

## **EDUCATION AND HUMAN DEVELOPMENT**

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### **Summary**

The twentieth century– was a century of unprecedented pace and scale of transformation in all areas of human activity. However, it was also a time of prodigious violence. These features of modern life are closely connected to education. The twentieth century may rightly be called a century of education, but it is impossible to call it a century of enlightenment. The development of education gave no guarantee of the improvement of people’s lives but it is undoubtedly a necessary condition for the movement of humankind in this direction. The main features in the development of modern education are: creation of systems of continuing education, democratization, humanitarization,

humanization, fundamentalization, integration, standardization, and computerization.

The development of writing -- that is to say, the ability to record information and to transmit it from generation to generation -- was one of the greatest inventions. It signified a revolution in the history of mankind. For the first time there appeared the actually limitless possibility of fixing and transmitting knowledge across space and time – a possibility which determined an absolute new vector in human development. From now on, the degree to which a people could develop became dependant not on their biological qualities but on their ability to assimilate languages. From this time there began to form a purposefulness in the development of man, expressed in the universal phenomena of culture.

Since those beginnings of education we have come an enormous way, from the first schools in the countries of the Ancient East where students were taught to write, to count, to read and to draw, right up to the modern system of continuous education lasting the whole of life.

### **1. The Twentieth Century in the Context of World History**

The twentieth century has a special position in the history of mankind. The huge scale and pace of our reality are remarkable and strike our imagination. In this century in all spheres of life connected with economics, more products were produced than during the whole history of mankind. Unprecedented increases in population, and in scientific, technical and social progress, made radical changes to the face of the modern world, in people's modes of living, in their systems of communication, and in their view of the world.

In our time a milliard (one thousand million) is added to the population every 11 years, whereas to reach the first milliard (in 1820) mankind took the whole of its history. During the twentieth century there were more buildings constructed, industrial goods produced, natural resources used, and scientific and technical discoveries made than in all previous centuries.

The creation of modern transportation systems, radio, television, computer, genetic engineering, biotechnology, robotic technique, laser technology, industry of new materials, atomic energy, reclamation of the cosmos and microcosm, antibiotics and vitamins, cloning, organ transplant, and extracorporal fertilization have radically changed our lives.

There have been radical modifications in our notions of the world, related to people's vision of nature, society, culture and humanity. But the most striking are the achievements in the field of natural sciences.

Man created a picture of global evolution which included the origin of the Metagalaxy nearly 20 billion years ago and its possible future after billions of years, the evolution of the Earth and of life on it. Now all chemical elements in the Metagalaxy are known, together with the chemical composition of the Metagalaxy. Scientists even understand the nature of chemical interactions. There have been enormous achievements in the

unfolding of the secrets of the microcosm. The revealing of the structure of the atom, the systematization of hundreds of elementary particles, theories of the behavior of microobjects and of the unification of physical interactions are some of the greatest advances of the human mind. Achievements in our knowledge of the processes of life are striking, and especially in molecular biology. The chemical structures of proteins, nuclear acids and other significant components of living have been revealed. A universal code has been discovered by which hereditary information is recorded. Processes of vital activity are now studied in their organic interconnection from molecular level to the biosphere as a whole. Systematics gives us a graceful picture of various forms of living, and the synthetical theory of evolution reveals the sources of remarkable purposefulness of living nature and the mechanisms of its formation. There have been decisive changes in our notions of space, time, regularities, causation, and chance. Investigations of system organization and self-organization, non-equilibrium processes, and non-linearity have led to important new directions of scientific work.

In this way the twentieth century appeared before us as the century of tremendous achievements. But the scale of destruction in the closing century was as vast as the scale of construction. The world was shaken by economic depressions, and by social revolutions. There have been continuous wars and world wars -- the first ones in the history of humankind -- took place. In wars of the twentieth century nearly 150 million people were killed, more than during mankind's whole history. Humankind was surprisingly inventive in its manifestations of violence. Fascism with its aspirations of achieving world domination, with strict totalitarianism which liquidated all foundations of democracy, with its confirmation of violence as a legitimate method of solving international problems, with its program of destruction of the Jewish people, the liquidation of Slavonic culture, with its use of gas chambers for the mass extermination of people, and with experiments on humanity was unprecedented in world history. The violence which was displayed in the mass repressions of Stalin's regime in the USSR, during the cultural revolution in China, and in the period of Pol-Pot's government in Kampuchea has grasped in its orbit many dozens of millions of people.

Fantastic development of military skills, including nuclear and thermonuclear weapons, rockets, high precision weapons, chemical, biological and even ecological weapons, gives eloquent testimony to mankind's inability to behave as rationally as it understands nature to do. The most surprising fact is that people are already accustomed to living in a world where wars are continuously waged and where there are enough accumulated weapons to annihilate all life on Earth many dozens of times.

