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TEACHER AT WORK

FOR some twenty years or more we have been hearing much about "Communication" as a basic element of life (biological communication) and civilization (the technology of transmitting impressions and ideas). The institutes of higher learning have departments entirely devoted to the virtually limitless varieties of relationships between "senders" and "receivers." The idea of "information," which once meant little more than what you look up in a book of reference or consult an expert to find out, has become a way of thinking about biological structures, or even architectural structures, or any natural or manmade pattern. Evidently Communication is like any other topic the academy takes up for study; it is made into a specialty which goes off on its own. Its ramifications require the invention of a special vocabulary which is likely to mean nothing to the ordinary reader, who will need to go to school in order to understand what the communications authorities are saying. Such teachers, you could say, are spreading ignorance instead of knowledge, confusion instead of clarity. You could also say that while these people are undoubtedly finding things out, they don't bother to develop ways of communicating what they have learned. A few new words are, perhaps, to be expected, to cover the subtleties or novelties they disclose, but this should enrich the common language instead of becoming a tongue which is close to being incomprehensible.

These broodings did not result from reading some recent book on Communication, but from an encounter with the work of a writer who reports on a lifetime of extraordinarily effective communication, but almost without using the word. This writer, Seonaid M. Robertson, is a teacher of art and of other teachers of art. A teacher of art doesn't need to write books, but a teacher of teachers does. What does she teach? She teaches how to work with children who are doing pottery, drawing, painting, sculpture, dancing, singing, and writing poetry. She shows how to move from medium to medium to reveal unsuspected aspects of one way of working in another way of working.

Why is all this important? Because children, in what they do with pencil and paper, a ball of clay, the melody and rhythm of a song, reveal themselves and some of their hidden potentialities. They give preliminary shape to what they may become. The teacher of art, then, is a teacher of human becoming.

Example "communicates" best in matters of this sort, so we go to a class of fourteen- to fifteen-year-old boys, held once a week by the writer, in a secondary school in an English mining area called West Riding. The lads, she says, "were tough and truculent in their Yorkshire independence."

> Lacking pocket-money they found weekend playgrounds in the cindery wastes and foul pools around the tips [tip is the top of a slope where the contents of a coal car are dumped by tipping], and gratis amusements in lounging outside the smelly pubs or staring at the vulgar posters outside the cinemas. . . . Most of them were restive and contemptuous of school, longing for independence and the dignity of bringing home a pay packet. They were unused to a woman teacher. I wondered what I had taken on.

What would she do with these boys? She chose clay, but first talked with them about their lives, sitting around a big table. Would they be miners? Some would, in a matter of weeks. Some wouldn't. But they all knew miners and what work in the pits was like, although they had not yet been down in a mine. So—

> I suggested that on this morning we should all model a miner. I also told them, as I do with almost every class, that whatever subject for a picture or

> model I put to them was only a suggestion and if they felt strongly against using it, or if they had some other idea crying out to be expressed, they should never feel themselves forced to work on the subject given. This proviso is, I think, essential, and it has often proved very interesting to watch which subjects certain boys, or the majority of a class, opted out of. It has also proved just as illuminating to see what subjects they chose to do when they did make the definite decision to work on one of their own choice. On this day nobody opted out; everyone modelled a miner or some aspect of mining.

But before they went to work with the clay she suggested a preparation. They used the battered furniture in the large art room to build a mock mine, making a narrow tunnel to where they imagined the pit face to be. Then they blindfolded themselves (she had brought a lot of big handkerchiefs from home) and armed with broom handles and such to stand for picks, crawled through the "tunnel."

> I did wonder if this would seem rather childish play to those boys of fourteen, but as soon as we started off through our constructed tunnel we all became so absorbed in our physical sensations that these at least were intensely real. One became acutely aware of angles, of the angles of one's elbows and one's wrists and one's knees in the effort to avoid knocking them against the legs of the tables and chairs. One's forehead became like that of a caterpillar, the forward-pushing part of oneself which must take all the bumps and knocks.

Well, after this adventure, they rearranged the room, got their grape-fruit-sized balls of clay (with more avail able) and began modelling, blindfolded again. Why blindfolded? The first step, for the teacher, was to help them take pleasure in the medium of clay, and they did Restriction to the sense of touch did something for the boys.

The work was interesting indeed. The men they modelled were really miners, with large hands and feet and heavy shoulder muscles. But one boy's work was different. While Bert's figure was sturdy in the shoulders, the feet diminished in size to almost nothing, without indicating any heels.

