

REVIEW

By Prof. Dr. Yordan Yordanov Penev, Faculty of Police, Academy of the Ministry of Interior, professional field 9.1. National Security, according to Order No. Z-PK-165 / 20.03.2020 of the Rector of NBU participant in the academic commission

for the awarding of the degree of Doctor of Science

in the professional field 9.1. National Security

of the candidate: Prof. Dr. Nikolai Stefanov Radulov, Head of the Department of National and International Security at the New Bulgarian University,

with the dissertation on the topic: "Technological and digital transformations in security. Security 4.0, PhD, Security Strategies and Policies.

1. General characteristics of the thesis

The dissertation has a total volume of 378 pages and contains an introduction, five sections, a conclusion, a bibliography and an annex. Sound academic methodologies for illustrating the data and its corresponding conclusions are applied throughout the thesis. The sections that constitute the analysis have a balanced distribution of points and subpoints, the contents of which correspond to their names. The exposition is presented predominantly from the perspectives of management theory, informatics and criminology.

The dissertation is on the topic of "Technological and digital security transformations. Security 4.0" and does not literally plagiarise the topic or a significant part of the content of the dissertation submitted for a doctorate degree award in 1992, which is dedicated to management culture and falls into another professional field, namely: 2.3. Philosophy.

Considering these quantitative and qualitative aspects of this work, it satisfies the criteria for a Doctoral degree in the field of social sciences.

The topic of the dissertation is contemporary and there is a need for scientific research on it. The problems considered and the proposals to solve them are novel and important. In the current century, Bulgaria faces challenges posed by the security environment, which were difficult to predict over the last century. In this sense, the proposed science-based solutions of the thesis are very important in view of our European development.

The text of the dissertation, as a whole, uses academic style and contains no logical contradictions. There are no unjustified conclusions in the dissertation.

Throughout the scholarly work, the author relies on the regulatory framework, the functional and institutional framework of the security system, subjecting them extensively to the analysis necessary for the relevant scientific conclusions. In support of these, the author used data from various sources, comparing and analysing them.

The use of foreign sources is sufficient, provided through correct citation and analysed critically.

After a manual check and a computer programme verification, no plagiarism or co-authorship data were found, which is why I claim that the dissertation and the collection and analysis of empirical data were prepared independently.

The thesis relies on foreign and national theoretical achievements in the field of national security. This finding proves a high degree of knowledge of the problem and the relevant literature.

In my opinion, given the quality and nature of the eleven publications on it, the dissertation has a completely positive impact on the external environment. Five of the publications are in Bulgarian and the other six are in English, which is a prerequisite for a good international exchange of scientific results, given that more than 80% of the world's scientific information is in English. All publications are published in reputable, widely recognised journals dealing with national security issues.

The design of the dissertation does not fully comply with the requirements of BDS ISO 7144: 2011. For example, the abstract is not included in the introductory part, the introduction is a combination of a preface of an introductory part and an introduction of the body of the dissertation, according to the Standard. The main structural parts are called chapters, not sections, the questionnaires which have probably been used to examine the theoretical sources and the application of the peer reviewed method are not mentioned in the annex. The literature is not divided into a list of sources used and the bibliography set out in a separate annex, etc.

The abstract, which is outside the cover of the dissertation, accurately reflects the basic scientific merits of the dissertation.

2. Structural analysis of the content

The Introduction outlines the need and relevance of the dissertation research.

The subject, purpose, tasks, methods of the dissertation research are scientifically backed in this part. The text in question gives a clear idea of the scientific apparatus of the thesis.

The purpose of the research is derived from it's main argument about the urgent need for rapid introduction of high-tech products in the security services, combined with structural reform, after which all four dissertation tasks are formulated.

All of the applied methods are presented in the introduction. They mostly come from formal logic and have been used for scientific knowledge for more than 2000 years. In this sense, there is no need for a more detailed presentation and correspond to the research purpose and tasks of the dissertation.

Following are five sections that present the structured theoretical model of the study. A deductive approach is applied, which is justified by the causal link between the problems studied. The breakthroughs in scientific and technological progress leading to fundamental changes in human life, including new requirements for increased security, are the leading topics.

The commented theoretical model builds on the well-established theoretical understanding of the elements of the operational environment in the field of national security. The following is a

development in each of the three main directions, tailored to the peculiarities of modern times, namely: the security environment, the forces, means and methods of the special services and the state of high-tech crime.

The theoretical model developed allows a good systematic study of the penetration of the individual structural parts, so that conclusions and corresponding organisational recommendations can be made to improve the performance of the security services.

The conclusion has a scientifically sound structure that synthesises the results of the dissertation, with an emphasis on the conclusions and recommendations that make scientific contributions. The volume of the conclusion is sufficient and gives a clear idea of the scientific results achieved in the dissertation.

3. Evaluation of the scientific contributions

In line with the harmonized scientific concepts of the Frascati Manual, mandatory for the evaluation of research in the European Union, according to Implementing Regulation (EU) No 995/2012 of the European Commission (OJ L 299, 27.10.2012), research can be fundamental or applied. This dissertation is scientifically applied with clearly defined accompanying theoretical contributions.

