

THE ETHICS OF SURVIVAL

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There is increasing agreement that our civilization is in crisis and more of us than ever before are turning to the study of man in order to try to understand this dilemma. I began as a field ornithologist and have come to look upon birds as a sensitive index to the quality of the environment.

It is interesting that at least three ornithologists have contributed significantly to an understanding of man. Henry Eliot Howard gave us our first concept of territoriality; Conrad Lorenz, more recently, gave us a concept of aggression, and, in the June 28, 1968, issue of *Science*, Niko Tinbergen, in an important article entitled "War and Peace in Animals and Man", reviewed these concepts and warned us that our human culture was at odds with life. This makes man a misfit in the global environment, and suggests that his cultural adaptability has been exceeded by his technological inventiveness. When so thoughtful and calm a student of the new comparative psychology called ethology speaks out so forcefully, the rest of us had better pause and ask what has gone wrong with civilization.

There is an old saying that our problems derive not so much from the fact that people are stupid, but rather from the fact that they know so many things that are simply not so. It is therefore important to review our history and to try and identify the mistakes of our civilization. Many of our problems are the result of the aggressive forward march of practical men who failed to philosophize on the implications of their proposals. We have, in recent years, seen a number of fingers pointed at the Judeo-Christian ethic as the basic cause of our neglect of nature, but, though this may be contributory, I suspect that it is an oversimplification. There is less question about the unfortunate implications of the Cartesian split between mind and matter imposed on western civilization by René Descartes. This had the effect of making all living things into machines, a convenient analytical approach during the Newtonian Age, but the advances of science have now destroyed most of the Newtonian distinctions and we face the task of restructuring reality by healing the mind-matter split, by reintroducing spirit into matter. This problem is now widely acknowledged, even among biologists. Biologists are unfortunately less aware than most of the problem of positivism that dominated 19th Century thought and still interferes with understanding and discussion. We also need to be much more aware of the hierarchies of science that G. G. Simpson reviewed for us in the *American Scientist* in 1967 (55, 2, pp. 161-175). Another human departure from the path of reality is that involved in possessive individualism, which dates back to Thomas Hobbes, and which split man from society. Professor C. B. McPherson analyzed this problem for us in a 1962 Oxford University Press paperback entitled *The Political theory of Possessive Individualism*. Discarding the responsibilities of spiritual and societal matters of course made possible a tremendous forward spurt in technological innovation, but this also created all the environmental pollution and the social stresses that now worry us; led to the techno-structural state that Mr. Galbraith dissected for us recently, in *The New Industrial State*; and gave rise to a serious concern lest science abdicate its responsibilities to remain an open community, as outlined by Barry Commoner in *Science and Survival*.

The planet is now inhabited by some 3.5 billion people, many of them equipped with dangerous technological tools, and all of them to some extent united by a pervasive communications system that emphasizes the disparities of living condi-

tions around the world. It is no wonder that the result is increasing conflict. Because individuals find it more and more difficult to cope with their situation, there is a tendency for human frustrations to result in group conflict, because it remains easier to join a collective, to have "courage to be as a part" (Paul Tillich's term) than to face these difficulties alone. We have not improved on Aristotle's ethics in 2500 years, and we have not yet learned how to inculcate morality. As a result, the much increased number of human individuals equipped with more potent tools has led to the destruction of nature. In our day, the hawkish mind threatens the very survival of the human race, because our leaders are still ignorant of the significance of the concept of territorialism and the innate aggressiveness of man. The debacle in Vietnam is the perfect illustration of our failure to progress adequately in understanding ourselves in these basic areas of human behavior. Historian Arnold Toynbee has warned us that civilizations never die natural deaths. They either commit suicide or murder.

If we can agree that the causes of our crisis are in large part the result of those errors referred to above, we should be able to agree that the only alternative to a continuing disorganization of society is a restructuring of it, based on the application of our present understanding. This will of course require education. But we must first recognize that our present educational approaches are designed to satisfy the needs of the technostucture, not the needs of humanity. The technostuctural impediments to accomplishment in this vital area are well illustrated by the experience of the New York State Constitutional Assembly which met in Albany last year. It was there suggested, in a purely democratic fashion, that everyone capable of absorbing a college education, but not economically equipped to do so, should be subsidized by state funds. It happened that, at the same time this proposal was made, some 46 billion dollars in educational bond issues were being offered for renewal. For the first time in the history of New York State, not a single bank bid on these bonds. The unspoken message of the business community was quickly perceived by the Assembly, the proposal to make possible a college education for everyone was withdrawn, and the bonds were then soon bought up by the fiscal governors.

