EDUCATION AS AN ART

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MAN AND HIS EARTH

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EDUCATION FOR FREEDOM

A great deal is being said today in educational circles about the need to give the children "freedom"—freedom of movement, freedom to express themselves, freedom to discover—so that learning shall become an enjoyable process, while the teacher, standing more or less in the background, assumes the role of guide rather than of instructor. It is a swing away from the situation wherein a teacher stands in front of the class and teaches, while the children sit silent and listen. It is assumed that in the latter situation the children take no active part in the educational process and that their development is thereby hindered.

Certainly if the children take no active part, this is so; but we must consider the matter rather more carefully and ask ourselves three important questions. Firstly, in what way should the children participate in a lesson so that they really benefit from their activity? For there are three ways in which children can be active—in thinking or imagining, in feeling, and in physical movement; and in our Rudolf Steiner schools we keep this very much in mind. Secondly, in what way shall we stimulate these three activities? And thirdly, how shall we bring about the harmonious co-ordination of their thinking, their feeling and their willing, so that the child will develop into an integrated personality and achieve real freedom in adult life? This will not happen if we stand in front of the class intent merely on imparting information—or "hearing" the lessons which the children have learned for homework the night before. On the other hand, we shall not achieve it, either, by leaving the children—in little groups—to "find out" for themselves whether by experiments (if the subject allows) or from books, and even to choose which subject they shall study that day. This is to encourage the children to play the part of little research students. Are they? Or should they be? For we might ask, where does feeling enter into all this? One is left with the impression that feeling is developed only in connection with the Arts. But feeling is the realm in which the pre-adolescent child principally lives. He views everything through his feelings, and where his feelings cannot enter, he is not interested. His feeling, therefore, must be active in every lesson if we are to awaken and maintain his interest.

Of course, children who occupy themselves with some experiment or other, or are intent on finding something they want to know from a reference book, are presumably interested in what they are doing, activated by some feelings of curiosity. But such feelings are intellectually orientated. They belong more to the head than to the heart, and this is not the direction in which we must go if we wish to help the child morally. While it is true that the child's interest in what he is doing is of primary importance in education, the converse does not follow that whatever interests a child is educative for him at any age—even if that interest happens to be a scientific one. For the question still arises: Are we doing right in trying to train young children to be little scientists? We live in a very scientifically-minded world, and there is a great danger that we think it a good thing to introduce scientific method to children of tender years so that they shall be the more prepared to enter the "electronic age," or the "space age," or whatever the

current term may be. Or we may consider that, in a scientific age, it is natural for children to show such interests and that these interests should be fed. This takes no account of the possibility that the highly mechanised age in which we live may be something from which young children should be protected. This is also an urban age; but is it a happy thing that so many children have to be brought up in cities?

It is by no means necessarily true that a class is inactive when a teacher stands in front and speaks to the children, while they listen. When young children are listening to a fairy tale, fable or legend, or an older class is hearing historical stories of the deeds and struggles of men and women and of the times they lived in, the children are intensely active. While they sit silent, they are continually picturing the personalities and events in their own minds, and reliving it all through their feelings. Of course, if one relates everything in a merely factual or lifeless way, the children's feelings and imagination will not be stirred, and they will probably not trouble to listen. In every kind of subject, in teaching pre-adolescent children, feelings must be active—whether it be feelings of sympathy or antipathy, of admiration or repugnance, toward what is fine or ignoble in men and their deeds, or feelings of wonder (not merely curiosity) in elementary science lessons, or of awe at the marvels of human physiology, or a feeling for the beauty of intricate geometrical figures or the form of a crystal. In everything that the children learn, in all the knowledge they acquire, we must educate not only their thinking and imagination, but also their feeling. And why? Because cultivation of the true heart-feelings is an essential basis for morality in later life. If feelings have been neglected and allowed to wander and have become attached to mere personal, selfish or unhealthy interests, moral ideals, which begin to arise in the individual thinking of the adolescent, will find no support and will tend to be submerged. In other words, if we allow uncultivated feeling to develop in the child, we are preparing a blockage for his later moral freedom.

