmian barrier removed, the Caribbean would become a vital military seaway, making it possible to despatch U.S. naval power in any direction. Already at thirty-one a leading figure in Washington, Roosevelt expounded this doctrine and campaigned for a canal until, as President, he was able to turn the dream into fact. The shennanigans of the Panama "revolution" are described at length by Mr. McCullough—an extraordinary mix of plot, luck, and benign coincidence with which Gilbert and Sullivan might have done great things. The take-over of the Canal Zone was described by Roosevelt as "by far the most important action I took in foreign affairs," and when he asked Attorney General Knox to devise a defense for how he got his way, Knox is said to have replied, "Oh, Mr. President, do not let so great an achievement suffer from any taint of legality."

Actually, as McCullough shows, Roosevelt didn't exactly "arrange" the Panama revolution, but he managed to create an atmosphere so encouraging to the revolutionists that they would, as he remarked, have had to be rather dull-witted not to know how he felt. Years later he told a university audience in Berkeley, Calif., that when the crisis came he "took the Isthmus, started the canal and then left Congress not to debate the canal, but to debate me."

The account of the actual construction by American engineers is high drama. After a false start by the first man put in charge, Roosevelt turned the project over to John Stevens, a railroad man recommended by James J. Hill. The first thing Stevens did was to give power and assistance to Dr. William Gorgas, the man who knew that mosquitoes were causing the high death rate in the Canal Zone from yellow fever and malaria, but had been unable to get support for his program of extermination of the breeds that carried the germs. Gorgas estimated that during the French period of excavation there were from twenty to twenty-two thousand fatalities; some

from inevitable accidents, but most from infectious disease. Gorgas put an end to this death-toll by eliminating the watery breeding grounds of the mosquitoes. This took some doing, since in Panama rain is measured by feet, not inches. The contrast of Stevens' attitude toward the deadly toll of disease with de Lesseps' cavalier disregard of the conditions in Panama is notable.

Stevens, a man who began as a track hand in Texas and worked his way up to being Hill's best railroad man, grabbing an engineer's education in off-hours, looked at what the French had left and said: "The digging is the least thing of all." He organized a whole society around the project, creating a community where men could live decently with their families while digging the canal. Stevens also saw that the problem was not so much excavation as disposing of the rock and dirt that was dug. This was a railroad problem—something the French had not realized. The Canal followed the route of the Panama Railroad and Stevens overhauled the line completely. The three great achievements which made the Canal possible were the wiping out of disease, the reorganization of the railroad, and the decision to make a lock instead of a sea-level canal. These things were done under the over-all management of John Stevens. His successor in charge, George Goethals, declared later that "there was not money enough in the world to construct a sea-level canal at Panama."

This is a big book—practically 700 pages—and it is all worth reading. The author soaked in his subject until the enterprise came alive for him, as it will for the reader, who is made to *feel* the emotions of the human beings involved, from the Spanish priest, Lopez de Gomara, who first (in 1552) spoke of Panama as the location for a canal, to Saint-Simon, who declared that the world would be saved from poverty and war by two great canals through isthmuses of Suez and Panama, to de Lesseps, who was infected with this great dream by a disciple of Saint-Simon, and so on to the American President's version.

Not only ships were launched through the Canal. Vast businesses got their first big start as suppliers of the Canal-builders' needs—General Electric, for one, which was a small company at the beginning, and on the way to being a giant at the finish of the Canal.

Today, looking back some seventy years, the picture given of H. G. Wells questioning Teddy Roosevelt during a talk in the White House Garden seems a thing to remember:

> Wells had asked if the creative energies of modern civilization had any permanent value, and Roosevelt's answer had been immediate. He had no way of disproving a pessimistic interpretation of the future, Roosevelt declared. But he chose not to live as if that was so.
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> "I can see him now," Wells remembered. ". . . and the gesture of the clenched hand and the—how can I describe it?—the friendly peering snarl of his face, like a man with the sun in his eyes. He sticks in my mind at that, as a very symbol of the creative will in man, in its limitations, its doubtful adequacy, its valiant persistence. . . . "

COMMENTARY
TALK ABOUT THE FUTURE

THERE seems an obligation to admit that one gets a little suspicious of figures which project the future growth of trends like Voluntary Simplicity. (See page 2.) Figures are symbols of certainty—the kind of certainty meant by Descartes when he declared that what we really know is never more than what we are able to express in "clear and distinct" ideas. Numbers are clear and distinct ideas.

