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# POLISH AND UKRAINIAN PERCEPTION OF SECURITY SCIENCES (PART I)

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## Abstract

The purpose of this article is to bring closer to the reader a cognitive perspective and the subject of security sciences interest in terms of Polish and Ukrainian. Security as a social phenomenon is perceived in a similar way all over the world, however its scientific interpretation depends on the formal structure of science in a given country and the classification of the research subject into a specific discipline. In the Polish terms, the scientific discipline of security sciences is specified, however in other countries the scope of security knowledge is classified differently due to different conditions for the development and classification of science.

In the Ukrainian terms, the discipline of security sciences is not specified, and security problems are considered interdisciplinary in several fields of science, specialty groups and numerous scientific specialties.

In the process of developing the article, an assumption was made to explain the problem: how are the scientific disciplines in Poland and Ukraine that conduct research on security interpreted? As a result of applying the method of researching the content of the subject literature and the continuous comparison of the perception of security from the point of classification of scientific fields in the Polish and Ukrainian terms, the similarities and differences were specified, which constitute the essence of the cognitive scope of security.

The article is divided into two parts. The first part contains: “Abstract”, “Introduction”, “Research assumptions”, “Comparison of the determinants of the evolution of science in Poland and in Ukraine”, “Science about security in Polish terms”. The second part contains: “The sciences of security in Ukrainian terms”, “Comparison”, “Conclusion” and “Bibliography”.

## **Keywords**

science, scientific discipline, security sciences

## Introduction

The perception of science around the world is similar and is defined as a special activity of people intended to learn about the objective truth about reality, satisfy human cognitive needs to improve the quality of life and to produce knowledge about the products of cognitive activity<sup>1</sup>. The tasks of the science include explaining concepts; gathering and systematization of knowledge about the world; recognizing the laws governing the world and interpreting facts, phenomena, processes concerning nature, society and a human. Science is interpreted as a system of knowledge achieved through scientific cognition<sup>2</sup>. The sanctioned system of knowledge in each country is classified into the fields of knowledge and within them into the disciplines. Different nomenclatures are perceived in individual countries, however regardless of the semantics of the concepts, the essence of the classification of science is to systematize it to the needs of research, theory development, teaching and research funding. The conclusions from the preliminary

research indicate that the greatest differences in the classification of science occur at the level of scientific disciplines and specialties. Even in countries that belong to the same civilization circle and scientific organizations, there are differences that need to be explained in order to properly interpret the scope and object of cognitive interest in a specific field, discipline and scientific specialty.

## Research assumptions

The growing interest in security issues as a subject of research inspires scientists to find out and compare its various approaches, especially in different countries. Despite the fact that security is an autotelic value, due to the determinants of the development of science in different countries and its classifications, differences are observed that should be explained from the scientific point of view. Hence, it was considered as justified that the perception of security issues in terms and classification of science in Poland and Ukraine should be compared. The need to compare and explain the essence of the perception of security issues in science in Poland and Ukraine resulted from the preliminary assessment of the legal basis for the classification of science in comparable countries. Identification and comparison of security issues is possible on the basis of science, hence it was also necessary to refer to the genesis and evolution of science in the studied countries, because acquiring knowledge about them allows for a proper inference about its structure.

The purpose of this article is to bring closer to the reader a cognitive perspec-

<sup>1</sup> T.S. Kuhn, *The Structure of Scientific Revolutions*, Publ. Aletheia, Warsaw 2009, p. 17-98; J. Ratajewski, *Elementy naukoznawstwa i główne kierunki rozwoju nauki europejskiej*, Publ. University of Silesia, Katowice 1993, p. 13; В.С. Марцин, Н.Г. Міценко, О.А. Даниленко та ін, *Основи наукових досліджень*, Ромус-Поліграф, Lviv 2002, с. 4-5; А. Бхаттачарджи, Н. Ситник, *Дослідження в соціальних науках. Теорія і практика*, Університет Південної Флориди Тампа Флоріда, США – Національний технічний університет України «Київський політехнічний інститут», Оpubліковано за ліцензією Creative Commons Attribution-NonCommercial, с. 9-11; R. Sheldrake, *Nauka wyzwolona z dogmatów*, Ed. Manendra, Wroclaw 2015.