Before I had realized what I was doing I said, "Bert haven't you ever *looked* at anyone's feet? Legs don't just taper away to a point like that. There is a heel, a right angle, which we have developed to stand on and which we lift from the ground as we walk." He lifted his eyes with an almost dazed, unfocussed look, still sunk in what he was doing. Into his absorption, in which for the moment no one else existed, I had intruded. Instantaneously I realized my mistake. I was standing above him and in that moment of realization I had dropped instinctively on to my haunches beside him. I suggested that we should both try on our hands and knees to feel once more the position he had chosen to represent. Bert "came to" slowly, parked his spare clay, and we both crouched on the floor at the side of the table on our hands and knees. For a moment we gave ourselves up to recapturing in our bodies the image of our progress through the tunnel. Then meeting his eyes level with mine that foot or two above the floor, I could only nod my head humbly at him and say, "Yes, I see what you mean." For the extraordinary thing was that when I got back into that position and tried to *feel* the length and shape of my leg instead of *looking* at it, I was almost unaware of my heels. Sensation followed the tensed muscles of the leg and the tactile sensation of the skin of the foot arch pressed on the floor, but I was not conscious of having heels unless I thought about them. "Yes," I said, as we rose from the floor, "I see what you mean, you are perfectly right," and fortunately Bert settled down at his work again, I hope only a little the worse for my interruption. For I had been, of course, completely in the wrong.

Why was she so wrong?

In asking those boys to crawl through the tunnel with me, I had deliberately cut out as much light as possible so that we would not be relying, as we usually are, so much on *visual* as on *kinaesthetic* sensations, those feelings of being crowded in a narrow space, of being bumped by jutting prominences, or feeling one's bodily movements within a very restricted alley. Bert had, in fact, offered a representation of just this experience and here I was asking him if he had *looked!* I was shocked into being more patient and more cautious before I made a comment to any of the other boys. I tried to take to heart again my own advice to my students, to wait until, by observation and perhaps questioning, they had felt their way into what aspect a child was trying to represent, before they commented or criticized. We have to lie down, as it were, beside

the child and take his point of view before we can say anything helpful.

This, surely, is the secret of secrets when it comes to real communication—"lying down," so to speak, with one's companion, pupil, or audience. As a principle, it has applications in all directions. Years ago some South African blacks visited Gandhi, after he had returned to work in India. They asked why it was that so often their leaders compromised or even deserted in order to gain favor with the whites. Why did this happen? Gandhi looked at them and said, "Why don't you take off your clothes?" If the leaders start dressing like Europeans, they start becoming Europeans and thinking like them, wanting above all to get along with them, to please them. Their people, however, are not Europeans and don't wear European clothes. They don't need all those clothes in Africa and it's silly to put them on. If the leaders dress up like Europeans they are no longer leaders.

There are other rules of course, some of them important, but this one is the most fundamental. If you want to communicate, you must speak the language of your hearers. You don't have to adopt its barbarisms or vulgarities, but you must find a way of being understood. No one can teach or communicate without practicing this rule.

But why focus on the arts? The answer seems simple enough. The arts are means of communication. The teacher of art is in a position to gain clues as to the roots of human nature and behavior, its heights and its depths. One ignorant of the arts is ignorant of human possibility, but here arts means something quite different from its superficial, conventionalized forms. Seonaid Robertson puts it well in her introduction to the book we have been quoting, *Rosegarden and Labyrinth* (Gryphon Press, 38 Prince Edwards Road, Lewes, East Sussex, U.K., £4). She says:

> We are seeking a way to the center of ourselves, to the center of reality, and the way lies in symbols through which we enter into eternal verities at any depth we are prepared to plumb at that time.
>
> How can art and craft serve as the vehicle for this experience during the sensitive and formative years? How can the visual arts relate to poetry and drama, to dance and to the study of religions within the harshly segregated departments of our secondary schools and colleges? Teachers' training becomes ever more "academic" in order to measure up to standards of universities geared to measurement in science and technology, where almost none of the faculty will have had extended *experience* of these same arts where such measurement is utterly irrelevant. How can teachers develop that heightened awareness to several arts which would enable them to stir their students' imagination through any medium which appeals to them?
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> Such large questions, which are crucial to the development of the growing generations, need asking now. . . .
>
> Teaching is above all an art. Every person who is deeply concerned with education in the arts teaches out of his own insides, in his own style from his own deepest self, that self who has experienced with enthusiasm, enjoyed and suffered. . . .
>
> The "rose garden" described in the first chapter appeared to be very satisfying to the child of eleven who made it, but it did not communicate much to me—though it must have stirred me since it kept on recurring to my mind. Must art communicate? If so, to whom? Has such a model anything to do with art? Do we expect what happens in an "art lesson" at least to aspire to being art?
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> Though I did not expect children to be artists in any way except a rather special sense of the term, I believed deeply that the *experience* of the artist, the experience of creating, was something we must offer them. I also believed that communicating their ideas and feelings was an essential part of education, and that communicating in form and color was analogous to communicating in language but even more direct, and less hampered by the mundane practical uses which characterize most of our use of words. So children and adolescents need a language of expression in art, and helping them progressively towards it I considered the job of the art teacher.