We must go further. Every act of our adult life—when it is not performed merely out of habit, routine or impulse—originates in a thought or idea. If to a thought no feeling or interest is attached, however, it will never be converted into action. The lazy person, for example, suffers from this. He does not feel strongly enough about many things to activate his will. Feeling is the link or bridge between thought and action. Even when we have something uninteresting or definitely unpleasant to do, and we carry it out in spite of this feeling of distaste, it is because we have also a moral feeling of the rightness of the action, which sweeps aside our personal reluctance. Anyone, on the other hand, whose feelings have been allowed to grow into merely personal interests, will tend to fail in such situations.

In educating children for freedom, therefore, we must work towards making the path clear for later moral ideals to pass into action, not only by cultivating the feelings but by constantly leading their thoughts through feeling into doing. That is why, in our Main Lessons, what the children have thought and felt is carried over—often through poems and rhythmic movement—into drawing, acting, or the writing of what they have learned. In this way they become accustomed to carry thought into will; and this is

why we have the Main Lesson, which lasts for two hours—long enough to make all this possible. Further, the children do this throughout all their Main Lessons for eight years, so that by the time they reach adolescence their thinking and feeling have not only been developed in a healthy way, but head, heart and hand have learned to work in harmony. This is the basis not only for moral freedom, but also for initiative in practical life.

And who can do this? Only the teacher. Only an adult human being, who brings warmth into every lesson and so stimulates warmth of feeling in the children, can carry out this essential task—not a group of children sitting around a table "finding out" things, nor a teacher hovering in the background, nor a "visual aid," nor a teaching machine. These can bring no warmth into knowledge. Only a human being can educate another human being.

So far we have merely cleared the ground and have seen what must be done to give moral ideas freedom of action in adolescence and adulthood. The question now arises as to what freedom we may give to children. Do we help them to become free adults by giving them freedom when young? This is the question of Authority and Permissiveness, which will be considered at another time.

—PELHAM S. MOFFAT

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GRACE AT MEALS

A talk given to the High School students at the Waldorf School, Adelphi University

The Student Council has asked me to set its new project in context with a few words concerning the meaning of grace at mealtimes. As you know, the Council hopes to introduce the custom of a silent grace into the high school's luncheon period. Because this will not be easy to do in a cafeteria, and will require forbearance, persistence, and ingenuity, the Council is especially anxious to have the importance of the effort clear in our minds.

I should like to support the idea of offering thanks before eating by two considerations, one of manners, the other of health.

We know that in ancient times blessing was asked not only upon the meal but also upon the harvest that made the meal possible—and, indeed, upon the very act of breaking the earth and planting seed that makes the harvest possible. Thanks were given, blessing was asked, when a fishing boat or fleet set out for the catch. This latter custom continues to this day. And in many homes, though not the majority perhaps, some form of grace is still being asked upon the meal. The breaking of bread together is still regarded by some as a sacrament.

Now despite the fact that our present culture does not have much feeling for the sacred, for such a thing as grace at meals, when we sit down at the table we are still expected to be gracious. It is not good form to sit down first, to reach out farthest and fastest, to chew loudest. We are not to grab, not to rend and tear, not to display too much appetite. The *human* style is not to hog and not to wolf.

Can graciousness be preserved without grace? Ultimately, I think not. A code of manners becomes empty and insincere, and it will eventually crumble, unless it is supported from within by real feelings. Table manners should be the way one naturally acts when he bears himself with the simple dignity of a spiritual being, when he warms to the spiritual presence of his companions, and when the food to be eaten by all is regarded as a wonder and a blessing. Such alive awareness sets the tone, and it shapes the smallest details of gracious behavior.

I do not believe graciousness can endure except upon the foundation of gratitude for grace received. One may be grateful at mealtime to the men who have grown the food, to the women who have prepared it, to the plants and animals themselves whose body becomes our sustenance. One may be grateful to the sun that holds and shines upon all, to the air and water that make growth possible, and even to the very rocks that patiently support our planetary existence. One can sense wisdom and love in and through all of these provisions.