The world, literally in front of our eyes, converts itself into impetuous, developing, integrated systems. An era of united historical process has begun, where the fates of all nations are very closely interlaced, and no one country can exist autocratically. This process uncovers the deepest contradictions of human relations, of social systems prodigious in scale and in the global significance of their problems. These tremendous changes in people's lives have been closely connected with the development of education. They were in many ways learned through education, but in their turn exercised influence on its form and content.

What does life have in store for us? Experience shows that history is infinitely

inventive, and predictions of the most astute thinkers of the past turn out to be misguided.

One thing one can say with confidence is that the struggle for a better future for all people on our planet will be still more closely connected to the reorganization of the education system. Scientific and technical progress, improvement of socio-economic and political relations, and the cultural and moral development of man are all impossible without radical changes in education.

## **2. The Twentieth Century -- the Century of Education**

In order to get some view of the future, let us try to reveal the main tendencies and problems of the development of education in the twentieth century. Successes of national education in the twentieth century strike the imagination. To picture it more clearly, it is necessary to remember that until our century, in spite of the great achievements in science and culture in some countries, the world as a whole was illiterate: the overwhelming majority of people were unable even to read or write. Although the process of transition to a universal obligatory education had begun, in the 1870s it still involved only a few countries.

Lutheran Sweden in 1686 adopted a law requiring the head of every family to be responsible for instructing all members of his family and even his servants in reading. In accordance with Lutheran doctrine, everyone was to be able to read the Bible independently, to look with his own eyes at what God had ordained. This law was executed strictly. For example, young people could not marry until they had learned to read. Thanks to this law, by the middle of the eighteenth century the Swedish population had become literate. But obligatory primary school education was introduced here only in the 1880s.

The USA began to introduce universal primary education in some states from 1852. By the end of the nineteenth century about 72% of American children between the ages of 6 and 13 were going to school. In Great Britain the law requiring education for children between the ages of 5 and 12 was adopted in 1870. France introduced free secular education for children between the ages of 6 and 13 in 1882.

However, the aspiration of general literacy was typical only for a few countries. The overwhelming majority still had not made a start on this important task by the nineteenth century. In this connection, the situation regarding national education in Russia is significant.

Russia, which has made a valuable contribution to the development of world science, literature, music, and painting, and which has already embarked upon capitalist development, nevertheless had very low literacy rates among its population at the end of the nineteenth century. According to a census of the population in 1897, only 28.4% of people between the ages of 9 and 49 were literate, and about 4 in every 5 children in Russia were unable to attend even primary school.

In the twentieth century the whole world made a powerful attack on illiteracy. As a

result, outstanding success was achieved in this area. At the end of this century more than 84% of the world's population is literate. Particularly important action in this direction was undertaken after the Second World War. An obligatory secondary education system was introduced in Great Britain (i.e., 10 years of schooling) in 1944, in France (10 years) in 1967, in Japan (9 years) in 1947, and in USSR (10 years) in 1976.

In the twentieth century special attention was paid to the development of higher education. The first universities had sprung up in the East in the eighth century. European universities began to develop from the eleventh century. By the beginning of the fifteenth century in Europe there were more than 45 universities, and a century later 70. The first higher education institution in Russia was founded in 1687 in Moscow and was called the Slavic-Greek-Latin Academy. University education in Russia began its development in 1755 when Moscow State University was opened. Universities in Latin America were founded in the sixteenth century (at the end of the eighteenth century there were about 20 universities), in the USA and Canada during the early nineteenth century, in India in the middle of the nineteenth century, and in Japan and China at the end of the nineteenth century.

Higher technical education began to develop in the last third of the nineteenth century. The first higher music school was the National Music Institute in Paris, which was founded in 1793. After it, conservatories were opened during the nineteenth century in many towns.

Until the twentieth century higher education was elitist. However, now the situation has radically changed. In developed countries higher education is available to the masses. Countries across the world are now making significant efforts directed towards extending its availability still further.

From 1950 to 1982 the number of people getting diplomas in higher education at different levels increased in the USSR by 2.9 times, in the USA by 6.8, in France by 6.4, and in China by 16 times. Currently about 40% of Americans aged 18 to 21 enter institutions of higher education. In Europe and Russia about 20% of secondary school graduates continue on to a higher degree. Higher educational institutions in France admit anyone who wishes to study on the condition that they have a secondary education diploma.

These changes happened due to recognition of the fact that solving socio-economic problems in any country could not happen without radical change in the area of education. Effective development of the economy based on the achievements of scientific and technical progress is impossible without enormous numbers of highly skilled specialists. All areas of modern life which are penetrated by scientific technologies demand a heightened attention to the level of education of all populations of the world.