What about the "rose garden"?

The teacher was working in a class of boys and girls of eleven to twelve. They were modelling in clay. Toward the end of the session she saw one little girl working in the corner of the

room, laying out on her desk by touch (these children were blindfolded, too) some slender clay sausages in the shape of an oval. Then she put another oval inside it. Then they all took off their blinders.

> Looking at this curious arrangement of sausages so laid out, which conveyed nothing to me, and might easily have been swept up and put back in the bin as no sort of achievement to keep, I asked her what she had made. A superficial glance would have suggested it was the work of a lazy child or one of low intelligence. "It's a rosegarden," she said, only letting her eyes glance at me before they were brought back to her model. "It's a rose garden and this is the wall around it. You come in here," she indicated an opening in the outer wall with her finger. "But you cannot get into the garden. You have to come around that way" (between the outer and the inner wall), "and then you come into the garden this way." The opening of the inner oval was at the *opposite* side to the outer and now, with her forefinger, she traced the path into the inner garden. "And here," she said, "there are fountains," and again she lifted a little of the white powdered flint [sprinkled over the wet clay to dry it] and scattered it—perhaps as the drops of water might fall from the fountains? "There are fountains and there are flowers and rose-trees and lovely smells."
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> The contrast between the barely formed pieces of clay, lying on the desk and the vision which was obviously in her mind, this *contrast* was so great that I knew I was in the presence of something very puzzling. Here was an intelligent twelve-year-old who was capable of drawing a reasonable picture, of representing the visual appearance of the world to a normal extent, obviously happy and satisfied for a whole session in the experience of placing together two ovals and three pillars of clay. This was no instance of compensating for inadequate skill of the hands by dressing it up in skill with words. I later discovered that this little girl could model reasonably realistically, but today there was a dreamy inturned expression in her eyes, as, with great satisfaction, if a hint of reserve, she murmured to me, "This is a rosegarden."

The teacher managed to preserve the work long enough for a photograph, included in the book along with work by other children. Some of it doesn't look like much, and some of it is strangely wonderful, especially after you have read about how it was made, in the text.

But what *is* the rosegarden? As the author shows, in our culture and perhaps in others, by quoting a great deal of poetry—from Virgil to T.S. Eliot—the rosegarden is the symbol of the zenith moment of love, of union and fulfillment, also of purifying flame, and also death. The maze is a hidden place, and the girl's rosegarden was surrounded by a maze. The author says:

> Thus, as I understand it, the desert, the symbolic opposite of our garden, is one of three things: it is the uncultivated barren place which has yet to be tended and cared for ("the desert shall blossom like the rose"), it is the state of a formerly flourishing land which has been blighted by plague or fire ("the Waste Land"); and it is also the symbol of renunciation ("the saints in the desert").
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> Education as I see it should itself be a *fulfillment* of human aspirations at different stages of development: the physical coordination and pride of skills, the training of intelligence and discovery of intellectual satisfactions, the directing and strengthening of the emotional life and the anticipation of romantic love. It should also be a preparation for the later fulfillments of adult life unknown to adolescence. But it should not ignore the *renunciations* that every life calls for, stressing rather the quality of that which is worth sacrifice, and the possibility of a final synthesis, "for the fire and the rose are one." Pursuing the study of the labyrinth which a young girl put round her rosegarden led to Eleusis, and in the Eleusinian Mysteries the individual's consummation is revealed.

She goes on:

> Any child who has known such a moment, in however limited a sense, shares with the artist the knowledge that experience is not just something that happens to you. It is something you take—perhaps literally—in your hands and shape it; and the shape you make stands out there in the world and stares back at you, shaming or delighting you, or challenging you to shape it better. Then it may come home that art is a way of extending and coming to terms with experience itself. Long after he has left school and probably left painting and the writing of poetry behind him, one who has known this will look at the work of an artist or a poet, and, with this understanding built into his being by experience,

> recognize the image another human being has made of tragedy or of ecstasy. Then he will know with certainty that no man is an island: that for us the bell does not only *toll,* but we can also share in the peal for a wedding, or a birth, or a rebirth.