But what is a unit of "Voluntary Simplicity"? If you go to Richard Gregg's article which has this title (MANAS, Sept. 4 and 11, 1974) you are likely to conclude that it is a change of stance which comes as the result of some subtle, inner urging—a change which has a wide range of practical effects. Often the feeling reaches far beyond the practice. It is also possible for the practice (in "follow the leader" style) to outdistance the feeling, which may then lead to a new set of moralistic conventions.

The scene of such psycho-social changes might be defined as an environment imposing a great deal of involuntary complexity, so that each individual on the way to the simple life has to find a personal level of balance with the numerous complexities on which, in various relationships, his daily existence depends.

Thinking about these things, and the misleading clarity of numbers, we wondered if the comparison of a field with a network, made in *Rainbook* (see page 6), might not be useful here. Figures can stand for a network—showing it as dots connected by lines—but a field needs holographic representation.

All the diversity of the whole undergoing the process of change is somehow in each unit, but the elements making up the whole are present in the units in endlessly differing weights and combinations.

A very old idea seems implicit here—the idea that human beings are microcosms of a larger whole. A microcosm true to its nature thinks and feels in harmony with the macrocosm—holistically, as we say. A hologram, therefore, would be a much better representation of the forms and directions of human life than a graph constructed according to finite quantities. But we haven't the least idea how such a hologram would look, whether it could be devised, or if it would "communicate" what it is intended to mean. Perhaps, for verbal expression, the hologram would have to be rendered as a myth.

Meanwhile, our habitual acceptance of statistics as the appropriate portrayal of "collective reality" makes their use inevitable for a long time to come. How else would you say what the Stanford Research people wanted to say?

CHILDREN
. . . and Ourselves
SOME VERITIES

LOOKING through a stack of magazines that MANAS receives as exchanges, we came across a chapter reprinted from Gilbert Highet's *Man's Unconquerable Mind* (Columbia University Press, 1954) that should have attention here—nothing new, but something that needs continual repetition. Mr. Highet is concerned with the random emergence of extraordinary minds. This passage begins:

> There are only three secular explanations of history. One is that it is made by groups of people acting together. The second is that historical change is produced by blind impersonal "forces." The third is that it is decided and led by powerful individuals. Of course all these theories are true to some extent; and none is true exclusively. Climatic shifts and epidemic diseases move or destroy populations. Social, economic, religious, aesthetic patterns are worked out by successive generations; vast migrations occur without a single leader. Heroes and villains and geniuses preach, rebel, invent, govern. Yet in man's more recent history many of the most powerful and vital changes have been initiated by strong individuals. Not all of these were thinkers. Some were driven by passions, of love or hatred or violence or pride. But the work of the thinking man has been more lasting.
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> Since it is all a mystery, we can never tell how great thinkers emerge. There are very few rules for producing them. They do not grow like trees; they cannot be bred like selected animals. People are not born thoughtless or thoughtful. They become thoughtless or thoughtful. Probably the surest way to grow up stupid is to be part of a large static population doing manual labor and living just on the level of subsistence; and the next best is to be born in a nice family with inherited wealth, brought up in an assured social position, and sent to a quiet and correct school. The young ploughboy and the young marquis are both in a mental prison, one following the furrow, the other set in his comfortable rut.
>
> No, we can never tell how great minds arise, and it is very hard to tell how to detect and encourage them when they do appear.

Here, in brief summary, are the grounds for practically all the arguments about education. The conceits and complacency of the rich and well-to-do are almost as bad for the young as the monotonous privations of the poor. The evils resulting from both these causes are pretty well covered by Paulo Freire (*Pedagogy of the Oppressed*), Ivan Illich (*Deschooling Society*), and John Holt (*How Children Fail*). Freire was a Brazilian boy who suffered the effects of the 1929 depression. He "came to know the gnawing pangs of hunger and fell behind in school because of the listlessness it produced; it also led him to make a vow, at age eleven, to dedicate his life to the struggle against hunger, so that other children would not have to know the agony he was then experiencing." Illich has devoted his life to a one-man crusade against the consumerism of Western civilization. He found the Church to be a collaborator in the spread of consumer doctrines, and the role of the Church as definer and dispenser of needs replaced in modern times by educational institutions and the medical bureaucracy. Illich contends for restoration of responsibility to the individual. As he told an interviewer in *Human Behavior* (February):

> In short, the myth of unending consumption has taken the place of the belief in life everlasting. We demand everything because we've been trained to expect that anything we can visualize can be supplied by some institution. If atomic waste is poisoning us, today, don't worry because somehow we'll find an answer tomorrow. And, of course, the answers will be found through giant institutions, because we have accepted a paralysis of human action at the community level, convinced that family and community are no longer capable of solving problems in a shared manner.

