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A COURSE WE CANNOT FORESEE

WHERE shall we draw the line which separates modern man from those earlier humans who found it both natural and good to be instructed in their obligations by an authority more experienced and wiser than themselves? The question precipitates immediate objection, since plenty of modern men run for cover to some enveloping group belief when confronted by the threat of unknown consequences in lonely, independent choice. They talk of making up their own minds, but are comfortable only within a freedom defined by some Dispensation which makes the outcome of their actions predictable.

The argument may be admitted, yet the proposition holds: Modern Man does have the distinguishing characteristic of a natural skepticism. Epochs of history gain recognizable coherence from preponderances of attitude and tendency, and in our time the declarative sentence, the revelatory statement, generates spontaneous resistance. The will-to-believe is more than matched by the will-to-disbelieve, and this response, which seems innate, is more than polarizing egotism since essential human dignity is felt to be involved. "Even if what you say is true," the reply will come, "it will be a counterfeit of knowing until I am able to find it out for myself."

When did this spirit become pervasive enough for us to say that there, in that moment, was the beginning of modern times?

The moment could be placed with Nietzsche's cry that "God is dead," but it is more useful to think of the coming of individual independence from authority as a gradual penetration—or emergence—of the Western mind. Socrates might be taken as the pioneer of the modern spirit, since in the presence of the rich Homeric tradition he announced his ignorance and the need for individual self-discovery. He had his *daemon*, to be sure, whose guidance he never rejected, but he did not propose that other men should follow the injunctions of any authority but their own inner voice.

We could regard the entire history of Christianity as an account of the struggle of men to cope with an insoluble contradiction. Whose integrity was to be preserved: Man's or God's? The greater the part played by reason in the minds of men who shaped the European outlook, the less attention was given to the reputed authority of God. By the time of Aquinas, God was well on the way to becoming a dependency of man's flowering intellectual powers. Carl Becker put it briefly in *The Heavenly City:*

> The faith was still intact, surely; but it was just ceasing to be instinctively held—its ablest adherents just becoming conscious that it was held as faith. All the more need therefore, for proving it up to the hilt. It was precisely because St. Thomas believed in a divinely ordered world that he needed, for his own peace of mind, an impregnable rational proof of a divinely ordered world.

We know, now, what was bound to happen. The "divinely ordered world" could not survive the spreading imperialism and prestige of rational demonstrations. Meanwhile science, as applied rationalism, was disclosing principles of physical order that practically anyone could verify, if he would take the trouble, and these laws were apparently unknown to the Divinity. Such reputed authority had only a sentimental value to the modern world. As Laplace, author of the nebular theory, said to Napoleon: "Sire, I have managed without that hypothesis."

A passage from Allen Wheelis' *The Moralist* (Basic Books, 1973) will quickly conduct us to the present:

> From the Medieval Age with its world view derived from Christian story we have passed into an

> age dominated by the belief that man can know the world by the unaided effort of reason; and that belief, yielding in science and technology ever-increasing knowledge and control, has, in morals, yielded a harvest so cruel and meager that we come to the verge of giving up, of turning over the moral order to technicians who will never ask if it is right or wrong but only will it work. For the belief that reason can know the good, can design ways of achieving and securing it, has led in politics to ever more violent and destructive revolutions and counter-revolutions, to ever more vicious and oppressive tyrannies, while in morals it has led to nihilism.

In another place Dr. Wheelis repeats this dark verdic more explicitly:

> The Modern Age declared that man can know the world by the unaided effort of reason, that the conditions and institutions of social life can be shaped by reason to a course of progress. This vision has been lost. The optimism of the eighteenth century becomes the nihilism of the twentieth. Of the bright hope not a trace remains. . . . Moral certainty has disappeared, the Enlightenment mandate to reshape the world is remembered as in a dream. Utopias have become fatuous, revolution breeds tyranny, tides of blood having risen in the cause of freedom recede, leaving empires of slavery. . . . The pictures we bequeath to our grandchildren show soldiers bayoneting at random on the racecourse at Dacca, massacres in Biafra, death factories in Europe: Belsen, Auschwitz, Treblinka, Katyn Forest, Babi Yar, nameless unchronicled camps in Siberia—the list is endless. And endless, too, the heaps of bodies pushed out of life without ceremony—no rites, no portent, just bulldozed like garbage into the limepits. Everything is permitted.