Well, as we put this book down we wondered how many Ph.D.'s in education or philosophy or anything else—say, communications—would feel ready to get down on the floor with children or freshmen or anyone else, in order to be sure of knowing their language and to be understood. It is not, after all, the teacher's job to prepare the young for the world of fads, fashions, and fancies—the world itself will break them soon enough. Their need is to strengthen the childhood impression that there *is* another and better world, and, as the years go by, give that world the dimensions, not that it needs, but already has, and which await recognition. The teacher, in short, must be skilled in the use of bifocals, able to see what is, but also able to look beyond to what might be. Daring supported by courage, imagination upheld by consistent effort, are needed for this. Love is also involved.

REVIEW
A REVIVING HEALING ART

ANDREW WEIL is a forty-three-year-old practicing physician in Tucson, Arizona, with an allopathic education (conventional medicine) and an open mind. He represents, one could say, the great transition now under way in the thinking of thoughtful medical men and is therefore well qualified to fill in for the general public a number of blanks in the common knowledge concerning the remedies for ill-health. What, for example, is homeopathy? His account of this mode of healing, puzzling in various respects, seems one of the best we have seen for years. He also gives attention to Osteopathy, Chiropractic, Naturopathy, and is especially informing on the meaning of "Holistic Medicine," which is both broad and exceedingly vague. We are speaking of the contents of his book, *Health and Healing*, first published by Houghton Mifflin in 1983 and now available in a paperback edition at $7.95. He is, we should add, an excellent writer as well as a doctor, and while he sometimes makes you feel that he is addressing a public meeting, this didactic quality is not really objectionable: he wants to be understood.

The first chapter is a dramatic beginning. Dr. Weil tells how, when he was thirty-seven, he had a sudden attack of pain beginning in his chest, which then spread to his back, shoulder, throat and jaw. In the morning it was gone. Well, the pain came back again and again, and since he thought he was normal and healthy he couldn't understand why. He was used to taking care of himself, but made no headway with this affliction. After a diagnosis of "esophageal spasm," it occurred to him to consult another doctor who was an old friend. This friend, it turned out, had grown dissatisfied with orthodox medicine and had become a homeopath.

> My friend told me he was much more successful in treating people since his conversion; he was also much happier, had rapport with his patients, and for the first time in his life really enjoyed practicing medicine. He felt he was able to stimulate genuine healing in sick people, whereas before he just suppressed symptoms, often by plying patients with toxic drugs and using other methods he now considered more harmful than beneficial.
>
> I proposed that he show me how he practiced by taking me on as a new patient, especially since I had a recent health problem that had been bothering me. He agreed going right to work by doing an "intake" on me, which is the homeopathic equivalent of a medical history. Sitting across from me with a notepad, he began to ask me questions.

Neglecting a story which indicates the kinds of things that homeopaths want to know about a patient, the friend came up with a diagnosis: Weil had "elementary sulfur" poisoning. Weil explains:

> Homeopaths do not believe in the existence of "disease entities' like hepatitis or ulcer common to patients with similar symptoms. Rather, they concern themselves only with identifying the particular pattern of symptoms of an individual patient, and this they do by means of the curious questioning I went through. Little emphasis is placed on physical diagnosis—on examination or testing of the patient.
>
> Once the symptom pattern is clear, the homeopath then tries to match it with the one substance that most closely reproduces these symptoms in the normal person. The method here is to consult large volumes of "provings" that homeopaths have compiled over the years. These are records in great detail of the results of giving small amounts of many different substances to volunteer subjects in good health. Simple chemicals, minerals, extracts of plants, dilute preparations of animal and insect venom and of disease-causing germs, as well as of some standard drugs, are all included in the homeopathic provings. It is most important to match the patient's symptoms with the one substance that most closely reproduces them, because homeopathy asserts that a single dose of that substance, highly diluted and properly prepared, has the capacity to cure the ailing patient.
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> In my case the match was easily made, because elemental sulfur is a common and familiar homeopathic remedy that rapidly produces very clear symptoms. Apparently I was a recognized sulfur type.

At any rate, his friend gave him some tiny milk sugar pills treated with dilute sulfur. Weil

took them and promptly got well. He never had a recurrence of the attack. He wanted to know why the homeopathic remedy worked, but he couldn't find out. But however it worked, it also opened his mind.

> As for homeopathy, what about its role in this saga? Was I cured by that dose of homeopathic sulfur? It certainly looks that way, and the experience was impressive enough to persuade me to go to a homeopath again next time I need outside help for a medical problem. Still, my restless mind will not let me be comfortable with that conclusion. If homeopathy cured me, I must know how it did so.

