

**UDC 141:165.6**

**EDUCATION AND SCIENTIFIC RATIONALITY IN MODERN SOCIETY:  
THE AXIOLOGICAL DIMENSION**

**Candidate of Philosophical Sciences, Docent, Stasenko S. O.**

The Donetsk National University, Ukraine, Vinnitsa

*The article is devoted to the philosophical inquiry of the axiological connection between education and science. The purpose of the work is the integrative philosophical analysis of the interaction between values of education and scientific rationality in the modern social context. It has been concluded that strong connection between education and science is necessary for forming of scientific thinking and innovational economy as factors of social progress in the post-informational epoch.*

*Key words: Truth, Knowledge, Values, Rational Thinking, Society.*

Reinforcement of the connection between education and science is one of the main trends of educational development in Ukraine and all over the world. On the modern phase of social progress much attention is paid to forming of scientific worldview and thinking among people. This trend actualizes meaning of interaction of educational sphere of social life and scientific rationality.

The purpose of the work is the integrative philosophical analysis of the interaction between values of education and scientific rationality in the modern social context.

Subjective and objective character features of axiological correlation are usually determined by social and cultural contexts which include norms, ideals and views which form so called “attitude to values” in the sphere of scientific cognition. The question of axiological dimension of science has been investigated by many scholars. Among them are – V. Gorohov [1], M. Mamardashvilly [20], M. Openkov

[3], M. Sergeeva [4] and other. General theoretical thoughts about correlation between axiological and cognitive aspects step by step attain certain sense. Together with the process of comprehension of forms and methods of interaction of axiological and cognitive factors in scientific development the problem of axiological interaction of education and science becomes a separate paradigm of investigation. For example, rather often in scientific literature the question of correlation of values and science has been analyzed. And here the next questions arise: How the methodological and worldview principles do predetermine the very ability of axiologization of science? How are internal scientific and external scientific bases and axiological factors of cognitive activity connected with each other? Very often answers on these and other questions are based on stable view that values have only external character and correlation between knowledge and values is equal to the correlation between, for instance, natural sciences and ethics which gives them humanistic sense. It is logically that in this case the problem becomes wider than methodology of science. It gains wide social meaning.

It is about value of scientific rationality itself as about specific human method of orientation in social and natural reality. The main principles, theories, hypotheses, methods and ways of rationalization of scientific thoughts are also regarded as values. The great role of axiological problems of science is connected with necessity of overcoming of limitations of classic scientific ideal which inner social and cultural potential is completely exhausted today. In the 20<sup>th</sup> century the image of science has changed. Today philosophers, sociologists and historians of science have come into position of cultural and axiological determinism of cognition and have proved that even physical or mathematical knowledge depends on the cultural context and has axiological dimension. To make the axiology of scientific cognition possible one should first of all to destroy stereotypes which prevent comprehensive understanding of axiological problems in the context of the new image of science.

One of such stereotypes is the idea of axiological neutrality of scientific knowledge. Here should be mentioned the fact that in history of science the image of axiologically neutral knowledge played an important role of dissolution of science in ideology and providing of its free and rapid development. The notion of neutrality in this very context should be understood as rather ambiguous. The model of axiologically neutral science expressed itself both as methodological principle and element of scientific consciousness. It is closely connected with the understanding of fundamental researches as a pure cognition of nature or society which has no practical purpose. But at the same time this model may be used as a background for elitist interpretation of science. Generally, the abstract character of this model allows interpreting it in different ways.

Modern science is characterized by individuality and soleness of personal thinking and being that correspond to the conception of freedom from all narratives which has been proclaimed by postmodernists (J. Lyotard, J. Deleuze, R. Rorty and other). This idea has become the meta-paradigm of the general relativism. Positive aspect of this situation is development of tolerance and peaceful coexistence of different scientific schools and positions, pluralism of thoughts and avoiding of danger of totalitarianism. Negative aspects also exist. They are chaos of thoughts, scientific and cultural searches, worldview disorientation and dehumanization of science.