Processes of national self-determination and the development of national self-awareness, democratization which is being realized in many countries, aspirations for the creation of a civilized society which will ensure inalienable human rights for freedom and appropriate lifestyles are also making increasing educational demands on the peoples of the world.

However, in spite of such remarkable success, today no country is content with its system of education. The level of education everywhere is falling behind the demands of life. There are many significant educational problems which are relevant to the world as a whole, to countries, and to individuals which have yet to be solved.

### **3. Problems of the Development of Modern Education**

#### **3.1. Illiteracy**

Efforts to end illiteracy were a primary focus during the twentieth century. However, during most of the century there was an increase in the number of illiterate people which was overcome only at the very end of the nineties.

In 1970 there were 890.1 million illiterate people worldwide, and in 1990 their number rose to 948.1 million. In 2000 the number of illiterate people was nearly 935.4 million. At a time when illiteracy had been practically eliminated in developed countries, developing countries could not allocate the necessary funds to solve this problem. As a result, countries with the lowest gross national product per capita still have an extremely high rate of illiteracy. In 1990 there were 281 million illiterate adults in India, 224 million in China, 43 million in Pakistan, and 42 million in Bangladesh.

It should be noted that some countries have a very high percentage of illiterate population. For example in Somalia and Mali the illiterate segment of the population exceeds 80%. In India more than 50% of people are illiterate, and in China about 30%.

Here it is important to take into account that in these countries the perspectives on overcoming illiteracy are rather different. In 1990 in India there were 34 590 000 children who were not enveloped by primary school education and in 2000 there were 40 360 000 such children. At the same time in China in 1990 only 20,000 children did not go to school.

#### **3.2. Education and the Problem of Backwardness**

The state of national education is one of the most important causes of an inevitable and continually increasing lagging behind of developing countries from the developed.

Indeed, there is little possibility of reducing the gap between them when allocations for education per person in developing countries are currently 24 times less than those in the developed ones. Indeed, at this rate the gap can only increase.

Distinction between the levels of education of developed and less developed countries has caused the strategical lagging behind of the latter which will certainly increase. Today for every one college student in the USA there are four pupils at primary school; in Europe and Russia, about four; and in Africa, 55. Under these conditions any reduction of the gap between the levels of education of these groups is out of the question. The most important question for modern education is its effectiveness both for society and for individuals. Are the expenditures for it equal to its advantages? This question is not simple. It includes some deep issues.

We are all hypnotized by the ideology of the Age of Enlightenment and we continue to believe that knowledge and skills are the necessary basis for the creation of a better society and better way of life. But it must not be forgotten that education is always connected with the cultural environment and its problems have complex interactions with other, not less important problems which society must solve. Changes in this area must be harmoniously combined with all processes in society.

Education is the most dynamic factor in all spheres of a society's life, including development of the economy, social processes, culture, system of values and life style.

History has shown, and the experience of developing countries has proved, that disregarding their own peculiarities has led to a sharp lowering of effectiveness in the educational politics, and even to the destabilization of society. In some countries of Africa and Latin America, the development of the system of education according to the western model has destroyed the traditional cohesion of the family and undermined national unity.

If the training of specialists is realized more quickly than the increase in work places – i.e., if it is not combined with the real possibility of using those skilled workers -- it inevitably leads to the rise of social unrest.

Education undoubtedly is one of the most effective ways of fighting unemployment. Being by itself a definite kind of trade, and of course expanding the knowledge and skills of the individual, it gives him/ her a kind of social protection. At the same time the intensification of the sphere of education presupposes that society is ready for the proper use of educated people. However, this has not always been the case in practice. It has happened that expensive funds for the training of highly-skilled specialists have been spent in vain.

One specific manifestation of such a contradiction is the so-called "brain drain", when most skilled specialists have an aspiration to work outside their country. However such phenomena today are characteristic not only of less developed countries.

### **3.3. Education and Power**

The history of the twentieth century showed that the system of education may be actively used by those in power for the submission of the citizens of the country to their own interests. Education today also is not free from ideological pressure. There are examples where one or another political or religious view is enforced. This is particularly sharply manifested in totalitarian regimes. Let us remember how education of the youth was realized in Hitler's Germany. There a powerful system of propaganda of fascist ideology was created, which spiritually crippled German youth.

In the USSR and China education was penetrated by communist ideology and no other viewpoints were admitted. Accordingly in the period of the cold war anticommunist propaganda had a serious influence on the content of education in western countries. Such practice obviously did not correspond with the conception of human rights accepted by the world community.

### 3.4. Quality of Education

Rapid development of education as a rule has led to a deterioration of its quality. This is connected with various circumstances. There may be lowering of the demands put on pupils and students, or insufficient methodical provision of educational processes, or a shortage of personnel. Moreover, such phenomena are inherent even in the most prosperous countries.