The next chapter is on the life and career of Samuel Hahnemann (1755-1843), a conventional doctor who felt he didn't know anything and developed the homeopathic method. It worked so well that a medical movement grew out of his work, and while homeopathy nearly died out in America during this century—due mostly to ridicule and attacks by orthodox medicine—it now seems to be reviving, perhaps because all orthodoxies are now weakening and a few doctors like Weil are trying it. The latter concludes his appreciation of Hahnemann by saying:

> If allopathic enmity toward homeopathy has subsided, it is only because homeopathy no longer poses an economic threat to regular practitioners. Intellectually, it is as threatening as ever, since its philosophy is totally at odds with that of scientific medicine. Allopathy is rooted in materialism. Homeopathy, in both theory and practice, attaches greater importance to nonmaterial reality. For the allopathic theorist the continued existence of homeopathy must be galling. That homeopathy works is even more of an affront, for it is a constant reminder that there are more things in heaven and earth than are dreamt of in allopathic philosophy.

Why didn't Dr. Weil, like his friend, become a homeopath? Fortunately for the reader, he didn't because he is not a quick decider. He thinks highly of the method but he doesn't use it for every ill. He doesn't seem able to verify homeopathic theory in any other terms but its own, and these are strange indeed. He doesn't reject them, but he can't adopt them in a true believer spirit. This makes his book a good one.

In a later chapter he makes a critical defense of allopathy. After reviewing familiar charges against orthodox medicine—with some of which he agrees—he says:

> Nor is it true that allopaths always make sick people sicker. Regular medicine is the most effective system I know for dealing with many common and serious problems, among them acute trauma; acute infections associated with bacteria, protozoa, some fungi, some parasites, and a few other organisms; acute medical emergencies; and acute surgical emergencies. If I were a victim of a major automobile accident, I would want to be taken to a modern hospital emergency room, not to a homeopath, shaman, herbalist, or chiropractor. If I had overwhelming pneumococcal pneumonia (a bacterial infection of the lungs) I would want to be treated with penicillin. If I contracted intestinal parasites, such as roundworms or amebas, I would take specific allopathic drugs that readily eliminate those creatures without causing much toxicity.

On the other hand—

> The common complaints that medicine today is too expensive, too dangerous, and not effective at treating diseases that really matter are all valid. The expense and risks of the system are direct consequences of its increasing reliance on invasive procedures, technological gadgetry and dangerous drugs. Its ineffectiveness in certain areas is not trivial. Regular medicine is on very shaky ground in attempting to treat such problems as acute infections associated with viruses, nutritional and metabolic diseases, chronic degenerative diseases, allergies and autoimmune diseases, cancer, "psychosomatic disease," and mental illness.
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> I would look elsewhere than conventional medicine for help if I contracted a severe viral disease like hepatitis or polio, or a metabolic disease like diabetes. I would not seek allopathic treatment for cancer, except for a few varieties, or for such chronic ailments as arthritis, asthma, hypertension (high blood pressure), multiple sclerosis, or for many other chronic diseases of the digestive, circulatory, musculoskeletal, and nervous systems. Although allopaths give lip service to the concept of preventive medicine, for practical purposes they are unable to prevent most of the diseases that disable and kill people today.

Another wholly legitimate complaint is that allopaths don't really know much about health,

and what they know about disease is cumbersome and unmanageable.

> One consequence of this deficiency in theory is the difficulty of teaching the system. . . . Worse, lack of any clear concept of health leads most medical doctors to pay more attention to disease. I heard the word health mentioned very infrequently during four years of medical school and one of internship, though I listened to innumerable lectures and seminars on diseases. One incisive commentator, an M.D. and pathologist, has said: "If we measure interest by activities rather than protestations, physicians have been and are, for the most part, as little interested in health as soldiers in peace." Allopathic doctors give lip service to preventive medicine, but what they mean by that term are mostly superficial matters relating to public sanitation and mass immunization against epidemic diseases. The preventive activities of regular doctors are minimal. Mostly they wage war against diseases once they have developed and against agents that transmit them, which they mistakenly see as final causes.

Andrew Weil's *Health and Healing* is a fair-minded, hard-hitting, and useful book.

COMMENTARY
WEARING AWAY AT INSTITUTIONS

OUR lead article for this week is deliberately devoted to a book about teaching art to children—first, because the book is very good and deserves this attention; and second, because we adults, all of us, too often assume that teaching children is only a second-class educational activity. Reading Seonaid Robertson may help us to correct this misconception. She understands how influences affecting children and young people may actually shape their later attitudes. As she says on page 7:

> . . . it may come home that art is a way of extending and coming to terms with experience itself. Long after he has left school and probably left painting and the writing of poetry behind him, one who has known this will look at the work of an artist or a poet, and, with this understanding built into his being by experience, recognize the image another human being has made of tragedy or of ecstasy. Then he will know with certainty that no man is an island, that for us the bell does not only *toll*, but we can also share in the peal of a wedding, or a birth, or a rebirth.