What shall we do? We *know* that everything is not permitted. The old schemes of order may be gone, the requirements of moral obligation reaching beyond contracts dictated by self-interest may have grown weak in the contrasting light of cost-benefit balance sheets, but a primitive sense of right and wrong remains to haunt us with its sad inadequacy. While this moral sense is real, insistently real, it finds in our thinking no reference-points for widening application. The moral argument collapses, in and out of court, when confronted with today's hard facts.

It is a question of finding a foundation for our lives. We have inherited moral doctrines and theories aplenty, but not the conviction to live by them. The doctrines remain hearsay, the theories too abstract, and the pressures of the hour with their low-grade approbation of expediency continue in arbitrary rule.

Is there, then, something *wrong* with wanting to be reasonable? Is our habitual rejection of outside authority only the present-day version of Original Sin?

Actually, the modern devotion to reason has too many intuitive supports for anyone to turn against it except in weakness or for obviously partisan ends. We can hardly imagine a human being who does not reason, however poorly. And the great historical movement of modern times—away from revealed, dogmatic authority, toward intellectual and moral independence—has been too universal a phenomenon not to be recognized as an authentic unfolding of the human spirit.

We should note, however, that the hackles of skepticism are raised even by speaking of reason in these terms. For when you say "authentic unfolding," the implication is that some larger order of meaning is being fulfilled, and the kind of rationality we have learned to rely upon does not sanction such suggestions. There seems a sense in which we are prepared to admit as "reasonable" only those persuasions which have the push of objective certainty behind them. Reasoned conclusions, in other words, are acceptable only on the basis of the *power* they can marshal! for demonstrations. Syllogisms are not proofs, but only prefaces to proofs. In this we are convinced Baconians. Knowledge, Bacon said, is power, it following that what cannot display power is not knowledge. This is as much as to say that we are not prepared to recognize a truth as truth unless it hits us over the head. Yet the fact is, as various philosophers of science have pointed out, that a great many of the discoveries of science are based upon prior assumptions that cannot be demonstrated, while the power and predictability

provided us by physics and chemistry result from a very narrow if practically impressive use of reason.

We say we trust only "reason unaided," but reason has *never* been unaided. The powers of the mind are always put into harness by some deep human feeling—sometimes the natural longing to know, sometimes the fear of losing control of our lives, sometimes bodily hunger, and sometimes the demand of appetites which grow abnormal from unregulated feeding. The reason which has for its field of operations only the play of physical forces is a limited and curtailed reason, cut off from those inner yearnings and inspirations which gave Socrates a conception of mind that supported him in every ordeal life could present.

Moreover, in throwing off the yoke of traditional belief the founding fathers of modernism had private intimations of another sort of authority in the human spirit. Men who lived long after Socrates had their *daemons*—Descartes had an angel for consultant!—no matter how, or if, they named them. "Reason," declared Blake, "or the ratio of all we have already known, is not the same that it shall be when we know more." Blake, too, was friendly with angels, and felt that Lucifer had been much misunderstood. He declared his own "revelation" concerning the uses of reason:

> He who sees the Infinite in all things, sees God. He who sees the Ratio only, sees himself only.
>
> Therefore God becomes as we are, that we may be as he is.

In somewhat the same mood, Allen Wheelis writes:

> There is a path to follow, the course of which we cannot foresee, a plan of which we may have intimation but can never master. Whirl need not be king. Something draws us by an invisible hand—not God, but the advancing edge of our being which goes before awareness. Arrogance of knowing is our sin and our greatest danger. To have believed in a God who rules the world was an illusion, but we gain nothing in losing it if we reincarnate God in ourselves; and we do so whenever we think we can know all.

This suggests that a defined God, whether without or within, is refuted by the act of definition. Here, in bare abstraction, we may have an idea which can salvage our use of reason, directing its energies to farther horizons. And the warning of Dr. Wheelis certainly applies: the arrogance of supposing we know is our greatest danger. The old truism, *Demon est Deus inversus,* seems utterly reliable. To be godlike, to have in us the promise of knowledge, is also to be capable of the greatest crimes.

Looking at recent history, Dr. Wheelis considers the morality of men who act urgently and ruthlessly on imperfect information of right and wrong:

> What are the sources of morality? How are they subverted? Freedom, justice, brotherhood—these are our noblest words, and in their names we enact monstrous crime. Is it conceivable that some principle of behavior might yet be found that would not again and almost instantly be put to the use of murder? . . .
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> The more certain we are of the evil we attack, the more certain we become of the good. That for which we fight becomes, because of our fighting for it, self-evidently right. And as we gain in certainty we gain in courage, in strength, in the willingness to sacrifice. It comes then to seem that we may not only resist evil but destroy it utterly. We are emboldened to demand unconditional surrender, and to achieve it we do things in the name of justice and freedom which later generations will see as crimes.

