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Many people these days wonder what it is like to be on a spaceship. They don't realize that they are on a spaceship. Man has been on a spaceship all this time. It is a tiny little spaceship, only 8,000 miles in diameter. It is also a fantastically lonely little spaceship. The nearest star is ninety-two million miles away, and the next nearest star is so remote that it takes two and one-half years for its light to come to us. And yet this tiny ship is so superbly designed that it provides everything a man needs for his journey through space.

--R. Buckminster Fuller

. . . the principal task of education in this day is to convey from one generation to the next a rich image of the total earth, that is, the idea of the earth as a total system. . . .

What formal education has to do is to produce people who are fit to be inhabitants of the planet. This has become an urgent necessity because for the first time in human history we have reached the boundaries of our planet and found that it is a small one at that. This generation of young people have to be prepared to live in a very small and crowded spaceship. Otherwise they are going to get a terrible shock when they grow up and discover that we have taught them how to live in a world long gone. The nightmare of the educator is what Veblen called "trained incapacity," and we have to be constantly on the watch that this does not become one of our main products.

--Kenneth Boulding

It is obvious today that we can no longer think in terms of single static entities--but only in terms of dynamic changing processes and series of interacting events. The content of our education, the bulk complexity and detail of our knowledge, requires restructuring into new assimilable wholes so that it may be imparted, even at the primary levels, in terms of whole systems.

--John McHale

Our planet is a spaceship. That is, it is a limited life-support system. This is not a new situation. The earth has always been limited in its capacity to sustain life. What is new is that we appear to be challenging some of these limits.

We are slowly becoming aware of the limitations of our planet. This realization is being borne to us partly from the intelligence of a few, but mostly by the ignorance of the many. It is our lack of knowledge and corresponding violation of the planet as spaceship, rather than our understanding of it as spaceship, which is making us aware of its limitations.

Only a few people have been close enough to the Apollo missions, either in body or in mind, to grasp the fact that the Apollo spacecraft are not ships at all, but mere scouting satellites launched from a spaceship. Like carrier-based airplanes, the success of their mission is measured by their safe return. All systems must be "go" on an aircraft-carrier before either a successful take-off or landing is possible. Similarly, all systems must be "go" on the planet before a successful Apollo launch or recovery is possible. The state of affairs on the planet must be in a certain order before life can be sustained beyond its spheres of operation (i.e., lithosphere, hydrosphere, biosphere, atmosphere).

It is now becoming clear to many--but not nearly enough of us--that the state of affairs on the planet has to be in a certain order before life can be sustained within the planet's spheres of operation. Although the planet is infinitely more complex than the Apollo craft, and much more capable of accommodating system disruption, it is nevertheless designed to support a limited number of people under specified conditions. Fatal mistakes are possible on spaceship earth as well as on a satellite bound for the moon.

In a spaceship, all systems are related to all other systems. Nothing is designed, and nothing functions, without reference to everything else. All systems are affected by a major change in any one of them. In other words, the various sub-systems of a spaceship constitute one unified overall system. Any imbalance in one of the sub-systems is automatically redressed somewhere else, and ultimately throughout the system.

So well-integrated are our planet's numerous systems that the earth functions as a single organism. This fact we have demonstrated to ourselves most dramatically by the massive application of fertilizers and pesticides. The system-disruption potentials of this activity are being most vividly illustrated by our long term experience with DDT. DDT symbolizes our dread of an unavoidable function of the planet, that of death. Although DDT's effects are mild in comparison with many other chemicals used in our death-control tactics, it has become the focus of all those who see the folly of its systematic utilization.

DDT is apparently being metabolized by the entire planet. It is found in the tissue of penguins at the South Pole, thousands of miles from its nearest application. DDT is found in the tissue of creatures of the air, creatures of the mountains, creatures of the plains, and creatures of the sea. DDT is transmitted by air, by vegetation, by water. The planet is soaking up DDT like a sponge. And when DDT begins, as it has, to take its toll of oceanic vegetation which produces oxygen for the atmosphere, it definitely tolls for thee. Being at the top of the food chain, humans stand to concentrate more DDT in their systems than any other species. On a spaceship, all unbalances are redressed. When we cast our dread upon the waters, we can be sure of its eventual return.