It seems paradoxical but today there are probably no people with a true secondary education. Indeed, what is the main task of the modern school? It must first of all provide an understanding of the principles of the sciences of nature, of society and of man. But despite an educational process being organized with just such orientation, the school may be failing in the achievement of its indicated aims. Disciplines which do not require the systematic reproduction of already studied material (and such disciplines are in a majority) are quickly forgotten. Moreover, the assimilation of educational material is not strongly motivated. Generally, pupils will assimilate material not because of internal requirements but because of external compulsory circumstances such as the demands of their parents and teachers, and the vague understanding that it is necessary in order successfully to finish school.

As a result the getting of knowledge appears to be extremely unstable. What students learn does not become real knowledge; instead it is rapidly lost as soon as external pressure has become weaker.

A rather strange situation has occurred in the school. No one teacher has complete command of the content of secondary education as a whole which the teaching body is attempting to give the pupil. As a matter of fact in school there is no integrated system of knowledge, but a conglomerate of separate disciplines. Nobody is interested in how they interact in the mind of the pupil. Such discrete education really leads to an enormous overload on children. They never have time to do all their lessons, they are afraid of getting a bad mark, they are constantly under stress and of course this has an extremely negative effect on their physical and mental health and sharply reduces their interest in education.

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### **Biographical Sketches**

**V.I. Kuptsov** was born in 1936 in Moscow (Russia). In 1959 he graduated from the Moscow Physical-Technical Institution and in 1963 he took a postgraduate course in the Department of Philosophy at Moscow State University (MSU). In 1964 he presented his candidate's dissertation "On the nature of statistical regularities" and in 1974 his doctoral dissertation "On Laplas's determinism and probability". From 1963 to 1976 he worked in the Department of Philosophy at MSU. From 1976 to 1985 he was a chief of the chair for philosophy for natural sciences at MSU. From 1985 to 1987 he was a deputy director of the Institution of Philosophy at the Russian Academy of Sciences. From 1987 to 1992 he was a chief member of the Principal Administration for the teaching of social sciences of the Ministry for Education in the USSR.

At present he is a doctor of philosophical sciences, a professor, an academician of the Russian Academy of Education, chairman of the Council "Humanization and Humanitarization of Education" of the Russian Academy of Education, vice-president of the Russian Philosophical Society, and director of the Association "Humanitarian Education" at Moscow State University.

His scientific interests include: philosophy and methodology of science, peculiarities of the modern picture of the world, problems of the development of education, and global problems of contemporaneity. He has taken an active part in the reformation of education in the USSR. He assisted in the Russian renewal of the whole complex of educational training of specialists. He initiated a new subject in school: Man and Society.

He has been responsible for more than 120 publications, and supervised and participated in the authorship of a number of textbooks, among them *Man and Society* (three volumes), M., 1993; *Man and Society: Modern World*. M., 1994; and, in 1997, *Philosophy and Methodology of Science*, M., 1996. He is the author of an original program and textbook for a new subject, *Conception of Modern Natural Sciences*. On the basis of his conception of humanization and humanitarization, which he developed jointly with S. Devyatova, and which was approved by the Presidium of the Russian Academy of Education, a pioneering experiment is being conducted under his leadership in a number of Moscow schools.

**S.V. Devyatova** was born in 1961 in Moscow (Russia). In 1978 he became a student in the Department of Philosophy at Moscow State University where he began work on the problems of the relationship between Christianity and science. In 1983 he won a first-class diploma. In 1983 he became a postgraduate student of the history and theory of religion and atheism in the Department of Philosophy of Moscow State University. In 1987 he finished his postgraduate course and presented his candidate's dissertation on modern Christian views on religion-science relations, on the origin and evolution of nature, and on anthropogenesis. In 1993 he presented his doctor's dissertation, "Modern Christianity and Science".

Since 1987 he has been working in philosophy and methodology of science in the department of natural sciences at Moscow State University. He is assistant professor of this chair. He has undertaken different kinds of educational work: teaching a course of lectures on philosophy, and a special course, "Modern Christianity and Science", for students, teachers and postgraduate students of the Department of Natural Sciences of Moscow State University.

He has been responsible for 66 publications, some of which have been published in foreign languages. He is the author of five books, and also author or co-author of a number of textbooks for teachers, pupils and students. These have been recommended by the Russian state organs of education. Among them are: *Modern Christianity and Science*, M., 1994; *Philosophy and Methodology of Science*, M., 1996; *Man and Society. Modern World*, M., 1997; *Development of Natural Sciences in the Context of World History*, M., 1998. (There are 5 editions of this book). For his cycle of works on the problems of Christianity and science he was awarded the Shuvalov prize at Moscow State University. Jointly with the academician V.Kuptsov he developed a conception of the humanization and humanitarization of education.

He has taken part in many scientific conferences including seven international congresses.

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