Are we again betrayed by Bacon's rule, that knowledge is power? It may seem plausible to say—although we sometimes know better—that if knowledge is power then those with the most power have the most truth, and they are right to use their power in truth's defense. In any event, if truth and power belong to the same structure of reality, it can hardly be wrong for one to be in the service of the other: science devises military power, and military power enforces moral verity.

But we know that moral issues are submerged in a common darkness by war. War

worsens mankind. Historians and philosophers have pointed out that States have no moral intelligence, that they are conceived and evolved as entities devoted to self-interest, and that the absorption of the individual in the policies of the state brings a loss of humanity, despite the personal virtues which may have play in self-sacrificing individuals during the heat of combat. One of the deeper puzzles of human nature is this virtuous participation in unknown evil.

Quite evidently, the necessities of power run counter to the development of the spark of divinity in men. This is a dilemma for which there is no resolution so long as power-dependent institutions retain the right to define the moral obligations of men. Moreover, the restriction of reflection about moral issues to the areas ruled by power or the politics of power results in continuous impoverishment of the moral resources of human beings. The supposition that morality comes into play only where power plays a part, for either enforcement or restraint, seems in fact the origin of modern nihilism. Power in the service of morality finally makes a shambles of righteous pretensions, leading to the conclusion that talk of good and evil has no meaning at all.

Looking for a way out of this dilemma, Dr. Wheelis distinguishes between what he calls "positive" and "negative" morality. Negative morality means not doing anything evil or harmful, while positive morality sets out to accomplish what is believed to be good. This distinction is valuable, making it evident that while we know quite a lot about what ought not to be done, positive action for good often results in great harm to others, either through consequences we could not anticipate or because of our limited knowledge of the needs of others and our misconceptions of their good. But although the distinction is useful, it serves more in analysis than as a guide to action, since those who decide to refrain from evil cannot help but wonder what they should do to foster future generations less inclined to harmful acts.

This brings to the fore the whole question of what sort of society would exert the best influences on the young.

Planning education obviously calls for more than a list of prohibitions. Negative morality seems intended for the old, the disenchanted, the skeptics of human progress. The longing for intellectual and moral independence which lay behind both our emancipation from authority and our limited exercise of reason continues in the present, making us hunger for new beginnings.

What sort of arrangements, then, are best for influencing people, both young and old, in the direction of responsible behavior? How do human beings grow to greater awareness?

But here, again, we are obliged to admit our ignorance. There can be no master plan. Anyone who has lived in a small American town is well aware that the small community can be a seedbed of prejudice, bigotry, and provincialism as well as the host of sterling qualities; and while the city had charm for Socrates, the experience of recent years has shown that urban concentrations of population lead to loss of both health and socially sustaining attitudes.

After all the votes are in on the question of the ideal environment for encouraging self-discovery, we might possibly reach some vague consensus concerning things to avoid, but we are forced to agree that the psychological environment is by far the most important, and that parents and teachers who are trying to fan their own sparks into flame can probably do more for coming generations than anyone else. Of course, communities such as Arthur Morgan has in mind would make fine natural backgrounds for growing up, and cities such as Socrates admired would be good places in which to reach maturity, but to get either sort of place we first need the sort of people who are able to bring them into being.

Yet we still long for some positive ideas concerning how to strengthen and inspire the modern young with enduring moral conviction.

Are there other ways of considering the meaning of the modern temper? Well, we might regard transcendence as the principle of growth which begins with individual independence of mind. In that case, no environment or set of influences we can devise would represent the goal, for transcendence means rising above existing influences.

But this is very abstract, and as both adults and children we have a longing for roots, for tried and true ways, for some kind of home base as well as some kind of rainbow, and we want a principle of continuity, even if it is only a thread of enduring identity in ourselves, on which to rely. There are so many kinds of wonderful order in the natural world, starting with the celestial orbs that moved Kant to awe, down to the sub-microscopic genes which give our bodies their pattern for development. Are these only purposeless repetitions of form in a world going nowhere, meaning nothing in itself, or is the vast panorama of natural design the cunningly appropriate setting for another sort of growth or evolution—the kind we are so painfully attempting to pursue? How shall we know?

Is the natural world a place where the processes of spirit and matter mesh with one another, in an obscure reciprocity that escapes all single-visioned thinking? Do the gods have business in the world different from the transactions of mineral, plant and animal, and will it be necessary to learn that business before we can understand what human beings are really for and what they ought to do?