It is not easy in our day to take the time needed to remember our benefactors and let thanksgiving grow in our hearts. But it is worthwhile. By such an act we master life. In this mastery lies the meaning of our whole existence. To give thanks before eating is one of many acts of initiative by which we establish human values, overcoming instinct by purpose, routine by fresh awareness, and pressure by peace.

If good manners affect the health of society, they also affect our own health. As you have already heard from a fellow student, we can no more take for granted that the ingestion of food will lead to the right building-up of our bodies than we can trust that the crude rush of external events will of itself shape into a noble society. Food must be assimilated, and it must also be blessed, if the lower forms of vegetable and animal substance are to become human flesh.

In the work of digestion the teeth do their part, and the tongue, and the juices. These reduce the original form of foods to zero and slowly build them up again in the image of man. When the breakdown is complete, and nutritive substance enters the blood, the upbuilding begins. The liver contributes to this, and the air we draw into our lungs. But these unconscious processes do not complete the rarefaction, permeation, and transformation of foreign substance into the noble, delicate human body. So subtle a thing as our mental attitude, the quality of our thoughts and feelings, also plays a decisive part.

To digest food properly we must be "all there." Not only must the appropriate organs be functioning; we ourselves, in the warmth of our ideal striving, must be present. This warmth will, or will not, penetrate every cell and tissue. If it does, our health will be more likely to rise above

certain of the illnesses that characterize our unmastered, unhumanized time.

We are all aware that great successes have been achieved in suppressing and eliminating infectious diseases; but we know, too, that with every year that passes the so-called degenerative diseases have advanced. They set in at ever younger ages; they claim ever more victims. I am referring to heart disease, arthritis, cancer, and some forms of mental illness, for example, depression. We could include obesity, the accumulation of excess fat, which has become prevalent in America. What do all these illnesses have in common?

I am not a doctor, of course, and it is dangerous even for doctors to generalize. Each degenerative illness has its own specific cause and character: e.g. arthritis results when calcium is deposited in the joints; hardening of the arteries, when cholesterol is deposited along the lining of blood vessels; senility, when the brain itself calcifies. Cancer occurs when bodily tissue grows beyond its natural limits—the limits that indicate the controlling, formative presence of the individual who lives in this body.

I will risk saying that, regardless of the differences between these diseases, they have in common an incomplete or imperfect metabolism of some kind. When blood does not flow freely, joints do not move smoothly, muscles are layered in fat, and certain tissues overgrow, we feel a lack of complete combustion. We are reminded of a fire that does not burn brightly but smokily.

I hasten to retreat from medical pronouncements, yet I cling to the idea that the experience of appreciation, gratitude, and thankfulness while partaking of food can help supply that last measure of warmth and control that will first destroy and then rebuild this food into a noble form. This warmth will enable us to penetrate the processes of our own body through and through. It will establish our presence in every cell, tissue, and organ.

There are many ways to use the moment of silent grace. At the very least, we can practice self-recovery by assuming a composed, alert posture. We can formulate thankful good wishes and send them where the heart directs. We can pray for guidance to use for good purposes the strength we gain through the sacrifice of many beings.

—JOHN F. GARDNER

"EARTH, WHO GIVES TO US . . ."

The other evening a group of friends were discussing the pressing issues facing man in the decades to come. Was it drugs, war and peace, the younger generation, the racial crisis, political corruption, the changing moral standards, or the East-West confrontation which lay at the heart of the matter? Where could education best serve the future generation to lay a moral foundation to face these issues? Most of these problem areas are symptoms of a failure to respect and understand the human being and his relationship to the world around him. Thus, the current concern for ecology directly relates to the heart of the matter. Then Mrs. G.—, a professional educator, who had had many disillusioning years of supporting idealistic causes, turned to us and said, "As a teacher myself, I feel that I have never really gotten to the core of it. I have inward concerns which

I want to share with the children. They share my emotional involvement, but somewhere there is still a split between the day-to-day teaching and the hard facts of reality. I feel it's wrong to overemphasize these problems to young children and yet how else do I develop the feeling of responsibility? If ecology is the basic issue, how does Waldorf education deal with it?"