The original scientific contributions made by the author are applicable.

From these contributions, the call to the government for a change in the security sector in the precisely defined directions in the thesis is of paramount importance. It is based on the proven causal link between the development of industry and the development of security. The author correctly states that they are correlated and should move with the same pace. Much of humanity becomes accustomed to technological breakthroughs quickly and considers them to be a given. Only a few decades ago, cell phones were considered a luxury, and today almost everyone uses phones which can have many features including those of a computer and camera. From this point of view, the development of high-tech security is imperative.

Another scientifically applied contribution related to the stated call for change is the critical analysis on page 368 of the status of the Bulgarian special services. This analysis proves the need for change. Thinking about the author's assertion that the Internet today is developing faster than the protection mechanism of the data that it operates with is already a sound argument.

The contribution of the research and its conclusions to the state of the criminal process in the context of the Fourth Industrial Revolution and significant advances in high technology is novel. On page 27, the author refers to the archaic and cave-like methods of investigation that are being applied today in our country. This statement is undeniable. There really is an urgent need to rethink these methods. Let's just think about how the data obtained from interrogations is managed - manually. Or what is the use of investigators in high-tech crime investigations. Indeed archaic participants in the criminal investigation process are possibly in complete inability to recognize evidence of high-tech crime. This is a real display of scientific courage by the candidate.

It is highly appreciated that national security theory is derived from, and argued for, the concept of "Security 4.0 Ecosystem". Defining this term is a praiseworthy approach to an interdisciplinary study of security issues. It is a respectful manifestation of encyclopedic science, sometimes called interdisciplinarity, so necessary in today's dynamic world. The concept of ecosystem originates from the science of ecology. The author builds a logical analogy to this term based on a broad view of security, as a system in which there is interaction between people and environmental factors.

A number of organizational proposals for improving the functioning of the security services, some called neuralgic points on page 47, are also of scientific relevance, but in fact they are primarily organizational guidelines.

4. Opinion on the personal qualities of the author

I have known the candidate in his various capacities – as a head of the Ministry of the Interior and as a scientist with a clear public position in the field of national security. In both roles he has shown purposefulness and a systematic focus on the details of the topics discussed in this thesis both from a scientific and managerial point of view. This focus allows him to draw logical links between the facts and thus come to solid conclusions. It allows him to be more categorical in his statements, which are logically and factually verified.

The applicant meets the legal minimum national requirements for scientific and teaching activities, which is confirmed by a reference in the register of academic staff of the National Center for Information and Documentation.

5. Recommendations

Science is the highest form of human knowledge; it is distinguished by accuracy, systematic approach and verifiability. Based on this common definition, several recommendations could be made to the author.

The subject and object of the dissertation are described separately on page 6. If we analyze the text carefully, we will see that it is the same concept, and that is what is being investigated - facts, states, phenomena, events, processes. Even assuming that the subject matter and object are related as a “part” to the “whole”, this is not of valuable help for the researcher and to describe the “part” one must indicate the “whole” too. The aforementioned Frascati Manual does not use the term object of scientific research, but only subject. Older Bulgarian theoretical assumptions claimed that the object of study is what is being studied, and the subject is the point of view through which the object is being studied. However, this thesis clearly does not make this distinction. With these thoughts in mind, I recommend that in the future training of doctoral students, as a scientific adviser, Prof. Radulov should direct the use of the term "subject of scientific research".

Given the author's future publications, more conceptual accuracy might be expected. In a number of places in the thesis, for example, pages 19, 47, 48, 278, 311, the term "criminal crime" is used. The word “criminal” is of Latin origin and is a foreign word in the Bulgarian language. The literal translation of the phrase “criminal” is crime and is a tautology. This concept was used in the Bulgarian criminology and theory of operative-search activity, but now it can safely be considered outdated. The modern concept is conventional in the sense of traditional crime, and not under any specific convention. The author is familiar with the term "traditional crime" and also uses it on pages 26, 44, 276 of the thesis. My recommendation in the future is to use only the modern concept.

According to the logical law of identity, formulated by Aristotle, the same content must be embedded in the same concepts. On page 100, the applicant signs the equation between the terms "unmanned aerial vehicle" and "drone". If he consistently held this judgment, then it would be well to use one of these synonyms throughout the rest of the exposition.

I recommend that in future publications abbreviations such as “BLA” in the headings of section 4.8.1. and 4.8.2 should be avoided. In the same line of thoughts, it is not appropriate to use abbreviations

at the beginning of sentences, e.g. BP, DR and CP on pages 96 and 97 of the dissertation as well as applying non-textual abbreviations such as AI for artificial intellect.

6. Conclusion

In view of the above, I form a positive assessment and believe that the scientific results achieved represent a significant and original contribution to science. The dissertation definitely contains theoretical generalizations and solutions to major scientific problems, which are in line with the modern achievements in science. He should therefore be awarded a PhD.

Signature:



Sofia, 03/27/2020 Prof. Dr. Yordan Penev