This reason that we cherish—so masterful a critic, so impotent a guide—is it, conceivably, the only link there can be between spirit and matter, or heaven and earth? But does it also make in us some focus of transcendent reality, some identity which is above even the polarities of spirit and matter, which knows the realities behind these opposites and casts finite images of its understanding on the screen of existing consciousness?

How is finality the enduring witness of each decisive moment of our lives? How does the timeless invade the hurried succession of our brief existences on earth, except by some mysterious gleam which lights rebirth, and then withdraws to await the consequences?

These are thoughts which begin to have a bubbling, effervescent circulation among us, indicating a course we cannot see, with "rules which we must seek to find, not presume to enact."

REVIEW
EXEMPLARY SCIENCE

THE LIVES OF A CELL by Dr. Lewis Thomas (Viking, 1974, $6.95) is a small book of great charm. It is also an excellent primer on the civilized practice of science. The author is a physician and medical researcher, presently head of the Sloan-Kettering Cancer Center in New York. Too often, writers who take their stand on some scientific Olympus give the reader the impression that they belong to another species, very unlike the fallible and errant human beings whom they instruct. Dr. Thomas encourages no such illusions, although he does much to bolster the reader's respect for scientific research by showing how it may amplify the scope of enlightened common sense. For this writer, research is a tool to be used for human benefit, and when it fails, or when the scientific institution is unduly admired, he firmly restores the balance for his readers. The great questions human beings most naturally ask are not irrelevant to him because of the limitations of the scientific outlook; from reading Dr. Thomas one would hardly realize that scientific professionalism tends to close off certain areas from inquiry. His humanity is enriched, not confined, by the work he does.

In these twenty-nine brief essays—as non-technical as he can make them, although it would help to have an unabridged dictionary handy—he looks tirelessly for meanings important to all humans, using science not as an authority but as a source of analogies. "This," he is continually pointing out, "is the way life behaves in one area of natural processes, and what does it suggest in relation to other matters which remain stubbornly obscure?" As for the body in health and disease, he is often more impressed by nature's restorative capacities than by fashionable and highly publicized "breakthroughs" which promise to improve on the body's own regulative and healing processes. After a passage reciting the extraordinary balances and controls of the autonomic nervous system, he says:

> But now the autonomy of this interior domain, long regarded as inviolate, is open to question. The experimental psychologists have recently found that visceral organs can be taught to do various things, as easily as a boy learns to ride a bicycle, by the instrumental techniques of operant conditioning. . . . There is already talk of a breakthrough in the prevention and treatment of disease. According to proponents, when the technology is perfected and extended it will surely lead to new possibilities for therapy. If a rat can be trained to dilate the blood vessels of one of his ears more than those of the other, as has been reported, what rich experiences in self-control and self-regulation may lie just ahead for man? There are already cryptic advertisements in the Personal columns of literary magazines, urging the purchase of electronic headsets for the training and regulation of one's own brain waves, according to one's taste.
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> You can have it. . . . My trouble, to be quite candid, is a lack of confidence in myself. If I were informed tomorrow that I was in direct communication with my liver, and could now take over, I would become deeply depressed. I'd sooner be told, forty thousand feet over Denver, that the 747 jet in which I had a coach seat was now mine to operate as I pleased; at least I would have hope of bailing out, if I could find a parachute and discover quickly how to open a door. Nothing would save me and my liver, if I were in charge. For I am, to face facts squarely, considerably less intelligent than my liver.

Dr. Thomas' view of such possibilities suggests an opposite course. Why not give the body even more autonomy instead of trying to replace its natural wizardry with our dubious and inexperienced manipulations?

> Instead of getting in there and taking things over, couldn't we learn to disconnect altogether, uncouple, detach and float free? You would only need to be careful, if you tried it, that you let go of the right end.
>
> Of course, people have been trying to do this sort of thing for a long time, by other techniques and with varying degrees of luck. This is what Zen archery seems to be about, come to think of it. You learn, after months of study under a master, to release the arrow without releasing it yourself. Your fingers must do the releasing, on their own, remotely, like the opening of a flower. When you have learned this, no matter where the arrow goes, you have it made. You can step outside for a look around.