Miss Robertson is thoroughly aware of the shortcomings of modern education, but a few words on this subject are enough for her. She speaks of "the harshly segregated departments of our secondary schools and colleges," of the inadequacy of "teachers' training" which leaves them unable "to stir their students' imagination through any medium which appeals to them." But having said this she lets criticism go and tells what to do—what she has done with the children in her classes. She doesn't bother to describe the mistakes of other teachers, but focuses on her own, turning them into richly instructive incidents.

Interestingly, Andrew Weil (see Review) writes about conventional medicine in a similar way. He breaks out of the pattern of allopathic practice whenever he sees a good reason for doing so, and he listens to what unconventional healers say, whether or not, at first, it makes sense to him.

These books, by Seonaid Robertson and Andrew Weil, are, we think, good signs of the time—a time when people working in conventional institutions are freeing themselves from the bad habits they engender, and setting an example to all the rest of us. Because of what they do there will be a lot less pain in years to come.

CHILDREN
. . . and Ourselves
ON HOMESCHOOLING

ONE of the things that makes John Holt's paper, *Growing Without Schooling*, useful is the grainy side of the family life in which teaching children at home takes place. The circumstances are *different*, the children are different, the capacities and interests of the parents are different in each family. Too often discussions of education at home, or anywhere, deal in the abstract with "average" or "typical" children, when the fact is that no children are either average or typical. For example, a mother in Washington state writes in *Growing without Schooling* (No. 40):

> . . . Several of the stories in *GWS* made me feel at times that maybe I should expect more from our boys. Our guys do not make computer programs (we don't have a computer), they do not make music (we have a piano, pump organ, guitar, banjo just because I like them) or write plays (I can't get them to write more than a thank you to grandparents), no scientific experiments or signs of budding genius. But they can tell you how our farm is run much better than I can at times. They can list off weeds crops, what was damaged by what (insect, weather, chemicals), what should be done and when and why. They care for their livestock—small flock of chickens and rabbits. They are fun to be around.
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> Our curriculum is very relaxed and for us it works best. We do the regular school book work in the morning—math, English, printing, whichever school book grabs their interest at that time. If none does, I grab them and say "Do it," so we aren't real lax. Then at noon they escape outside. From then on our day is very free. We all read something. The old *Book of Knowledge* is great for interesting talks. We branch off from the moon to history to poetry. . . . I have learned to let them find out on their own. If we stick with one particular subject it seems like it doesn't stay stuck for very long.
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> I guess what I'm trying to say is for others not to feel they have to be outstanding. Like we tell our kids, they are outstanding in their field—it's corny, especially if they are in the wheat field at the time. It has taken two years for our older boy Justin to be fun to be around again. A friend says she thinks he's something else. He is funny. Our youngest, Ethan, only went to kindergarten so does not have a lot of hang-ups to get rid of, and it's fun to watch and be a part of his learning. What they know, they know because it is important for them and our living. Have we finally become real homeschoolers? I think so. It's a wonderful feeling to be friends with your kids.

John Holt watches the press and recently when he saw something in a magazine article that he thought wasn't good he wrote a letter to tell why. Some writer had said that teaching should be "more professional." John said:

> . . . Teaching is not, ought not to be, and cannot be made to be a mystery, in (the article writer's) words, "a body of knowledge which its members alone possess." It is a timeless and universal human activity, something we all do throughout our lives in all our relations with other humans. This is not to say that some people don't do it better than others, or that people cannot learn—almost entirely from experience—to do it better. In this respect it is perhaps akin to cooking. There is indeed a considerable body of knowledge about cooking, but it was not created in and cannot be confined in *schools of cooking*. By study and practice you can learn to be an expert cook, and you don't have to go to school to do it—indeed many expert chefs are self-taught. The same is true and will always be true of teaching.
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> The most important thing any teacher has to learn, not to be learned in any school of education I ever heard of, can be expressed in seven words. *Learning is not the product of teaching.* Learning is the product of the activity of learners, who, beginning at birth, create knowledge from experience in exactly the way scientists do, by observing, wondering, theorizing, and testing and refining their theories, which is how children learn to crawl, walk, talk, and so on. Only when we understand that this is true can we begin to understand in what ways outsiders, whether parents, paid teachers, or whatever, can best support this learner-initiated and learner-controlled activity. . . .