Long ago John Holt declared war on institutional education. In *How Children Fail* he wrote:

> Teachers and schools tend to mistake good behavior for good character. What they prize above all is docility, suggestibility: the child who will do what he is told; or even better, the child who will do what is wanted without even having to be told. They value most in children what children value least in

> themselves. . . . we turn the vast majority of our students into the kind of people for whom all symbols are meaningless; who cannot use symbols as a way of learning about and dealing with reality; who cannot understand written instructions; who, even if they read books, come out knowing no more than when they went in; who may have a few new words rattling around in their heads, but whose mental models of the world remain unchanged and, indeed, impervious to change. The minority, the able and successful students, we are very likely to turn into something different but just as dangerous: the kind of people who can manipulate words and symbols fluently while keeping themselves largely divorced from the reality for which they stand; the kind of people who like to speak in large generalities but grow silent or indignant if someone asks for an example of what they are talking about; the kind of people who, in their discussions of world affairs, coin and use such words as megadeaths and megacorpses, with scarcely a thought to the blood and suffering these words imply.

It is to the needs of this second category of students—the minority—that Gilbert Highet addresses himself. What can be done to invite the constructive activity of thought? He has two suggestions:

> Put problems before them. Make things difficult for them. They need to think. Produce things for them to think about and question their thinking at every stage. They are inventive and original. Propose experiments to them. Tell them to discover what is hidden.
>
> The second method is to bring them into contact with other eminent minds. It is not enough, not nearly enough, for a clever boy or girl to meet his fellows, and his teachers and his parents. . . .
>
> Challenge and experiment; association with immortal minds: these are the two sure ways of rearing intelligent men and women. And these two opportunities for greatness are, or ought to be, provided by schools and colleges and universities. "But," you will ask, "do schools exist only to train geniuses?" No, but they do not exist only to train the average and to neglect or benumb the talented. They exist to make the best of both. One of the heaviest responsibilities in education is to do justice to exceptional minds, remembering that they may emerge in any place, at any time, in any body—even a clumsy and misshapen frame may hold a brilliant mind. It must be a strange experience to teach in a little country school, the same subjects year after year to the same families, and then to find a gifted young engineer or a born dramatist among one's pupils. Disconcerting. Difficult. Difficult to know how to encourage without patronizing; difficult not to be a little jealous. Yet the history of knowledge is filled with true stories of teachers who recognized outstanding gifts in a pupil and gave him all he needed to set him on his way to eminence: touching and encouraging, these tales. Such is the story of the Spanish peasant boy who was drawing with charcoal on a plank when a teacher saw him, started training him and helped to make the artist Goya. Such is the tale of the thin, sensitive, undersized London schoolboy whose schoolmaster's son gave him the run of his private library: it was among those shelves and as a result of that kindness that the youngster wrote a poem called "On First Looking into Chapman's Homer." Behind every great man there stands either a good parent or a good teacher.

This, it must be admitted, is celebration of rare and wonderful possibilities. What about all the rest? One answer—the answer given by Arthur Jensen—is to teach them less demanding things, the sort of skills one acquires by associative learning. Well, we all need some of this, and it is satisfying and restful to depend on these skills, but there is still the need to learn how to *think.* Hardly anyone but Ortega, among educators, has faced this question directly and responded honestly. He does this in the first chapter of *Some Lessons in Metaphysics* (Norton, 1969). He starts out by stipulating that the great majority of students are willing to be conformists, and he contrasts these with the one in a hundred or so who really wants to know for himself. The problem, then, is not to "teach"—anyone can go through the motions of filling empty heads—but to arouse *the hunger to know.*

FRONTIERS

Good Things from Oregon

RAINBOOK, by the editors of *Rain*, subtitled "Resources for Appropriate Technology," is now available (Schocken) for $7.95. The magazine, which has similar content, comes out ten times a year. The address is 2270 N. W. Irving, Portland, Oregon 97210. It rains a lot in Oregon, and the name is suggestive of what rain does for all things that grow. The contents of *Rainbook* (and *Rain*) are informative reviews of valuable information sources, grouped by sections. Major topics are Appropriate Technology, Agriculture, Energy, Recycling, Transportation, Economics, Shelter, Health, and Community Building.