On the subject of death, Dr. Thomas is at one with William Osler, who maintained that there is no such thing as the "agony" of death. Death comes to the exiting human, in the physician's experience, with calm, peace, and painlessness. He gives a number of examples, including reports from persons who, on the point of dying, were restored to life. The dying have no fear or anguish—there is only quietude, as though they "are preparing themselves with equanimity for death, as though intuitively familiar with the business." Dr. Thomas muses:

> I find myself surprised by the thought that dying is an all-right thing to do, but perhaps it should not surprise. It is after all, the most ancient and fundamental of the biologic functions, with its mechanisms worked out with the same attention to detail, the same provision for the advantage of the organism, the same abundance of genetic information for guidance through the stages we have long since been accustomed to finding in all the crucial acts of living.
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> Very well. But even so, if the transformation is a coordinated, integrated physiologic process in its initial, local stages, there is still that permanent vanishing of consciousness to be accounted for. Are we to be stuck forever with this problem? Where on earth does it go? Is it simply stopped dead in its tracks, lost in humus, wasted? Considering the tendency in nature to find uses for complex and intricate mechanisms, this seems to me unnatural. I prefer to think of it as somehow separated off at the filaments of its attachment, and then drawn like an easy breath back into the membrane of its origin, a fresh memory for a biospherical nervous system, but I have no data on the matter.
>
> This is for another science, another day.

Well, Dr. Thomas leaves the question nicely open, as he should.

Throughout the book he cherishes the peculiarly or uniquely human, which is especially welcome in a man trained in biology and medicine. Who would expect a research scientist to say—

> Ambiguity seems to be an essential, indispensable element for the transfer of information from one place to another by words, where matters of real importance are concerned. . . . If it were not for the capacity for ambiguity for the sensing of strangeness, that words in all languages provide, we would have no way of recognizing the layers of counterpoint in meaning, and we might be spending all our time sitting on stone fences, staring into the sun. . . . The great thing about human language is that it prevents us from sticking to the matter at hand.

This book contains not the slightest evidence of disregard for precision or of indifference to carefully determined fact. The writer simply wants to hear the line of contrapuntal clues, to reach after octaves and harmonics that go into vibration only with the help of the imagination.

The chapter on "health care" has an amusing anticlimax for its ending. Doctors' families, he says, "tend to complain that they receive less medical attention than their friends and neighbors." He thinks the neglect is benign, since these families "seem a normal, generally healthy lot, with a remarkably low incidence of iatrogenic illness." He would approve a medical system which proceeds on the same assumption as the judicial system: we are healthy unless proved sick:

> The great secret, known to internists and learned early in marriage by internists' wives, but still hidden from the general public, is that most things get better by themselves. Most things, in fact, are better by morning.

But as he also points out, we could all be a lot healthier if we would change the way we live altogether.

The section on "germs" may recall, for those who know his work, the theories of Antoine Béchamp, a contemporary and critic of Pasteur, and the mild essay on medical technology has nonetheless something in common with the present-day strictures of Ivan Illich. A great deal of technical practice is concerned with the management rather than the healing of disease, in Dr. Thomas' opinion. There is for example the "halfway technology" intended "to compensate for the incapacitating effects of certain diseases whose course one is unable to do very much about." He compares the transplant of organs with the high technologies of the physical sciences, remarking:

"The media tend to present each new procedure as though it represented a breakthrough and therapeutic triumph, instead of the makeshift that it really is." This is the sort of thing one must do, he says, when there is no "genuine understanding of the mechanisms involved in disease." The same conclusion applies to the present way of dealing with heart disease:

> An extremely complex and costly technology for the management of coronary heart disease has evolved—involving specialized ambulances and hospital units, all kinds of electronic gadgetry, and whole platoons of new professional personnel—to deal with the end results of coronary thrombosis. Almost everything offered today for the treatment of heart disease is at this level of technology, with transplanted and artificial hearts as ultimate examples. When enough has been learned to know what really goes wrong in heart disease, one ought to be in a position to figure out ways to prevent or reverse the process, and when this happens the current elaborate technology will probably be set to one side.

Well, this is the serious side of the book. Not less serious, however, although filled with playful ironies, are other chapters such as the one comparing human and insect societies, and the one suggesting that our bodies sometimes seem little more than vast symbiotic communities populated by droves of tiny entities who find it convenient to quarter and support themselves in the organic structures of man.

COMMENTARY
SEEDS OF CHANGE

THE suggestion by Dr. Dormaar (see Frontiers) on the emergence of new patterns of life has a measure of confirmation in various reports. For example, a story in the Summer 1974 *People & Land* relates:

> Reports from all over the country indicate that sales of vegetable seeds to gardeners this year are breaking records. Some are doing it in five-gallon cans on the roof, others are doing it in three-foot plots, and still others are going all the way and turning over their lawns from front to back. Financial writer Sylvia Porter says that nearly half of all American households now have backyard gardens of one sort or another.