We began by suggesting that it wasn't a matter of drawing the attention of five and six year olds to the amount of hydrocarbons in the air or pollution in the water, but of meeting the child at his particular age with a positive experience of the world. We then discussed the approach of Waldorf education far into the night. What follows are some of the highlights that we could later recall.

THE FOUR ELEMENTS AND THE FOUR KINGDOMS

These two focal points weave in and out of the Waldorf curriculum like musical themes, threading their way through the child's growth and awareness of his world and himself. *The four elements*—earth, water, air and fire —were recognized by the Greeks to be the four "roots" of which the world is composed. They are the active forces working in the world and in man. In chemistry these could be equated to the four states of matter: earth, physical solid substance; water, liquids; air, gases; fire, warmth. *The four kingdoms*—mineral, plant, animal and man—inhabit the earth.

Characterizing the phenomenal world in this way enables the child to grasp the facts of the world clearly. These are dynamic categories which are intellectually true, yet applicable to all ages.

THE EARLY YEARS — Preschool & Kindergarten

Because the young child lives in imitative activity, it is very important to have an attitude of reverence and love for all the kingdoms of nature. He learns through the will. Many opportunities are presented to actually participate in practical activities. To the young child the world is one; the world is good. He digs the earth, carefully waters the soil or rejoices when the rain does it for him. He sees that the wind in autumn carries the leaves to the ground or spreads the seeds. Father Sun sends his loving warmth to all that lives and grows. The children lovingly care for their garden, harvest the crops, bake bread, gather fruit and delight in the smells that fill their room when they are cooking. The earth to the young child is not just "dirt" but a living home for the seeds, beetles and stones. Plants have a rhythm of their own and children delight in the sprouting and budding of each one. That a giant sunflower can come from a tiny seed is a source of constant awe. There is the excitement of experiencing the earthworm ploughing the earth, the caterpillar changing into a butterfly, the mother cat having her kittens. This can be experienced in the center of a city if we are willing to trade cement for even a very small plot of earth. The teacher is the primary representative of man. It is her inner attitude and outer activity which affects the young child. The teacher must fully enter these activities rather than stand aside. She must be willing to get her hands dirty and feet wet as she explores the world with knowledgeable but awe-filled joy. The class itself is Man—the cooperation, the recognition of differences, the working out of social situations, the times to be alone, the times to come together.

The themes of the four kingdoms and the four elements pervade the stories the children hear and act out. These are active in the fairy tales, in their songs, paintings, beeswax modeling, rhythmic exercises and drawing. A grace before lunch, often used, is:

Earth who gives to us this food,
Sun who makes it ripe and good,
Dear Earth, dear Sun, by you we live,
Our loving thanks to you we give.

FIRST AND SECOND GRADES

While many of the same outer activities continue, with the beginning of "formal" schooling more time is spent inside the classroom. Reading, writing and arithmetic are pervaded by the four elements and four kingdoms as expressed in nature and fairy tales. Out of the story of the water cycle can come the "W" (the waves), the "F" (the fish), and the "M" (the mountains), etc. In the second grade, fables and legends, which are teaching tools for reading and writing, carry insights into animals and man. Underlying the educational experiences in these early school years, is *love for the world.* For, without *love,* what is there to conserve?

CONSERVATION OR ECOLOGY?

There is a basic difference underlying these two words. *Conservation* implies conserving natural resources for the future. In conservation man takes an active part protecting (subduing) nature for his own use. Reforestation programs are initiated so that we can all have more lumber in the future; waterways are stocked so that there will be more trout for fishermen. Deer are protected so that hunters may pursue the sport for a longer time.

