

Information Explosion and a Learning Society

MICHIO NAGAI*

1. The Future Society—Optimistic View and Pessimistic View

I consider it an honor to have been invited to express my views at the 8th World Computer Congress. I wish to thank the sponsors for their generosity and the expectation they have placed on a person like myself who is an outsider to computer science.

The information explosion which we are witnessing today owes much to the rapid progress of the science and technology related to the computer. But that is not all. Starting around the middle of the 1970s there has occurred spectacular progress also in the field of telecommunication. This is clearly seen in the use of the satellites for communication. Today, more than 120 countries have earth stations which can transmit or receive information via satellites. Technically, distance is no longer a barrier to communication. If man so wishes, any point on earth can be linked to any other point. We can say that a universal system of communication has, in fact, become possible for mankind.

The progress of telecommunication and of the computer represents a revolutionary change in communication technology which took place in the mid-1970s. These two kinds of scientific and technological revolution have opened up a tremendous reservoir of information such as was never imagined before. How will this revolutionary change affect man and society? This is a vital question which all persons, if they are human, must ponder seriously and continuously.

When I started to think about what I might say on this important subject, I, as a matter of course, realized that many outstanding intellectuals have already expressed their views on the subject. The views expressed are diverse indeed, but an examination shows that there are diametrically opposed views. In other words, on one side there are the extremely optimistic views and on the other side the thoroughly pessimistic views.

Which should we believe? Instead of trying to arrive at a conclusion in haste we should first try to understand the opposing views.

Typical of the optimistic views that come to my mind is "The Learning Society" published in 1968 by Robert Hutchins a prominent American educator. In this book, Dr. Hutchins said that the rapid advances in science and

technology will cause machines to be replaced by automation (and cybernetics) so productivity will increase. As a consequence, man will be liberated from work and, for the first time in history, he will enjoy an era of ample leisure.

Dr. Hutchins said that in the Athenian society of ancient Greece, this kind of leisure was enjoyed only by a handful of people belonging to the privileged class. But ours is an era in which all persons can enjoy this privilege. In such an environment, learning takes on an entirely different aspect from before.

Until now, learning was a means for attaining an academic degree or wealth or social position or power. But from now on, all men will be able to do as did the privileged class of ancient Athens who were freed from labor thanks to slaves and were able to deepen and polish their inner human qualities through the very superior method of learning for the purpose of learning. All men today, freed from labor thanks to the new form of slaves known as machines, will be able to live in a society where learning is for the purpose of learning or, in other words, where education is for the purpose of education. This was the way Dr. Hutchins saw it, and he called such a society the learning society whose realization is imminent.

But, looking at his concept of an ideal society from our vantage point of the year 1980, we cannot but think that he was overly optimistic.

We are living in an uneasy period when nuclear war may erupt at any moment. Even if a nuclear war does not come, it has been forecast that in the year 2000 about 500 million human beings will be living below the poverty line. What is more, at present there seems to be no way to prevent such massive poverty. Nor can we say that all people even in the industrially advanced countries have been liberated from labor. The widely known truth is that almost every one of the advanced nations is struggling with inflation and unemployment.

The actual situation in the world being such, it would even be reckless to think that mankind will shortly realize the learning society. You may recall that the ideal of world federation spread around the globe after the Second World War. But in the face of today's international reality, it is an emasculated concept. The ideal of world federation lacks the power to change the status quo and serves only to give psychological satisfaction to a small minority of people. Similarly, the ideal of a learning society may end up as merely providing psychological satisfaction to a small number of people.

*Senior Adviser to the Rector of United Nations University.

For man to be liberated as man and to move from the present into a society of continuous learning, we must conduct a thorough discussion to clarify our perception of the present situation and of the process for shifting. The question is how can we free ourselves from the difficult present situation? To answer this question, we need to conduct solid, precise debate.

When we pursue this line of thought, we realize that the pessimistic views at the opposite pole provide us with many hints. Among the most prominent of the pessimistic views is George Orwell's "1984" which was published in 1948 and widely read. When Orwell wrote this book he naturally had no inkling of the information explosion. But he did know about the nuclear explosion which was an important scientific-technical revolution. On the basis of this knowledge, Orwell developed his forecast of the future. He wrote that a totalitarian state possessing unprecedented military power based on nuclear weapons, having at its command other fruits of scientific and technological progress, and holding abundant information, would be in a position to control people more relentlessly than seen ever before in history.

And, such a state will sooner or later launch a nuclear war. Even if a nuclear war does not occur, nations possessing atomic bombs will always live under a threat and fear. Moreover, the world will be divided and controlled by two or three countries. That was the world as seen by Orwell.