The extraordinary growth of the Rodale publications (*Organic Gardening*, etc.) is an index of change. Meanwhile, in San Francisco, the city government is now giving seed, compost, tools and advice to urban gardeners. Another sign of the times is the newsletter begun by Community Technology, Inc., in Washington, D.C. (2300 17th St., N.W.) which collects and spreads information on urban gardening, solar heating, wind power, aqua-culture, green houses, and various information to help people devise simplified technology appropriate to both present and future needs. The founders of Community Technology say: "Some of us are scientists, some of us are not. All of us believe that it is best for people to produce for themselves the things that they need—food, heat, housing, transportation, and the like. These things should no longer be left to the 'experts,' the government or the corporations."

A reviewer for *Not Man Apart* (Mid-November, 1974), Bruce Colman, tells how *The Lives of a Cell* came to be published (see Review). Dr. Thomas was contributing a column to the *New England Journal of Medicine* and a Viking editor happened to read it in several issues. He asked Dr. Thomas to write a book, but the Doctor said he hadn't the time for anything like that. So Viking collected a batch of his columns and made a book out of them. "The result," as Mr. Colman says, "is the record of a particularly inquisitive, amusing, electric intelligence at play, a miscellany alive with speculation and wit."

CHILDREN

. . . and Ourselves

LIFE ON THE FARM

[Virginia Naeve writes about the farm where she and Lowell Naeve live in the Province of Quebec, Canada. During the summer they have a camp for children.]

LATE last spring a neighbor called to say that the hatchery and poultry farm he worked for had a lot of chickens they no longer wanted to keep, because the hens were getting along in life and would be laying less. We thought we'd try them out. They were only $1.50 a piece.

We have always had chickens on the farm, but in the past went in mostly for odd breeds. They were sometimes layers, more often just individualistic. They roosted on branches of bushes, laid eggs sometimes in the high grass and not in the chicken house, and wandered around catching bugs and eating grass and looking very, very different from the mass-producers that work in egg factories.

The first day with the hatchery chickens was quite a revelation. They wouldn't come out of the chicken house. They didn't know how to perch. They spent the next five days peering through the door of the chicken house, not venturing out. At night they didn't perch with the older chickens for protection. They sat on the floor in a huddle. I suggested to Lowell that he put a ramp up to the door of the chicken house, since the hatchery chickens might be afraid to jump down a foot and a half to the ground. He built the ramp and sprinkled some feed on it. One brave soul out of the twenty-eight chickens came about twelve inches down the ramp and nibbled a little feed. A day later this hen went a little further. Finally, one day, she reached the ground. Gradually the others tried out the ramp and then the ground. As they had always lived in cages at the hatchery, crowded in wire cells about 1½' x 1½' with wire floors, they had never perched or walked on anything but wire mesh. For the first few days outdoors they lifted their legs very high as though they were afraid of the grass and unsure about their footing. Since they had all had their bills clipped so they couldn't peck each other at close range, they could only grab awkwardly at the grass. These city chickens had many things to learn about the country.

Last fall, as every fall, we pressed apples for juice. A couple of years ago Lowell built a hydraulic device which presses up to nine bushels of apples at a time. Last fall was a little different. All our children were gone and there were just Lowell and I to do the picking. He very inconveniently fractured his foot about this time and we had to invent a new approach to apple-pressing. We put an ad in the newspaper stating that we would press apples if people would pick and bring them to the press. We told friends we'd press their apples from random trees in their yards or old apple trees that were no longer very productive.

The first week we got very little business. But we kept talking people into picking apples from old orchards and lone yard trees, stressing the virtue of inexpensive juice. In earlier years we had always gotten the wine-makers—mostly Italians who could no longer afford grapes to make their *vin ordinaire* for the table. They brought huge barrels and bottles that took a long time to fill. Reluctantly, they agreed last year to pick their own apples. We took 50 cents a gallon for pressing, or half the juice. Very few people paid for pressing with juice. They preferred to pay money and take it all.

As the weeks went by more people picked apples. It was fun, they found, to get out in the open. They all helped with the pressing while Lowell took care of the grinder that makes apple-pulp for the press. They discovered how much effort it took to pick apples, press the pulp, and fill bottles. After a while it turned into something of a community project. One man had an ornamental crab apple tree in his yard. It bore largish crab apples which he hated to see go to waste. They made the most beautiful clear red juice. Some people picked wild apples and brought them. Most found that any apple made passable juice and none need be wasted. In olden days cider was pressed to use up bruised, scabbed, and smallish apples that would not keep throughout the winter. They made wonderful juice. Last year's pressing went so well we shall do it again—with everyone picking his own apples.