We can no longer afford to learn about our spaceship primarily through accident, when it appears that our accidents are effecting the entire functional system of our spaceship. We are going to have to learn how to live with the planet intelligently rather than do things to it out of ignorance and fear. The only way to develop such intelligence is to learn about our planet in the same manner that the planet operates--systematically. This calls for a revolution in the curriculum.

At present, we are taught very little about the planet, because of the curriculum's overwhelming concern with the affairs of man. As far as the curriculum is concerned, man is the planet, and thus it is that we learn to consider only the human inhabitants of our spaceship as having first-order significance. When we do study the planet, it is still a very partial thing. We learn about the geographical part, or the biological part, or the physical part, but never are we enabled to develop a sense of the whole thing. Never, that is, are we presented with some perception of the planet as the total system that it is, so that we can perceive its parts in context. While the mind may be unable to concentrate on the planet as a total system, it can certainly develop a planetary perspective or world-view which enables it to concentrate on particular sub-systems in contemplation of the whole.

Unfortunately, geography is largely the study of the names man has given to various locations on the earth and what he does with these locations. Biology is largely the study of terms man has given to the biota. Physics is largely the study of mathematical formulations man has given to discovered functions of the planet. And so on. Our formal studies of the planet, particularly at the level the vast majority of us encounter them in school, are focused upon the symbols we use to identify it rather than upon that to which the symbols refer.

Our present curriculum has enabled us to master our ability to think the world to pieces. Since we can relate to our environment only in the terms that we perceive it, we are now quite effectively tearing the planet to pieces. If we are to think the world together, to comprehend (com=together; prehend=take) it as a single piece, we must create a new curriculum to complement the old.

The old curriculum has been very successful in conveying to us the fragmented, analytical, mechanical world view which enabled man to develop a technological civilization and which now shapes us to behave in mechanical conformity with our creations. But the planet and its occupants do not function according to the technological program with which we are attempting to subdue it, and thus our behavior is on a collision course with our own being. The planet's program is preponderantly that of synthesizing parts into wholes. Man's program is preponderantly that of reducing wholes into parts. If the latter program is merely preliminary to a synthesis which accommodates itself with the planet, very good. But if man continues his program of reducing wholes into parts as presently practiced, his will be the ultimate parting from the planet.

We are desparately in need of perceiving the planet as a gestalt. The world ultimately hangs together in our perception of it, if we are to hang with it. There is no institution which does more to shape/misshape our perception of the world than the schools. A major burden for the creation of a planetary world view therefore rests upon the schools. At present, any student who emerges from high school or college with some sense of how the world hangs together does so in spite of his formal education. Present and subsequent generations must obtain such a perception as an integral part of their education. Somewhere they must encounter a spaceship earth curriculum.

SPACESHIP EARTH CURRICULUM PROJECT will serve as a stimulus toward the development of a curriculum which conveys a planetary world view. The Project presently has three phases:

1. The Center for Curriculum Design is publishing an annotated directory to persons, projects, and media which are helpful in the development of a planetary perspective. The directory will contain conceptual frameworks for the organization of a planetary curriculum. SECP is currently gathering information from and about persons and groups who are engaged in activities relevant to the emergence of a planetary world view. The directory will not only report on these activities and resources available therefrom, but should also stimulate numerous new endeavors by educators who are intellectually and psychically prepared for such curricular innovation but have been unable to do so for lack of supportive individuals and information.
2. A Spaceship Earth Curriculum Conference will be convened by the Center sometime in 1971. Persons identified through the Project as having a particular capacity for the teaching of a planetary perspective or for the design of instructional materials to that end, will be brought into a workshop relationship with those who are on the frontiers of this perspective (for example, R. Buckminster Fuller, Kenneth Boulding, William Pollard, Robert Theobald, Barbara Ward, Constantinos Doxiadis). This conference is still in the early planning stages, but its eventual existence is a certainty if funding is provided. A portion of the conference will be open for general attendance, but the workshops will be invitational.
3. An ongoing Freshman Integrative Studies Program at Kendall College, sponsored by the Center, will assist in the development of a variety of curriculum formats which facilitate the learning of basic principals of human/environmental integrity. Numerous original instructional materials will be produced in all media, most of which will be adaptable by other schools pursuing similar lines of curriculum development.

A spaceship earth curriculum can be designed only as a result of extensive communication among all who are concerned. It is hoped that this document will be widely reproduced, continually recycled, and frequently fed back. Feedback can be addressed to:

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