Today it is possible to speak about the absence of united standard and value scale. Instead of them there are different standards and schools which are completely equal. The problem of deep transformation of values and development of axiological pluralism are important steps on the way of understanding not only modern scientific problems but also social and cultural problems. Generally, science is still has a dominant position as a leading sphere of development of modern society and culture. But scientific and technical achievements demonstrate their double nature very bright. They ate both good and potential way of self-destruction of humanity. Development of informational civilization demands from

global community transition from technical thinking to scientific because the last one has a number of obvious advantages. Scientific thinking corresponds to the challenges of the epoch (rapid development of many scientific branches, necessity of overcoming of crises in some of them, high dynamic of technical progress, building of innovative economy, etc.). Scientific thinking is directed on preserving of humanistic values and not only individualistic needs. It also helps in development of human individuality. Under the conditions of quite spread cultural and axiological pluralism scientific thinking helps to maintain tolerant relations but not conformism and adaptation to the negative aspects of modern social life.

A modern person lives in the informational epoch and should not only to understand how to use modern technologies and independently cope with constantly growing difficulties of social life and ambiguity of social process but also to be open for everything new. So, a person of the 21<sup>st</sup> century should have highly developed scientific thinking to maintain future civilizational development.

No one was born with scientific thinking. It can be attained only in the process of education. M. Sergeyeva gives in her work an interesting illustration of this fact. She describes scientific career of Nobel Prize Laureate of 1915 L. Bragg who in the age of 23 made with his father U. G. Bragg the outstanding discovery which attained later the international acknowledgement [4]. Such cases can be described as results of heredity. But in the history of science there are a lot of cases when future Nobel Prize Laureates studied and worked with other Nobel Prize Laureates. So, it helped them in corresponding education and up-bringing of values of scientific rational thinking and allowed them to achieve prominent results in science. Therefore, convergence of science and education is natural and inevitable process. Forming of scientific thinking is one of the most important values of modern science.

Unity of education and science and scientific detraction of education create more qualitative motivation of professional training and has deep up-bringing

sense. Scientific detraction of the educational process should be realized in every university and institute.

Speaking about the progressive experience of some leading western universities A. Karpov says that in the students' community research work does not play the role of acquired service. It becomes a kind of up-bringing and determines high quality of education [5, p. 90]. Commoditize attitude to researches (for instance, as to the source of grants) causes estrangement between education and science in general and in the sphere of scientific partnership and mobility in particular. Still in the works of R. Merton and B. Barber had been distinguished such basic scientific values as universalism, united character, organized skepticism, unselfishness, rationalism and emotional neutrality. In fact these values are simultaneously qualities of a scientist as an embodiment of scientific knowledge and thinking. Such values as knowledge, professionalism, critical thinking, intellectual freedom, truthfulness, individualism and cooperation, financial, ideological and political autonomy, rationality, efficiency and emotional neutrality are shared by science and educational sphere.

I. Nalyotova and A. Prohorov are absolutely write when say that today because of influence of commodification of education and science they go through systematic and deep transformational processes which change their axiological basis [6]. Universalism is replaced by local context, generality – by multidisciplinary character, organized skepticism – by competition, individualism – by team work [6]. The same way the educational values have changed which are the values of scientist-teacher. It proves that teachers who integrate in their work the principles of pedagogical and scientific activities. The deeper and wider is personal competence as a scientist and teacher the more unique becomes a system of knowledge which he or she generates and transmits.

Of course, science cannot be reduced only to the profession of teacher. But the status of a scientist (as also the status of a teacher) supposes some qualities and values. And this status is a value itself.

In postindustrial epoch science preserve its elitism while education has public character. Belonging to scientific community means belonging to the intellectual elite of society. At first sight it might seem that to become a member of such a community is rather simple. A scientist is a person who works with informational – the one of the most democratic sources of power. Of course in the case of L. Bragg his family status (father-scientist) played its role. But in general a person who has a burning desire to become a scientist consciously forms needed for successful scientific work qualities.