Our Jersey cow is named Minnie. She is very gentle and good to have around camp kids. This year she twice disdained to breed, but after the third try she went on to calving in the last week of camp. So we were flooded with four gallons of milk every day. When camp was over and all twenty-two kids had left for home, Lowell and I were daily confronted with buckets of rich, Jersey milk.

What was I to do with all this milk? Well, I made butter, cottage cheese, cream cheese, gave milk to all our neighbors, and still had milk left over. So I decided to make real hard cheese. I had a book on cheesemaking. I needed rennet to make the milk curd, and that was the hardest item to get. I tried everywhere, co-op farmers' supply, friends who'd tried cheesemaking, and health food stores. I finally got some rennet from my friends, the Whittens, who got it from a lab that does animal research. Four gallons of milk produced a 3½-pound round cheese. Lowell made me a press. I decided I would make only a standard type cheese until I was expert at that. Later I would get fancy. I worked away doing a cheese each morning. If I got tired I did butter for a day.

When we first came to Canada a French-Canadian friend told us about a local cheese factory. On Saturday nights the people would drive there and wait until the factory had the curds ready for pressing. They would buy little sacks of warm curds to eat. People came from all over to eat the warm curds. Well, I didn't think much about it except for wondering how it could be such a treat. But when I got into cheesemaking I would each day wait until the curds were cooling to have some warm, salted curd. I can't describe the taste, but it's better than ice cream. Everyone whom I gave some to agreed. Now I think of what so many people are missing by not having made cheese and eaten warm curds.

Last year we didn't clip the wings of our eight Canada geese. (We have a government permit to raise them.) In 1973 we had five baby goslings from eggs the mother hatched. We aren't quite sure what happened last year. The mother sat on her eggs conscientiously but they all rotted. We think the Father did not fertilize them because something (a fox or racoon) scared him during the egg season so that he spent all his time defending the area.

Not having their wings clipped, the geese flew around, mostly in the mornings. They went a little higher each time and seemed to be mapping out our farm, locating the areas they needed to know. Then, one day, they flew away. Two days later a neighbor called to tell us his son had seen them on a beaver pond about a mile off. Lowell went over to the pond with feed corn and called to them. They came to him, but he had to hope they would return to our place as the pond was too far into the woods for him to carry them out. The next day they appeared on the farm. Our neighbor said we'd better clip one of their wings as hunting season was coming and hunters always prowled the beaver pond. Reluctantly, Lowell clipped a little off one of their wings, but they had become very strong flyers and the next day they disappeared again. This time another neighbor called and said the geese were on his pond and we'd better come get them because hunting season began the next day. This pond was over a hill and down in a valley from us. With clipped wings the geese could not get enough elevation to make it uphill and home again. So Lowell had to catch them. He caught two with feed. The rest he had to leave until morning as it was getting dark. Starting about five in the morning, before the hunters were out, he spent a couple of hours in a small rowboat trying to catch them. He finally got them all. He then clipped their wings drastically and they got terribly mad at him. We put them on our own small pond, well hidden from hunters, and they stayed there until the pond froze over. Then they went into the barn where they will stay until spring. By that time their wing feathers will have grown in and we can let them fly again.

They are incredibly lovely birds. Up close, you see that their feathers grow in the most fantastic formations. One day, when I went to the pond to feed them, part of the surface had frozen—about a quarter inch thick. I called to them and supposed they would walk to me around the edge of the pond, but they didn't. Papa, the gander, got into the small patch of still unfrozen water and butted his chest against the ice, keeping this up until slowly it broke

and he could swim a little closer. He kept barging along in this way until he reached my side. The others didn't help him but swam along behind in the little channel he made through the ice.

The only thing I haven't liked about the Canada geese is their stand-offishness toward the other birds on the farm. Jeanette, a Canada goose who belongs to friends who are away for a year, was raised with domestic geese and ducks. When they brought her to us we thought she'd fit right in with the other Canadas, but they chased her off. She walked more like a duck and they wouldn't accept her into the flock. She can fly with them, and of course they are able to do little to her in the air.

Once a year the Royal Canadian Mounted Police come to look at our Canada goose permit and to see if we are caring for them properly. The first time they arrived, showing their badges, they said something about birds. I didn't know what they were talking about. Just think of it: A secret service operation of the government looking after Canada geese! I didn't believe it.

Now I think it is great. Why not have the Mounties watch over a wild species, to see that it survives? That's better than chasing fugitives and draft-evaders.