If he were still living in this age of the information revolution, Orwell might say that a state which monopolizes all vital information will exercise even more thorough and brutal authoritative control. When we glance at the world map of today shows that the number of militaristic and totalitarian regimes are today a majority. We cannot afford to laugh aside Orwell's predictions. Not only that, we cannot but feel that the year 1984 itself seems portentous.

The letters which Orwell left behind reveal that he thought of his description of the world of 1984 as not something inevitable but as just one of the possibilities. We can interpret this to mean that he also considered it probable that "1984" would not materialize.

The message which Orwell wanted to convey was that it is urgent for mankind to build a free and peaceful society quite different from the "1984" which he painted. Turning our attention back to Dr. Hutchins' concept of the learning society, we note that in not a few places in his book he talks about the difficulties of making the shift from an industrial society to an ideal society.

When I view things in this way, it seems to me that we have only one option. It is not to subscribe to the extreme pessimistic view nor to the extreme optimistic view. It is to perceive as objectively as possible the reality of the multitude of problems swirling around us and to examine how we can march towards the designing of a free and peaceful society in order to pave a sure course towards construction. This is where my interest lies.

2. A New Man; a New Society

When we consider the problem of building a new society and of fashioning a new man, we realize that there are two contrasting approaches.

One approach stresses the importance of moulding man and takes the position that a new man must be formed first and that society should be reformed subsequently by the resources of this new man. The other approach is the complete reverse of this. This approach takes the position that the social structure should first be reformed and then expects man to be regenerated. To incline to one of these approaches and to disregard or belittle the other constitutes an exercise in abstract thinking and the result would be nothing but a fantasy. It is commonly said, "As long as the quality of education is good, a good society will result eventually." This is an excuse used frequently by persons who neglect the effort to bring about social reform. Then there are persons who say, that the fact today's people can have neither ideals nor hopes "is entirely the fault of society". This is a thinking which renounces the possibility of man educating himself even in the face of adverse conditions.

Man differs from other animals. He does not regulate his mode of living by instinct alone. Man's mode of living is plastic and he is able to acquire a sense of values and a way of thinking through learning. This is why, although they are all of the same human race, people of different regions and different eras have completely different cultures and societies. To conclude from this that any type of society or culture could be created depending on how man is educated is to disregard the conditions of existence. Man is not born into a vacuum nor does he live in a vacuum. He is born into a specific society and learns the culture of that society. He learns the things which that society regards as the model and eventually adopts them as his value and his philosophy. Thus, he becomes conditioned to the urge to do on his own initiative those things which must be done in that society. It follows that, as long as changes do not occur in society or culture while man is continuing his learning, it is probably difficult to impart new learning to man.

On the other hand, it is certain that social changes do create a new man. Until the end of the Second World War, close to half of Japan's working population comprised poor tenant farmers. To send their children to higher schools of learning and to enjoy an affluent consumer life were, for them, just a dream. There was nothing for them to do but be resigned to the fact that a high standard of living was only for the landowners and bourgeoisie in the cities. Eventually, resignation to fate became to be regarded as a virtue. To break through this situation, a reform was necessary, and, in fact, after the Second World War comprehensive reforms were undertaken, starting with land reform and ranging over the political, economic and social spheres. The results of these

reforms are widely known. Japanese farmers who once regarded resignation to fate as a virtue began to think that consumption is a virtue, and with each passing year an increasingly large number of farmers traveled abroad on sightseeing trips.

This shows that social reform cannot be overlooked as a means to effect a fundamental change in the human character. Society is constantly on the move; when one problem is solved a new one crops up in its place. History, one can say, is an alternation of problems and solutions. Who, then, poses the problems and indicates the new values, philosophy and the road to social reform? It is inconceivable that a person who has adapted himself completely to a society fixed in its ways and who is satisfied with the status quo would stand at the vanguard of social reform.

It should be emphasized clearly at this point that no society is a system of order which is stable and whose design has been completed. Society harbors numerous problems at all times. Man, being sensitive, notices these problems and conceives new values and social structure for their solution. This means that in order to achieve social reform man must make constant efforts to regenerate himself.

The solution does not lie in choosing between formation of man and social reform. Formation of man and social reform are inter-related and inter-act with each other. Man's social experience, after all, is a continuous flowing process attended by many problems. John Dewey said that learning is a process of accumulating experience and, more precisely, it is a process of reconstructing social experience. His thesis is that learning is the reconstruction of experience, and that both man and society always keep regenerating through learning. I believe that this is basically correct. I might, however, add that it is not learning alone that reconstructs social experience. Politics, economy, science and technology, too, are constantly causing changes in social experience.

Now, I would like to express my views on how we should think about the man and the society of the future in the context of the ongoing information revolution which is the theme of this conference.

