

# Education for a Democratic Culture

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**E**DUCATION not only in our country but throughout the Western World is in a state of chaos because it lacks a clear cut philosophy. Nor can such a philosophy be achieved until the conflict between humanism and science is settled.

The mechanistic science of the nineteenth century is as much to blame for this schism as a humanism which failed to see the history of the past three hundred years, with all its scattered events, as a unified, coherent process in which man’s growing scientific knowledge became the basic theme of historical development. We live in a society and in a world which has been radically transformed by scientific research and technological progress, but the mind and character of man have scarcely been touched by these processes, because our educational practices are still dominated by philosophies inherited from pre-scientific ages. At present we are preparing our school children for a society that no longer exists. And such concessions as have been made to the needs of the day have cluttered up the curriculum with a mass of unrelated subject matter which dulls the child’s native curiosity and confuses him as to the purpose of education.

In short, we are split personalities. And we are doing our best to see to it that our children should inherit a dualism which produces conflicts between the “inner- and the outer-directed man,” saps the vitality of the individual by preventing the development of an integrated personality and thus impedes the creation of a genuinely democratic culture.

It is now the task of the scientists who have brought the technique of physical discovery to such a pitch of perfection to face the more difficult problem of using these techniques to restore the relationship of man to man in our global society, of man to the natural environment, and thus create the unity of life which would liberate us from the pessimism and the sense of futility which result from having our loyalties divided between mind and body, ends and means, culture and technology.

There is only one way of healing this conflict. We must achieve a humanism that is scientific and a science that is truly humane. The only institution through which this reconciliation of science and the humanities can ultimately permeate the thinking of the American people is our nation’s unique system of public education.

## Task of the Schools

We have no time to lose because such recent discoveries as automation and atomic energy are already setting in motion a second industrial revolution whose effects will create economic, social and political upheavals far more drastic than those of the first Industrial Revolution. For this revolution is not confined to our nation—it is world-wide. With these new controls of natural forces we have it in our power to abolish poverty, malnutrition and disease and create the highest civilization the world has ever seen. If we fail to cope successfully with these new forces and the numerous economic, social and political problems they will create, the chances are that war and total destruction of all human life will be the penalty.

The key to the bright future that now beckons us lies in education. Our children should no longer be narrowly prepared for some occupation which may be obsolete when they leave high school or college. They must have an education so flexible that they can think independently and adjust their knowledge to whatever an uncertain future may have in store for them. We must produce more and more truly mature minds and characters which will enable our citizens to turn their talents to the new fields of endeavor which result from the changing and ever more complex organization of a highly industrialized international society.

This then is the challenge to educators—all subject matter must be taught in such a way that it opens new vistas of thought. The learning of this or that subject is important only if it is taught in a way that will lead to the desire for more learning. Students can be encouraged to work hard, to learn any subject however

difficult if their interest is aroused through method; and scientific method has this advantage—it is the most effective means of arranging material for the encouragement of thought. It enables the child to see the relationship of subject to subject, and of all accumulated knowledge to the problems of today and tomorrow.

This does not imply that every child could or should be trained to become a scientist. It means that children should be taught the beauty and economy of scientific methods of thinking—a willingness to employ methods of observation, reflection and test and a refusal to accept conclusions not warranted by evidence. Scientific method thus leads to the open rather than the closed mind. It is the ability to use ideas as hypotheses to be tried instead of dogmas to be asserted. It leads to freedom of thought and action not only for oneself but for others. It is therefore the surest path to reinforcement of our democratic principles, our Constitutional rights and our willingness to grant the same freedoms to other peoples and nations. For it is bound to create a new psychology of human nature which will enable the individual to break through his powerful native egotism which is man's own worst enemy and develop an objectivity which is the real test of maturity. It is the only means by which we can hope to conquer the political, racial and religious intolerance

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which is so prevalent throughout the world today.

If our children are gradually and wisely guided by the more and more elaborate uses of scientific method, reason will cease to be an abstraction and become an obvious link between fruitful behavior and an understanding of the value of morality, perhaps the greatest single need of our country today.

