

OPINION

from

Prof. DSc. Borislav Nikolov Gradinarov, Institute of Philosophy and Sociology, BAS, research field 2.3. Philosophy

for

the dissertation of Krasnomir Milkov Krachunov
for acquiring the ESD "Doctor", professionally direction 5.3
Communication and computer equipment

1. General information.

The dissertation proposed for public defense is on "Modeling knowledge for the needs of intellectual systems." It is 222 pages long, including the literature structured in 7 chapters, an introduction, and a conclusion (entitled "Contributions and Perspectives"). The cited literature covers 71 titles. The enclosed abstract summarizes the main points of the dissertation and contains an author's reference for the contributions, as well as information about the publications on the topic of the dissertation. Krasnomir Milkov Krachunov was enrolled as a doctoral student in self-study in the doctoral program "Telecommunications" in professional field 5.3 Communication and Computer Engineering, scientific specialty "Communication and Computer Engineering" on 01.10.2014. So far, the scientific jury has not received any signals and there are no indications of unregulated borrowing of texts by other authors. The scientific supervisor of the dissertation is Assoc. Prof. Dr. Iosif Avramov.

2. Significance of the researched problem in scientific and scientific-applied relation.

The subject of research in the dissertation of Krasnomir Krachunov is defined in the text as what happens to the various natural objects, understood as generalized ideas in human knowledge, in the process of their transmission at a distance. This is a significant problem for the telecommunications disciplines, as the translation of images, ideas, or knowledge of people about objects and phenomena needs to be as adequate and neutral as possible, to be "immunized" against subjective errors and distorted perceptions of reality. At the same time, the objectivity of the transmitted information and knowledge about nature is a condition for the successful impact on objects and phenomena, according to the needs of people.

3 Justification of the goals and tasks in the dissertation.

The dissertation aims to substantiate the statement that there are a finite number of phenomena that meet several conditions - they are common to all types of objects, are elementary, have their opposite states, and can be found in any particular subject area. The second goal is to prove that all complex (composite) objects or phenomena,

which are in principle infinite numbers, can be constructed or formed by these simple phenomena. Based on the formulated goals of the dissertation the main tasks are formulated: to differentiate those positions in the aggregate array of knowledge, which are unprovable and irrefutable, if any; whether there are phenomena in nature that cannot be proved or disproved, but can only be observed as existing; how unprovable and irrefutable knowledge relates to natural phenomena that cannot be proven or disproved.

4. Correspondence between the chosen methodology and research methodology and the set goal and tasks of the dissertation.

The methodological task is to reach the most elementary, further indivisible generalized elementary notions of nature, to classify them, and thus to reconstruct knowledge. In the dissertation, this is achieved by compiling extensive and detailed tables of the main categories, through which, according to the author, the reality is decomposed. Such an approach is possible, but it should be more strictly defined, indicating its methodological limitations. There is also uncertainty as to whether the finite number of categories in these tables can cover the infinite world in which we live. The dissertation student performed a significant amount of analysis, trying to present the results in logically constructed classifications. He thus substantiates his thesis that the successful achievement and transmission of knowledge in the communication process is possible only if the basic "bricks" of the "building" representing our knowledge of reality are identified in advance. Some interesting interpretations of the concepts of movement and change, appearance and display, existence and manifestation, essence and phenomenon, etc. have been made. These are ancient philosophical questions that have been debated for centuries, and defining them in their universal meanings is by no means an easy endeavor. A certain gap in the dissertation is the lack of a brief presentation of the philosophical evolution of some of the main philosophical categories used in it. Their definition in narrower semantic limits, when it comes to specific research in its subject, as in this case, is permissible, but it is good to be explicitly stated. The main focus of the dissertation is on the epistemological achievement of reality - ie the paths of knowledge, which are always anthropocentric. People are the only ones who can make sense of their knowledge, think about it, and be critical of it, and this is exactly what allows reality (tangible and intangible) to be modeled in ideal forms - by creating elementary cognitive elements that combine can to reproduce the wealth of the world. The author's interpretation of Kurt Gödel's dissertation theorem on the incompleteness of formal systems is also of interest. Krasnomir Krachunov claims that the most general, initial positions or principles in the formation of systems of ideal objects (axioms in any scientific theory) are precisely those positions that remain unprovable and irrefutable (p. 131). But the question of how to define these basic principles in any scientific theory is too complex, and its satisfactory solution can hardly be expected at the current level of science. Because of the topic of the dissertation, the key to it is Chapter 7 - "Communication - areas of knowledge". Among the many definitions and characteristics of

communication, the author singles out one related to the previous dissertation text - communication as an exchange of information or the creation and transmission of knowledge. He believes that communication through knowledge is decisive for communication, ie communication is the transmission of knowledge. "Knowledge (people's ideas about things in nature) should be turned into statements (both images and actions) and it is expected that when perceiving these statements the perceiving person will imagine the same as the speaker" (p. 219). Communication, regardless of its nature, is never arbitrary but should be subject to certain generally accepted logical rules and laws. However, they are not a mirror image of objective relationships, as the subject inevitably makes his "contribution", which does not mean that communication is compromised.

5. Evaluation of the publications on the dissertation: number, nature of the publications in which they are published.

The attached reference contains 6 (six) publications related to the topic of the dissertation. Four of them were published before the enrollment of Krasnomir Krachunov as a doctoral student and two - after. Three of the articles have been published in proceedings of scientific conferences, one - in the Bulgarian Journal of Engineering Design and two - in the Yearbook of the Department of Telecommunications. The publications are enough for Krasnomir Krachunov to be entered into the NACID register after the public defense of the dissertation.

6. Citation from other authors, reviews in the scientific press, etc.

The attached reference to the documents in connection with the public defense does not contain citations or reviews in the scientific press about the doctoral student's works.

7. Opinions, recommendations, and notes.

The general impression of the proposed text is that the author has the ability to present intelligibly and clearly his main theses, despite the concise style and preference for short and concise speech, which sometimes raises questions. It would be appropriate to present at the end of each chapter and in the conclusion the results achieved in the previous presentation. This is an important element of the structure of a dissertation. The presented literature covers 71 titles, almost entirely in Cyrillic (with one exception). Given the current lack of scientific literature, it is unlikely that all the sources necessary for a dissertation will be in Bulgarian and Russian only. Because of the topic of the dissertation, I believe that the number of cited authors is on the verge of a minimum. The list should also include works in English and German, which the dissertation in his scientific autobiography wrote that he mastered to some extent. This would give the dissertation additional scientific weight. It is good to handle information and quotes from Wikipedia more critically, as it does not have the character and claim of a reliable scientific source.

8. Conclusion with a clearly formulated positive or negative assessment of the dissertation.

I believe that the work "Modeling of knowledge for the needs of intellectual systems" by Krasnomir Milkov Krachunov has the qualities of a dissertation and should be evaluated positively. That is why I am voting for the award of Krasnomir Milkov Krachunov to the ESD "Doctor" in professional field 5.3 Communication and computer technology.

April 8, 2022

Signature:



(Borislav Gradinarov)