One more important aspect of analysis of axiological aspect of science and education is their connection with technique. Technique is a unity of human activities directed on the increasing of human power over nature and giving a certain cultural form to the environment. In the 20<sup>th</sup> century science and technique become so united that special terms have appeared – “scientific and technical brunch”, “scientific and technical progress”, etc. In the context of public mind science has become a theoretical background of technical innovations. Dominant positions in education more and more often are occupied by polytechnic universities. These processes can be unified through the value of human control over the objects of the material world. Today the correlation between science and technique must be revised because at the beginning of the 21<sup>st</sup> century the trend of alternative human values has appeared (harmony with natural environment, social justice, existence of different types of rationality, etc.).

Today science is much ramified and involves huge number of different disciplines. Now mottoes about necessity of integration and unification of education and science are very popular and they contain rational sense. But no less rational are the words of M. Sergeyeva which says that today as never before it is important to distinguish humanities from technologies because if we would not do it humanities will be later discriminated in public mind like natural sciences are today. In public mind physicist is guilty of invention of atomic bomb and chemists

– in environmental pollution. Psychologists and sociologists can be similarly blamed in manipulations of mass consciousness [4].

Because of influence of industrial and post-industrial values and commodification of education and science some scientific brunches differentiated according to different levels of prestigious. It is considered that technical and natural sciences are more adapted to market relations in comparison with social and humanities. They contain bigger applied element and produce knowledge which can be sold faster. There are also two aspects which limit the meaning of this trend. Firstly, today the problem of forming in universities of skills of management and technical competences has been discussed by the analogy with commercial structures. It may seem paradoxical but the results of later researches have shown that students can get these skills studding humanities [1, p. 10]. Secondly, it is hard not to agree with M. Mamardashvilly who said that there were no applied sciences but there was the only science and its application; and in those places where knowledge was out of the process of producing of other knowledge we were out of science and out of knowledge [2, p. 100].

Therefore, scientific rationality and education are two factors which determine personal and cultural development. Scientific rationality is a value to the extant it is not a value at all if it is stop to be a human-forming phenomenon. Any strict division of education and science would be artificial. It becomes especially obvious in post-informational epoch when on the agenda shall be made the question of renovation of scientific thought of all members of society and development of innovative economy.

**References:**

1. Gorohov V. G. *Kak vozmozhzhny nauka I nauchnoye obrazovaniye v epohu akademicheskogo kapitalizma* / V. G. Gorohov // *Voprosy filosofiyi*. – 2010. – Vol. 12. – S. 3–14.

2. Mamardashvilli M. K. *Nauka i tsennosty – beskonechnoye I konechnoye / M. K. Mamardashvilli // Voprosy filosofiyi. – 1973. – Vol. 8. – S. 98–100.*
3. Openkov M.Yu. *Tsennost' nezamenimogo spetsialista I transformatsiya sysemi obrazovaniya / M. Yu. Openkov // Sovet rektorov. – 2008. – Vol. 3. – S. 27–30.*
4. Sergeyeva M. G. *Tsennosty nauki kak bazoviye tsennosty yevropeyskoy tsivilizatsiyi / M. G. Sergeyeva [Electronic resource]. – Access regime: <http://www.researcher.ru/>*
5. Karpov A. O. *Kommodifikatsiya obrazovaniya v rakurse yego tseley, ontologiyi I logiki kulturnogo razvitiya / A. O. Karpov // Voprosy filosofiyi. – 2012. – Vol. 10. – S. 85–96.*
6. Nalyotova I. V. *Transformatsiya tsennostey akademicheskoy kultury v usloviyah globalizatsiyi / I. V. Nalyotova, A. V. Prohorov // Analitika kulturologiyi. – 2009. – Vol. 3(15) [Electronic resource]. – Access regime: [http://www.analiculturolog.ru/archive/item/300-article\\_10.html](http://www.analiculturolog.ru/archive/item/300-article_10.html)*