The most basic moral influence of science is exercised by its eternal search for truth and its rejection of any truth as final and absolute. This does not mean that old truths are lightly abandoned. It means that those perceptions are significant which steadily vitalize and expand the conservation of old truths and the creation of new truths.

Science also encourages morality by its insistence on concise rational methods of thought as a guide to intelligent action. The endeavor to think clearly is the first principle of morality, said the famous mathematician Pascal.

It would enable our schools to nurture not only orderly habits of thought, but self-discipline and continuity of effort.

Modern science and democracy are natural allies since both emphasize the central importance of experimentation and experience in the development of moral insights. The teacher must resist the temptation to give the child ready-made answers which dull his native curiosity and repress his natural impulses, instincts and energies. The child's mind should be kept alive by encouraging him to ask HOW and WHY, the two vital questions that started the human race on its long, arduous journey from crude trial and error methods toward the refinement of scientific method. If the child is given free scope to experiment with all the problems that interest him, he will discover gradually the relation-

ship of mind—of choice and discrimination—to fruitful and satisfying activity, and the connection between doing and its consequences. Gradually the child then learns to anticipate consequences and to understand the role of intelligence in behavior. Then thinking results in knowledge that is useful in subsequent thinking. He learns that the main object of education is clearly not in retrospect, but in ability to deal with the future. He can then learn the application of these methods to joint activities and common purposes, as an introduction to the moral values of democratic living. He understands that the individual does not function in isolation but in destructive or constructive relationships to his fellow men.

It is not surprising, therefore, that the only fruitful meetings between the representatives of democracy and communism, have been the various international scientific assemblies. Indeed the geophysical year may bring about a new era of understanding between these two rival philosophies of life, since it demands close cooperation between great numbers of scientists from both camps. For these are the only representatives of whatever nation or race who have a common language and a common approach to their problems. But if we wish this approach to understanding, amity and peace to spread amongst the Western and the Communist people, we must close the gap between the scientific experts and the laity—another dangerous gap created by our failure to educate the masses in scientific method. This would enable the layman to understand and appreciate the role that science and the scientists now play in determining the fate of mankind.

Recognizing that scientific leadership and the immense reserves of scientific

knowledge could become the means to international peace, the second general assembly of the International Association of Universities, held in Istanbul in September 1955, recommended the establishment of a balanced education which would leave no man of science without humanistic culture and allow no humanist to ignore the influence of science on human history. The surest bridge to mutual good will thus lies in our hands. As the nation with the greatest resources, it is for us to encourage this type of education here at home and abroad.

Where does the scientific approach to

the formation of human character leave sectarian religion which many people now wish to impose on the public school curriculum? Modern science with its emphasis on selflessness, cooperation, humility and integrity is not hostile to religion, whether Christian or otherwise. In fact it transcends the dogmatic limitations of the various creeds and points the way to a higher universal God concept and a deeper sympathy for all human beings. It is the basis for a new concept of man and a new concept of society to which men of all religions can give assent.

S. E. TORSTEN LUND

## A Probable Image of the Future

**Astounding technological changes are noted by this author. Implicit in his study is the rapid acceleration in such changes. He indicates what various writers see ahead, with emphasis on our resources problem. He concludes with a question that indicates the dilemma of modern man and places tremendous responsibility upon schools and school people.**

**A**S Margaret Mead (10) has pointed out, many teachers reflect a world which no longer really exists, while our pupils will live their adult lives in a world greatly differing from even the present one. However, that segment of teacher population implied in EDUCATIONAL LEADERSHIP dares not live in the past; must strive constantly to understand the present; and ought to study the most probable images of the future.

We must start with some assumptions, the most important being absence of large scale nuclear and/or biological warfare; the continuance of the constantly accelerating pace of change

brought about by large scale application of science and the resulting technology; the rapid spread of technology and industrialization to all parts of the world; and a continuation of efforts to build a functioning world-wide organization.

### Acceleration of Change

Several years ago the writer (9) sketched man's increasing ability to transform his environment by the application of science. Illustrative examples were included; some rather imminent developments were suggested; a possible limitation set by available resources was indicated; and the inherent logic of tech-

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