The argument for and against TV goes on and on. In this issue of *GWS* one case for TV is quoted from Joyce Kinmont in a magazine called *Tender Tutor:*

> . . . Television, some say, robs the imagination. Television to most people means soap operas, MASH, and Home Box Office. There *is* very little of any value on TV but what is good is really good, and it enhances, complements, or stimulates the imagination.
>
> For instance, when Ritchie watched a program on monorail trains, he came away with his own idea

> for designing a railroad system. When the children and I read a book about a Mississippi steamboat pilot, nothing in our imaginations painted so vivid a picture as a television program about Mark Twain that we saw shortly thereafter. How can one possibly "imagine" the damages of a flood, the appearance of the Statue of Liberty, or the beauty of the Rose Parade from the written word. . . .

We don't regret in the least the failure of prose to generate ecstasy over the Rose Parade—all those cut flowers which ought to still be out on the hills or in gardens, to say nothing of the traffic congestion almost everywhere in the area, and for most of the day—but the other arguments may have substance. On the other side of the ledger Brenda Jinkins writes from Tennessee:

> . . . Although we have homeschooled for four years, the last eight months without a TV have been the best. Our old color set just faded away, and we were all watching very little upon its last gasp. Then it just naturally followed, after recuperating from surprisingly bad withdrawal symptoms, for us to do without a TV indefinitely. The emphasis on things rather than people, the repetitive negative news and the universal themes on nearly all network programming of both emotional and philosophical cowardice come clear to us now with only occasional glimpses of the Great Time-Eater and Escape Machine.

A short item from a last year's Michigan paper:

> . . . Did you know that Frank Lloyd Wright was homeschooled? He owed his success to his mother. She was an immigrant from Wales and a school-teacher. His father was a traveling preacher and a musician. As the family moved all over the country, Frank's mother took charge of his education.
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> He never graduated from high school. When he moved to Chicago, he rose quickly in the architectural profession. At age 26, he was operating his own business.
>
> There are several good children's biographies about Frank Lloyd Wright. Check at your local library. . . .

Another interesting feature of *Growing Without Schooling* (which comes six times a year, subscription, $15, from GWS, 729 Boylston St., Boston, Mass. 02116) is the news it brings of children in other countries and what education may be for them. A missionary working in Zambia tells about homeschooling her children in this African country. After reading an interview with John Holt she got some of his books and subscribed to *GWS.* In her letter, which is almost a page, she says:

> What I read really supported my observations of the way children learn, made both with my own children (including trying to teach Dave) and watching the way Zambian children learn. Not the ones in school, but those many who were unable to go to school—mostly because there are not enough schools in Zambia for all children. They learn by mimicking adults, they learn by using real tools, by doing real things. Girls by the age of two or three have their own tiny tin can of water which they carry back from the well or river on their head along with their mothers who have their own six-gallon tin full of water on their own heads. Girls of this age have their own corn cob or rag, etc., tied on their backs like a baby, but girls of five or six have their baby brother strapped on their backs part of the time. This is not forced child labor this is what children *want* to do. And examples could go on and on. Zambian children learn the survival skills they will need as adults in a normal, natural way because they want to and because they see adults doing them. They will not learn how to read by themselves because the printed word is not readily available nor used by most adults (in the rural areas, anyway).

Meanwhile her son, Dave, now seventeen, has learned carpentry, fiberglassing and boat-building. While he is a little behind academically,

> he speaks three Zambian languages fluently so that Zambians who do not see him while speaking are convinced he is a Zambian, and he understands three other Zambian languages.

He is busy with various activities such as shoe-making and doesn't have much time left for schooling. But as his mother says: "we are no longer concerned about these 'academic studies' and neither is he. They *will* be done, later on when there is time."

FRONTIERS

Ominous Predictions about Energy

THERE are three ways to think about energy. One is the way an individual figures out how to reduce the cost of energy used in his home and for transport. There are numerous sources of help for this—periodicals, catalogs, and papers on efficient use. It may involve a windmill. It might involve the use of a stream for a small hydro-electric installation to generate energy for immediate use or storage. Or construction of a passive or active solar home. Or, again, it might suggest considering a radical change in one's way of life in a move toward practical independence of the existing economic system.

Another way to think about energy is in terms of the predictions of statistical economists who, studying mass human behavior and trends, try to estimate future demand for energy and describe what will be its requirements and its effects. For help in this one might read No. 63 of the Worldwatch Paper series, by William U. Chandler, titled *Energy Productivity: Key to Environmental Protection and Economic Progress.* This seems the most comprehensive study of the subject to date, a survey of current anticipations, which are, unfortunately, by no means uniform and can hardly be made more accurate, in view of the multiple causes of large-scale human behavior. It becomes obvious that if all the major institutions and industrial factors affecting the production and consumption of energy behaved intelligently, even with no better motivation than enlightened self-interest, the world would be far better off, but also that much of the time the course that this intelligence would dictate is obscured by the immediacy of short-term interests, so that what seem sensible predictions are seldom realized.