Ecology is much more subtle. Here it is not for man himself but for all living creatures — for the earth itself. Rather than planting trees or stocking fish as isolated remedies, there must be a consciousness of the great life patterns such as the nitrogen and water cycles, the intricate and delicate *balance* upon which all of the kingdoms are dependent.

THIRD GRADE

During this year the child begins to separate himself from his surroundings. He stands more objectively in relation to his world. In this feeling of loneliness, it is a help to engage in activities that build confidence. Third grade is a very practical year. The Old Testament forms the history-literature theme. After Adam and Eve are sent out from Paradise they must learn to work the earth, to build their home, to form a community. From this comes the study and practice of farming and house-building. The farmer — as a representative of man — must learn to work the earth, to know and work with the air and water, the weather, and the warmth if he is to have a successful farm. But this is not complete without the four kingdoms. The minerals are needed to enrich the soil or for a stone wall, the plants are needed for food, the trees for shade and for holding the soil. The animals fertilize the earth, help in pollination, carry burdens, pull ploughs, give milk, eggs, meat or wool. The farmer must consider other

men as he plans his farm — those who send him seeds, repair broken parts for his tools and machines, who pick up surplus milk or deliver extra hay; those who will eat the food or weave the wool or cotton. And so in the end all comes together in one picture — the farmer stands as the balancer amongst the kingdoms and elements — a unity of many.

FOURTH, FIFTH AND SIXTH GRADES

In these middle grades, the emphasis is not so much on man the balancer and user, but on the phenomena themselves. Having gone from the total picture in the early grades, we now move to a more profound study of the individual kingdoms.

In fourth grade the animal kingdom is dramatically portrayed. The children enter into the sensitive relationship existing between each animal and its home. They come to respect the specialization of the animal, such as the ability to fly, dig, climb, run, swim. Man, who can do all these, is adaptable to jungle, desert, and plain. He is not nearly so sensitive to nor dependent upon his immediate environment. Just picture for a minute a kangaroo living in a jungle or an elephant on a desert! Hence, if animals' surroundings are disturbed, their existence is threatened.

In fifth grade there is a thorough study of Botany. The relationship is studied between plant life and climate, geography and rhythm of the year. The quality and amount of soil, air, water and warmth are very important to the plant. Then the children consider the kinds of plants which are more connected with the earth, those which are airy and hardly seem to be held down by their roots at all, those plants which do best near or in water, and those plants that open and close with the sun. Each plant in its own time unfolds its full possibilities.

In sixth grade the mineral kingdom is taken up in the context of the earth as a living organism. The great forces, such as mountain building, erosion, volcanic action and earthquakes, are studied. The change of rock from mountain top to sand on the beach, of limestone to marble, of thundering waterfalls to a heavily used, polluted river, of ancient fern forests to diamond—all of these are examples of the powerful forces working in this living earth. The kinds of soil that emerge where there is a predominance of one mineral, too much or too little water, good or poor aeration and the quality of heat absorbed, bring in the importance of the elements. Here, as in the study of all the kingdoms, *time* is important. The time and conditions needed for a perfect crystal to form can be millions of years. The children learn to respect the time needed for a forest to grow or a valley to form of sediment. Man's relationship to the mineral kingdom is studied. What part does he play in erosion, farming methods and forestation?

In these middle school years the feelings are stirred by dramatic presentations. Joy, sorrow, anxiety, relief are all experienced. Without the feelings engaged, ecology is just an intellectual study.

PRACTICAL ACTIVITIES

In all the grades, activities appropriate to the age are possible. Camping trips to bring the city child into direct experience of mountains, forests, deserts and seashore are worth weeks of talk and study. In California this

has worked most successfully. Classes do portions of their nature studies on location from fourth grade on. Petitions to save nature areas, clean-up projects, newspaper collections, all are direct, practical applications to *conservation*. Hiking, camping and observing wilderness areas give the experiential picture of *ecology*.