What is needed, of course, is a wedding of science, theology, and philosophy. Past and present educational approaches are too narrow. Conservation education, which has attempted to close part of the ecological gap in education, has been too narrow. Ecology has become the study not simply of living organisms and their environment, but of nature—and—man. Man is the product of the evolutionary process, and so is therefore still part of nature; therefore the only way of saving nature—and man—is to emancipate man and to finish civilizing him. When Tinbergen tells us that our culture is at odds with life, it seems to me that he is telling us that man, in abusing nature, has become a cancer on the planet.

Ethics is the science of morals, and morality is the personal decision to do what we ought to do. Science can only tell us the implications of what we may do; the decision to do what we shall in fact do remains a moral imperative, and it is important to stress that science can only furnish data and not make decisions for us. If I may, then, let me suggest what the educational task has become in our day:

1. We must redirect our aggression by internalizing it, both as individuals and as groups. This means that, in order to reduce conflict between individuals and groups, we must first recognize that aggressiveness is part of our nature and that it requires discipline.

This is an old truth that has been redefined for us by the ethologist. We cannot truly help the rest of the world before having solved our own internal problems, since these are as grave as any that exist elsewhere. It is no accident, therefore, that so perceptive a social critic as Paul Goodman, in an early summer issue of the *New York Times Magazine*, suggested that the anarchism

that is cropping up in our universities at present may turn out to be our salvation, simply because it will force us to reexamine our commitments and to correct them. Crises require radical reexaminations and radical solutions. It will not do to keep on patching up the same old machine that has carried us to the brink of disaster.

2. We must stop population growth, difficult and almost impossible as this may seem at present. We need to stop population growth in order to slow down the rate of cultural change that is now destroying our social institutions. We need to stop population growth in order to reduce the conflicts, both domestic and international, that are a result of population growth and of the rate of cultural change. We need to stop population growth in order to let education catch up, since the solution of all of our problems depends on a greater understanding and greater cooperation. Dr. Richard A. Watson of Washington University has recently suggested that the planet cannot support more than 500 million people at a decent standard of living and at the higher educational level we must have to keep from destroying our spaceship.
3. We must fight poverty, both domestic and international, since the poor cannot be educated by well-to-do people and cannot therefore join in re-directing aggression and in stopping population growth. The need has become that of creating true citizens, and this can only be done by justice, education, and the provision of opportunity for decent human development.

Thanks to our technology, the world has become a single nation, whether our current ideologies recognize this or not, and we are suddenly coming to realize that mankind is really one species and that, in order to save that species, we must think in terms of group needs and subordinate the selfish instincts of the individual.

The quality of life which we have tended to discount as a mere matter of taste, or esthetics, is turning out to be a matter of survival. Consider a single aspect of environmental quality, open space, and remember that J. J. Christian and D. E. Davies pointed out several years ago that a population is healthiest when it exists at 50 percent of its carrying capacity. Only intelligent environmental engineering can allow man to escape this biological dictum. John Calhoun's work on the behavioral sink that results when undue social stress is allowed to develop has dramatized this fact. Open space is also important to dilute the atmospheric pollutants that our present technological society can hardly prevent from being disseminated. This was well demonstrated by a Manhattan study recently, which showed that the level of sulphur dioxide rose to 5 ppm, close to the danger point for human health, as one moved eastward from the Hudson River, but decreased by one-third in samples taken in Central Park, halfway along the route, simply because no pollutants were being emitted in the park, although the sulphur dioxide levels rose again to 5 ppm or more between Fifth Avenue and the East River. The problems of oxygen-deficiency brought to our attention by LaMont Cole, and those of excessive carbon dioxide emissions and the resulting greenhouse effect on the planet's energy cycles are all equally serious problems which must be solved by limiting our population and regulating our technology.

Fortunately, our technological know-how and the economics of affluence in these United States give us the alternative of substituting one resource for another, and of solving many of these problems, insofar as they are technical, providing we take the proper ethical attitudes. As John Krutilla, of Resources for the Future, Inc., has pointed out, the economic challenges we face in our day are no longer those of production, but rather those of protecting options for the future.

4. We must fight the technostructural tendency to conduct the nation's business for the convenience of the technostructure rather than for the satisfaction of

human needs. It is the failures of our business-oriented policies that have led to the serious pollution and social problems of the day, and we must insist that these policies be re-thought and be modified to serve mankind and to ensure that our species shall continue to inherit the earth. Dr. Albert E. Burke, our representative on the military committee of the North Atlantic Treaty Organization and a former director of graduate studies in conservation at Yale University, in speaking of the domination of the mass media by the technostructure, a form of cultural pollution, has said that "Never have so many been kept in such abysmal ignorance by so few".

Ironically, modern technology, which was a product of aggressive, anti-social individualism, has now made us so interdependent that our survival depends on restoring a sense of community in man. We can perhaps do this—and be the first civilization ever to work its way out of the rapids above the falls—but it won't "just happen."