Who are the "Rainmaking" writers? There is a paragraph at the back of this large, 250-page book:

> RAIN is a group of people who have been active for a number of years in various areas discussed in this book—building windmills and solar homes, doing People's Yellow Pages, setting up and operating community design centers and working on economic and energy research. We all came together out of a feeling that it seemed most useful at this point to pull together and share what we are learning so it can be accessible and useful to people working on local changes.

The book and magazine are an articulate response to a feeling and movement that began to surface in the United States about, say, ten years ago. What it means can be got at in various ways, drawing on material in *Rainbook.* A historic and much deplored trend in the U.S. seems to be (making a beginning at) reversing itself:

> A report by the census bureau made public last December said that from March 1970 to March 1974 an estimated 5.9 million persons moved out of metropolitan areas, while 4.1 million moved in, a net loss of 1.8 million; although some of the rural growth is just the outer extremes of metropolitan growth, some is growth of small towns far away from large cities.

A paragraph in a story reprinted from *Mother Jones*, "They've All Gone To Look for America," by Bo Burlingham, speaks of a nationwide change in mood:

> Midway through my travels, I began to experience a mild intoxication: was this all some gigantic mass movement on the verge of springing full-born on the national scene, a major force that somehow nobody in Washington or New York had managed to notice? No, but as I pondered what I was seeing, the intoxication stayed: These groups were more numerous, markedly more far-reaching, and seemingly destined to be longer-lasting than anything I had seen in the '60s. It is too early to tell whether they can achieve real power and influence, but they definitely have brighter prospects than anyone would have thought a few years ago. These are politically sophisticated people. In talking with them, I realized that they hold diverse views on the abstract issues which once preoccupied the New Left. They do not, however, regard their differences—whatever they may be—as important.

The first page of *Rainbook* has an editorial that tells what unites these people and underlies their thinking:

> Our society is passing over a watershed in its history. The terrain of abundant resources and rapid growth is giving way to a territory where living at equilibrium within our resource limits prevails. The dreams of growth and of inexhaustible resources to satisfy our every desire that have fueled our recent history have lost their power. New dreams and new values are urgently needed today to catalyze and guide our transition into an equilibrium society. Without such visions, our future appears to us as an ever poorer backsliding version of our recent past, overcast with an ever-present sense of our failure.
>
> New dreams are possible. The Golden Age of almost every society in history has occurred, *not* when all a culture's energies were focused on increasing its wealth and power, but rather when the attainable limits of those dreams were reached and people realized that such goals had not left them with the quality, beauty, or personal happiness they had envisioned. A careful analysis of the balance sheet can reveal today, as it has in the past, that vast resources of society are being channeled into now unattainable and undesired visions—resources which can be rechanneled toward new ends. Once we realize that greatness is not achievable through great expenditures of resources but requires the development and refinement of our own personal abilities, we discover that our present wealth is more

than adequate to achieve an equitable and golden age for the whole world.

MANAS readers will come across familiar people and groups in *Rainbook.* While it is about the nuts and bolts of a wide variety of activities conceived in the spirit of this rechanneling effort, you keep feeling that it is all the same—they are all doing the "same thing," although, of course, they are not. There is something about this feeling in *Rainbook,* in a dialogue on the difference between a network and a field. If you make a picture of a network, you have a graph of lines connecting a lot of points. The discussion continues:

> If each node in the network were the same, each one, that is, was a holographic representation of the whole network—does this suddenly become a "field"? There's a question of what's the relationship between fields and networks. Is a holographic network a field?
>
> Networks are very rigid structures, with points and lines. A field is more diffuse, more everywhere, more non-local, and non-specific. . . . One of the characteristics of a holograph is that each point in the holograph contains information about the whole image. If you cut a photograph in half, half the photo will be gone. If you do it with a hologram, whole picture is there; it's just a little foggier.

This idea of a hologram—whose parts have position in space and differing functions, yet each part remaining in some sense a microcosm of the whole—"knowing," so to speak, the whole—is suggestive of many things. The parts are like germ cells, in contrast to somatic cells. The somatic cell can only reproduce itself, but a germ cell generates the entire organism. The genius of the movement

Rainbook is about may have something like the qualities of a germ cell. No matter what these people do, they *think* in terms of wholes. And this, you could say, is an analogue of what in social relationships we call cooperation. It is also the explanation of synergy.