SEVENTH AND EIGHTH GRADES

In the seventh and eighth grades physiology is studied. One might question the relevance of physiology to ecology. But in this study is a culmination of the work of the previous years. Man is seen as a being of earth, water, air and fire. What has been studied macrocosmically is now seen microcosmically. Just as one appreciated each of the individual kingdoms outwardly—now the wonder and mystery are brought inward. The basic concept of interdependence now is seen in the world and in man. An intense study of health and nutrition has ramifications for the individual, for mankind, and for the earth as a whole. If one system of the body is disturbed, it affects the whole balance of the body. Poisons absorbed by the body eventually have an accumulative effect. The circulatory system carries these substances to all parts of the organism. So, too, the effects of an atomic explosion in one part of the world are carried to other parts via the earth's circulatory system (water and air).

World geography taken in these grades, where a detailed comprehensive picture is given of mountains, climatic zones, major rivers, oceans, currents of air, gives the macrocosmic picture of the interrelations of all four elements. A formal course in ecology given in this period would make sense, based on the inner experience of the past years. Without the comprehensive build-up it would be a mere superficial treatment. Needless to say, on the high school level, all that has been presented would be dealt with in a technical and more conscious way.

IMAGE OF MAN

Right through Waldorf education an image of man is central. Man as a potentially moral being carries a responsibility for the condition of the earth. Man as a civilized being changes his environment by his very existence. Therefore he has to carry a consciousness of the effects of his deeds. This relates to the way history is approached in a Waldorf school.

If a child has lived with love and reverence for his teachers, parents, classmates and environment when he was young; if his feelings were stirred in the middle grades so that he felt deeply about the tragedies and joys of others; if his thoughts were raised to clear vision of the interrelationship of all things in the upper grades, then the groundwork is laid for meeting the challenging issues of our time. It will become understandable that man cannot escape his environment through drugs, cannot deprive other human beings of their rights without disturbing the whole of mankind and cannot judge the world in his own image but must learn to respect and observe what is there. This is what we are trying to do in Waldorf education to meet the question of ecology.

* * *

When we finished, Mrs. G. said, "I can see there is much more involved in this education than a superficial treatment of nature study. Can we set up another time to meet?"

—Betty and Franklin Kane

THE EARTH SPEAKS

Long ago the Earth was as bright and clear as a jewel, and Man who lived on her was still pure and without sin. There stood a tree on the Earth in those days, full of wondrous fruit. Round about the tree was a shining garden, in which grew every kind of flower, each one more lovely than it is today. And in those days the Earth could still speak and sing.

When God sent Man down to live on it, the Earth welcomed him with a song. God in His goodness allowed Man to eat of all the fruits, except from the wondrous tree in the center.

Alas! the serpent came and tempted Man and he ate of the wondrous fruit. At that moment the Earth became sorrowful, and dark, and gloomy. Since that day, the Earth has become silent: she speaks no more, she sings no more.

Man has become a wanderer upon the dark Earth. But not forever will she be silent. When Man himself is still, she will speak again, sing again.

Every footfall and touch of Man she can feel, and whether he walks over her with love, or walks without love. She rejoices when he bends over to the stones in humility and thankfulness, when he looks upon the plants with reverent wonder, when he watches over her animals as carefully as a shepherd. She suffers pangs when Man greedily uses and abuses her creatures. She has a long memory and remembers everything that Man does to her.

And when at the end of his life Man has to leave the Earth, he comes to the portals of Heaven, where an Angel stands before him, holding the scales of justice.

The Angel asks, "What good have you done? Speak!"

Man then recounts his good deeds, every one that he can remember. But the scales are not yet weighed down, to show that he deserves to enter the portal.

"What else have you done that was good?" asks the Angel with the scales. But Man is silent now. He has no more to say; he knows of nothing else.

Anxiously he looks around him, here and there, searching for help, someone to speak for him. In his distress he begins to tremble. Who will help him? Who will save him?

In this moment of greatest agony and loneliness, there sounds from afar, from the lowest depths, a loving and maternal voice.

"Have mercy! He was my son. I bore him, I nourished him, and he—ever with gratitude—touched me with his feet."