North Hatley
Province of Quebec
Canada

VIRGINIA NAEVE

FRONTIERS

Deciding to Decide

THE vast difference in size between the processes of industrial undertakings which are proving harmful to the planet and its inhabitants, and the useful, healthful, and socially beneficent activities begun by individuals and small groups makes a continuous problem. What is the most important thing to do? Should one join with those who are working hard to control or even change the direction of such enormous enterprises as the automotive business, the fuel industry, not to mention national states and their self-defeating manias for "survival"? Or should one plant a garden and put up a windmill? Or try to do both?

The offenses of the powerful hardly need listing. A single example among large industrial firms may stand for countless others. Reviewing a report presented to a Senate Committee on Antitrust and Monopoly in February, 1974, two writers in *Environment* for last June tell how General Motors, starting in 1926 with a company which became the Greyhound Corporation, set out to replace intercity rail transportation with bus systems. By 1949, "more than 100 electric transit systems" in forty-five cities had given way to GM buses. While in that year GM and Standard Oil of California and Firestone Tire were convicted of "criminally conspiring to replace electric transportation with gasoline or diesel buses throughout the country," GM was fined only $5,000.

The *Environment* summary goes on:

> Of course, GM continued just what it had been doing all along. By 1955, 88 per cent of the nation s electric streetcar network had been eliminated. . . . GM used a similar approach toward passenger railroads. . . . Since GM began its dieselization [of locomotives] in 1935, the railroads have progressively lost traffic, first to buses and then to cars and trucks. Whether such a result was intended is irrelevant. GM's monopoly over locomotives, bus, truck, and car manufacture gave it both the reason and ability to convert America's transportation to the highest profit item—cars and trucks.

The charge of monopoly is not idle. Half the cars in the country are produced by GM, and GM, together with Ford and Chrysler, account for 97 per cent of domestic production. "GM," according to this report, "is able to set prices to be followed by Ford and Chrysler, which for many purposes have become mere satellites of General Motors."

The report to the Senate Committee recommended breaking up the auto industry into hundreds of small companies. This suggestion, while rational enough, has about as much chance of being carried out as there is for enforcement of the 160-acre limitation on farms supplied with government water—a provision which has been part of basic federal law since 1901. The watch-dog, big-stick approach to such abuses, especially when they reach practically the dimensions of "national policy," does not work. So long as the dynamic of both business and politics is self-interest, control by regulative agencies will degenerate into cosmetic measures, as anyone can determine by reading the Ralph Nader studies and various articles on the Food and Drug Administration. Or by seeing what Nicholas Johnson has to say about the FCC, of which he was for a time a conscientious official.

In a recent address before an audience of businessmen, Sam Love, of Environmental Action, Inc., said:

> Industrial capital is not the only facet of American life which is concentrated. According to the 1969 Census of Agriculture, an increasingly small number of people own America's farms. In 1935, there were 6.8 million farms in the United States and by 1969, the number had fallen to 2.7 million. Of the farms remaining in 1969, the Department of Agriculture reports that seven per cent of them generated about 50 per cent of all farm product sales and 20 per cent provided about 75 per cent of the sales.

Dozens of critics have pointed to the humanly destructive as well as agriculturally threatening aspects of this trend, but, again, the prospects for "control" are difficult to imagine.

How should one think about these ominous developments? A paper by Dr. N. G. Dormaar, a physician of Williams Lake, British Columbia, makes an interesting suggestion. He begins by quoting John Platt, "Sudden changes are among the more startling phenomena of living systems," then remarks:

> The new self-maintaining patterns are self-reinforcing to each other as soon as they touch, because they can form the beginning of a better integrated system with a speed of understanding and communications that the old malfunctioning system cannot match. History has seen a number of such transformations, the last two being the reformation and the industrial revolution. They are not simply an exchange of power from one small group to another, but a thoroughgoing change in philosophy, attitudes, ways of work, economic organization in every part of society.

Just such a change, Dr. Dormaar believes, is now upon us:

> Breakdown is no longer localized but is snapping up all over the place, in different forms. Anxiety, anger, over-assertion, aggression, withdrawal, among students, in ghettos, among labor unions, workers, intellectuals and high-ranking officials.

Then Dr. Dormaar says:

> Decisions, affecting the individual, are being made by levels of government, by departments of levels of government, by economic interests, by the Joneses, by sundry experts. The resulting fragmentation destroys the deep psychic need for wholeness, which in the end can only be recovered when the individual decides to decide. Self-control, coupled with accountability, will be the basis of a healthy human ecosystem.