In this area the controversy is between the hard-heads who have a low opinion of the prospects for the right things getting done and the optimists who like to think that *of course* people will choose intelligently if the facts can be made known. Readers who want to know what is going on in this sector of human affairs would do well to read Chandler's pamphlet, especially those who may have a small voice in the determination of policy. Even so, what one soon becomes aware of in reading it is the general lack of thinking in terms of the public good, the lethargy of institutions when it comes to change which requires sustained effort, and the impotence of intelligence in the face of these obstacles. Yet there are encouraging exceptions to this pessimistic rule and Mr. Chandler describes them. We should add that the whole picture of energy production and consumption is vastly complicated, making effective review practically impossible.

A third way to think about energy would be to consider the part it would play in the ideal society of one's choice. For example, it would certainly be desirable to have to think about energy much less than we do. This is a way of saying that it seems a pity to have to give so much attention to how to keep our machines running and our feet warm on cold nights. There are, after all, more important things to think about, yet one would never discover this from reading the newspapers. This idea is well conveyed by Karl Polanyi, economist and economic historian, in a notable essay which appeared in *Commentary* for February, 1947—"Our Obsolete Market Economy," in which he said: *"Man's economy is, as a rule, submerged in his social relations."* But market thinking in our time submerged society in the economic system. *"Instead of the economic system being embedded in social relationships, these relationships were now embedded in the economic system."* Polanyi pointed out that adopting industrial system economics as our philosophy of life has impoverished culture and distorted all social relationships.

What sort of economic relationships would correct this fundamental distortion? How can we *free* ourselves of the obsessive preoccupation with economics? Thinking along these lines, of which very little is done these days, is probably the main

prerequisite to solving our problems, just as adopting the laws of health as rules to live by would almost certainly eliminate most of the problems of disease, whereas concentrating on disease probably makes them worse.

Turning then to Mr. Chandler, we find this setting of the problem early in the pamphlet:

> Not since the early seventies have analysts so complacently projected a high energy demand future. Alan Manne of Stanford University attributes this, especially the similarity of most official energy demand projections, to "the herd instinct that operates within the community of energy analysts." Nevertheless, a survey of forecasters shows a consensus that worldwide commercial energy demand will increase from about 300 exajoules (EJ) in 1983 to 485 EJ by the year 2000. (Commercial energy excludes firewood and dung, which total approximately 50 exajoules. An exajoule is the equivalent of 163 million barrels of oil, or .95 quadrillion BTU.) The physical magnitude of this scenario numbs the mind. If it comes to pass, the oil output of two new Saudi Arabias will be needed. In addition the coal production of the world will almost double, and three times as many rivers must be impounded behind hydroelectric dams. Widely cited projections conclude that by the year 2025 the world will need four-and-a-half times the hydro power and three-and-a-half times the coal used today along with a total of 365 large nuclear power plants. They typically forecast a 125 per cent increase in energy demand over the next 40 years.
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> Among the consequences of using so much energy would be greater risk of acid rain, carbon dioxide-induced climate change, species extinction, nuclear weapons proliferation, water degradation, human dislocation, and capital shortages and debt. . . The consensus forecasts would, within the next century, double the atmospheric concentration of carbon dioxide (compared to pre-industrial levels) and cause an atmospheric temperature increase large enough to flood coastal cities and shift rain patterns all over the globe. And the radical development of hydroelectric power would seriously affect freshwater environments: Fish and mollusk species would be eradicated, fertile bottomlands destroyed, forests inundated, and water supplies warmed, depleted of oxygen, and loaded with silt. . . .
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> This picture of the future is as alterable as it is unattractive. Energy demand projections are a function of modelers' expectations about prices, environmental regulations, and the ability of the world to respond to energy conservation's potential. They represent these analysts' conceptions of how the world works, not necessarily of how it could work. All serious projections are made with models that expose the assumptions that determine their results. One role of models in fact, is to make transparent the energy supply, demand, and policy consequences that nations face.

Well, that is enough to suggest the contents of this pamphlet and the dramatic character of the issues involved. All three kinds of thinking are needed, but mostly the third kind, we believe. There is really no other way of meeting such problems.

Single copies of Worldwatch Paper No. 63 may be purchased at $4.00 from Worldwatch Institute, 1776 Massachusetts Ave. N.W., Washington, D.C. 20036.