"That is the voice of your Mother Earth," the Angel says. "She has interceded for you. The scales are tipped. You may enter into the Kingdom of Heaven."

"My loving thanks, O Mother Earth—you who were silent when I walked upon you, you who have saved me in my dire distress."

—Karl Schubert

NOW IS THE TIME FOR ALL GOOD MEN . . .

MOMENT IN THE SUN by Robert and Leona Rienow (Ballantine Books, New York, 1967), $0.95

AMERICA THE RAPED by Gene Marine (Simon & Schuster, New York, 1969), $5.95

NOT AS RICH AS YOU THINK by George R. Stewart (Houghton Mifflin, Boston, 1968), $5.00

S/S/T AND SONIC BOOM HANDBOOK by William A. Shurcliff (Ballantine Books, New York, 1970), $0.95

THE CARELESS ATOM by Sheldon Novick (Houghton Mifflin, 1969), $5.95

PERILS OF THE PEACEFUL ATOM by Richard Curtis and Elizabeth Hogan (Doubleday, Garden City, New York, 1969), $5.95

SCIENCE AND SURVIVAL by Barry Commoner (Viking Press, New York, 1967), $4.50

THE FAILURE OF TECHNOLOGY by Friedrich G. Juenger (Gateway Editions, Henry Regency, New York, 1956), $1.25

"Our technology has outpaced our understanding, our cleverness has grown faster than our wisdom."

Dr. Roger Revelle, Chairman of the U.S. National Committee for the International Biological Program

After the publication of *Silent Spring,* eight years passed before this nation began to see some control on the use of hard pesticides and we are still far from a national ban. Pesticides, of course, are only a small part of the environmental crisis man has created. There is some but not much progress in the control of air and water pollution.

The President's recent statements, an avalanche of articles in the news media, and plans for the April environmental "teach-in" give hope for greater progress in the 1970's. Yet fires of excitement have a way of dying out rapidly. And our national inclination toward optimism may well be our greatest enemy. We are apt to think that a few technological refinements and inventions will do the trick. Sober and realistic appraisals of the environmental crisis are needed if our society is to find and apply lasting solutions. The books listed above fill this requirement.

The Rienows' *Moment in the Sun* treats all aspects of the environmental crisis and is packed with well-documented information. Its tone is urgent but restrained.

Gene Marine's *America the Raped* is written by a reporter who happened to stumble into the field of conservation. It is encouraging that the author, who had no previous experience in his field, became such an ardent advocate of conservation within two years. *America the Raped* is in the muckraking tradition; though I find it eminently readable, it may not appeal to everyone. The author concentrates his attack on the "Engineering Mentality" and, specifically, on the Army Corps of Engineers' pursuit of ever more roads and dams. Marine questions our American credo of limitless technological expansion. The author's enthusiasm for the intricate laws of ecology lends a glow to his book that counterbalances a certain crudeness of approach in some chapters. Both this book and *Moment in the Sun* give a wealth of interesting examples of ecological chain-reactions such as the death of the cedars in Bermuda after the arrival of some shrubs from the mainland.

Not As Rich As You Think by George Stewart is about the effluents of our affluent society. I consider Stewart's book the best-written on our list; the author is urbane, witty and knowledgeable. He shows what needs to be done about pollution and garbage disposal. It is clear that producers and consumers will have to develop a new life-style and a new kind of economic thinking.

S/S/T and Sonic Boom Handbook is written by physicist William Shurcliff, Senior Research Associate at the Cambridge Electron Accelerator of Harvard University. Together with Professor John J. Edsall of Harvard he founded the Citizen's League against the Sonic Boom, in 1967 (19 Appleton St., Cambridge, Mass. 02138; membership free). The President's Review Committee overwhelmingly recommended suspension of work on the supersonic transport. Yet we are now ready to spend $600,000,000. on developing the SST unless the action of concerned citizens stimulates a re-evaluation.