Thanks to the information revolution, the volume of information which man can learn has increased and it has now become possible for man to learn whatever he wishes to learn. This in turn has made possible the intellectual rebirth of man. But to emphasize just this point and believe that man and society can be reconstructed at once would be a hallucination.

In Japan, and also in many other countries, there are people who think of social progress in terms of stages and who believe that a shift from one type of society to another type can be effected just as easily as grafting bamboo onto a tree. But the flow of history is not as simple as that. Even if the information revolution progresses, the social structure and thinking of the industrial age will be carried over in part. Not only that, parts of the

culture and social structure of the agricultural age may also remain. There may be cases in which some of the carryovers are desirable while others are not. It is necessary to perceive accurately the social changes and the realities of the people who live in that society.

Let me explain concretely. The information revolution is progressing but the thinking about the sovereign state which was conceived about three centuries ago and the power for exercising its authority have not changed basically. The sovereign state continues to exist with military power as one of its prerequisites. The addition of the atomic bomb to the military arsenal has made man aware that the limit has been reached but man is tormented by his inability to find a way out of the impasse. Furthermore, it is not in all of the more than 150 nations of the world that the information revolution is progressing. Because this revolution is taking place mainly in advanced nations, the gap between the advanced and developing nations is widening. As a consequence, there is fear that the domination of developing countries by advanced nations may strengthen. Not only that, the most urgent problem of the people, in many of the developing countries, is not how to acquire computers and communications satellites but how to get enough food to stay alive. Under these circumstances, it may be an illusion to think that a new society "befitting man" would be constructed in a handful of advanced countries. When so many human beings are hungry and dying of starvation, how can any one segment of the world's population live a life "befitting man"?

3. What Kind of Learning Society?

From what I have said so far, you are now aware that I believe that reforms ranging over a wide area, including politics, economy and security, are necessary within a nation and also on an international scale. I neither have the time nor the qualification to touch on all of the problems. Therefore, expecting that reforms will be carried out in politics, economy, security and other fields, I would like to speak about what can be done in the field of education and explain the changes that are taking place in education in Japan. I speak from a very narrow and limited viewpoint as one who has thought about education in Japan and has taken part in conducting education.

Firstly, what might be called a new learning society, which is quite different from the conventional school-oriented society, has already emerged in Japan today. Over the past 100 years, Japan expanded school education for the purpose of propelling industrialization and modernization. Today, Japan is a school-oriented society with 30 million people—more than a quarter of the total population of 110 million—enrolled in schools from kindergarten to university. But Japan is now shifting from a school-oriented society to a learning society. Lifelong education is becoming a thing of reality. This learning society is emerging not as an ideal but as a

practical reality.

An important reason behind this development, in my opinion, is the fact that the contents of the conventional school education and formal schooling alone are no longer adequate for coping with the rapid social changes, to wit, the change in the industrial structure, the progress of the ageing of society, and the increasing international interdependence of the economy.

For man to sustain his life economically, there is no way other than accommodation with the realities through life-long learning. The key value, therefore, is "accommodation", and in order to attain this value, private and public places of learning aimed at recurrent education are being established.

Secondly, however, what the people must learn through recurrent education is that any accommodation for the purpose of one's personal gain cannot be accommodation in its real sense. What the people must learn anew is the importance of the young and the old and of male and female coexisting in the ageing society. They must learn the new value of coexisting with people other than Japanese in an environment where international interdependence in economy is progressing. Through their experiences in the destruction of the environment by industry, in war and in the oil crisis, they must learn to respect not only the life of man but also the life and beauty of nature and to conserve natural resources.

Thirdly, although the Japanese are learning for the purpose of accommodation, the learning should be

directed not at maintaining the established social system but at reconstructing society and restructuring the relations between man and society and between man and nature. The important thing is to learn about existence as a human being, as stressed by Erich Fromm in his eminent work "To Have or To Be". But can man move on from accommodation in its narrow sense to the higher value of human coexistence? This is the big problem.

Fourthly, to the question of whether the structure of the learning society aimed at the realization of new values is a satisfactory one or not, I must regrettably answer "not yet". What should be done to make it possible for all citizens to make use of the massive store of information in the possession of the government, big business corporations and the universities? What should be done so that Japan will not be the only informationally advanced nation and so that a learning society will emerge in every country and learning societies will learn mutually from each other?

For us, these are still big and difficult questions. However, a few people are becoming aware that it is urgent to grapple with these questions. In parallel with effective reforms in the fields of politics, economy and security, can we construct a learning society on the basis of new value concepts, as we wish? I believe that the future of peace for mankind and of democracy rests on the answer to this question.