The Careless Atom and *Perils of the Peaceful Atom* both discuss nuclear power plants, which so far have been a blind spot on the retina of most conservationists. Some have even supported the claim of the utility companies that clean nuclear power plants are the answer to the air pollution created by present smoke stacks. The actual facts of nuclear power production lead the authors of *Perils of the Peaceful Atom* to the conclusion that such production should be totally abandoned as a technological mistake. Author Novick in *The Careless Atom* hesitates to go that far but also recommends a fundamental reassessment of our nuclear power program. Hundreds of nuclear power plants are on the drawing boards or already under construction. Can we afford, once more, to act first and think later?

Science and Survival and *The Failure of Technology* take a more philosophical direction. Both show that we do not yet have a science that actually studies life. Barry Commoner holds a Ph.D. in biology and is a professor of plant physiology and Chairman of the Department of Botany at Washington University. In his chapter, "Greater than the sum of its parts," he shows lucidly that the notion that deoxyribonucleic acid (DNA) is the secret of life is "dogma," not fact. Dr. Commoner's book concentrates on the relationship of science, citizen and society.

Though Juenger wrote his *Failure of Technology* more than twenty years ago, the book's analysis of technology is deeper than any other that I know of. Optimism about the machine as a servant to man is so deeply rooted in the American mind that Juenger's logical, relentless analysis tends to put us off. Yet some day we shall have to face the realities he writes about. The direction of Juenger's thinking is suggested by these quotations from the introduction to his book:

> *"... The control of technological power implies much more than its humanization, its direction into channels which are in accord with human dignity ... All the evils of the age cannot be blamed on the bad will of men who misuse machines; some of them are intrinsic to the very nature of the machine itself."*

It seems to me that Waldorf School teachers, alumni and friends can help to support the search for solutions with clear, courageous thinking and with a deep awareness of life. Clear thinking will help to identify temporary, half-way, or false "solutions." An awareness of life-forces, and of the earth as a living organism, may help to develop ecology and qualitative research into a blossoming science of life.

—GERHARD BEDDING

SACRAMENTO WALDORF LAND PURCHASE

Picture many, many flats of potted plants—beautiful plants with their roots beginning to turn around in the pots for lack of enough room. The plants have been well nourished and cared for, and now need a home in the earth itself to send down firm roots.

For ten years the life-force and impulses of the Sacramento Waldorf School have been nourished and supported much in the same manner as these potted plants. Two parents of the School have given the possibility for growth by donating the use of their land rent-free during these many years. More and more children have come each year, the parent support and awareness of Waldorf educational importance has broadened, and financial aid has come from many states and several countries. NOW—the purchase and development of a permanent school campus with plans for the addition of the high school will become a reality. The School's offer for a parklike piece of land right on the American River has been accepted and the papers have been signed. The land includes a plain of approximately twelve acres, perfect for building construction, with an additional thirty-three acres of oak-studded, hilly land just right for outdoor classrooms, craft shops, an amphitheater and, of course, arboretum development. We also have six acres in the flood plain which can be used for playing fields and parking area. There are even three acres *in* the river (due to erosion before dam control)!

Now the work begins on so many levels. Contributions have made the down payment possible, but successful relocation, construction and addition of the high school will depend upon the confidence and financial assistance of all the School's friends, wherever they may be.

The faculty wants the land gradually to become a cultural center in the deepest sense of the term. Human initiative will create community.

—RICHARD H. ATKINSON

BOOKS ON EDUCATION BY RUDOLF STEINER

The Kingdom of Childhood

Essentials of Education

The Roots of Education

The Education of the Child

The Four Temperaments

Discussions with Teachers

The Study of Man

Education as a Social Problem

The Younger Generation

BY OTHER AUTHORS

A. C. Harwood, The Way of a Child

A. C. Harwood, The Recovery of Man in Childhood

L. Francis Edmunds, Rudolf Steiner Education

Elisabeth Grunelius, Early Childhood Education and the Waldorf School Plan

Karl König, The First Three Years of Childhood

H. von Baravalle, Rudolf Steiner as Educator

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Please ask for further information.