<sup>2</sup> Ch. Frannkfort-Nachmias, *D. Nachmias, Research Methods in the Social Sciences*, Publ. Poznan 2001 p. 9; G. Gottfried, *Teoria poznania. Od Kartezjusza do Wittgensteina*, Publ. WAM, Krakow 2007.

tive and the subject of security sciences interest in terms of Polish and Ukrainian. In fact, science does not have national features but ontological, epistemological and axiological features, however the development of each scientific discipline in different parts of the world has its specific civilization and cultural sources of emergence of science from cognitive areas, regardless of similar approaches in other parts of the world. Doing science is an anarchist endeavor because we assume skepticism about what has been achieved so far. According to P. K. Feyerabend, anarchism helps to make progress to every extent that one wishes to achieve, because undermining recognized theories causes us to find additional arguments for and against the challenged theory or to create the basis of new knowledge<sup>3</sup>. In scientific research, there is no restriction on not addressing problems that were previously justified, everything is questionable and comes down to argumentation according to the assumptions of confirmation or falsification<sup>4</sup>. In this perception of reality, we can use dialectical thinking, which becomes the first stage to properly identify the problem and the possibility of investigating it. Thinking and dialectical discourse open the way to critical thinking about social reality. Therefore, it would be justified to consider the problem of how security issues are perceived in the classification of science in Poland and Ukraine? As a result of the discourse and on the basis of the subject literature content in Poland and Ukraine, a hypoth-

esis was formulated that science in the compared countries had similar sources, but different development determinants, which resulted in the adoption of different classifications of science. The issues of the theory of security from the scientific point of view are similarly perceived but classified differently in the system of science in terms of nationality.

The general ontological and epistemological assumptions of the security theory classified in the formal structures of science in the studied country were adopted as the subject of knowledge.

In the adopted research process, a mixed strategy (qualitative and quantitative) was used, assuming that we do not discover facts, but only resolve, interpret and describe them in qualitative and quantitative terms, because the use of other strategies with such a cognitive assumption is not very relevant. The assumptions of the qualitative research strategy assume that the field of qualitative research is defined primarily by a series of tensions, contradictions and fluctuations, focusing on explaining the causes and determinants of the research<sup>5</sup>. The essence of a qualitative research strategy is not to discover but to interpret facts. In the quantitative strategy, we interpret and describe facts in numbers, and, on the basis of the assigned values, we interpret the studied object. Hence, dialectical and critical thinking about the problem and the subject of research was used, assuming that it is needed to:

- strive for a critical perception of the descriptions of security in the stud-

<sup>3</sup> P.K. Feyerabend, *Against Method*, Publ. Siedmioróg, Wrocław 2021, pp. 14-17 et seq.

<sup>4</sup> K.R. Popper, *The Open Society and Its Enemies*. Vol 2, Polish Scientific Publishers PWN, Warsaw 2006, pp. 268-326.

<sup>5</sup> N.K. Denzin, Y.S. Lincoln (Eds.) *The Sage handbook of qualitative research*. Volume 1, Sage Publications, Sage Publications, London 2005.

ied countries in terms of the subject literature, with particular emphasis on the content of legal acts classifying science;

- in the research process, use comparisons of security issues, and especially their classification in a discipline from the Polish perspective and the group of specialties and the specialties from the Ukrainian perspective, both in qualitative and quantitative terms;
- make a multilateral and in-depth qualitative and quantitative analysis of data contained in the selected literature on the subject;
- make analyzes and comparisons of cases of deviation from the adopted assumptions for classifying science in the studied countries.

In the qualitative research strategy, the method of researching the content of the selected literature on the subject of research was used, consisting in the coherent application of reasoning operations (analysis, synthesis, comparison, abstraction, generalization, deductive reasoning)<sup>6</sup> and the strategy of reductive, taxonomic, heuristic, constructive thinking<sup>7</sup>.

In the research process, thinking and dialectical discourse were used between the co-authors of the article, which presented the assumptions of security theory and its classification in formal structures of science. The discourse became the basis for determining the assumptions and the basis for comparing how the theory of security is perceived and classified in

terms of science in Poland and Ukraine. The dialectical discourse also provided the basis for setting conclusions regarding the comparison. The comparison was used after adopting the assumptions that the Polish perception of scientific disciplines is comparable to Ukrainian specialization groups, because in the studied systems of science classification the same nomenclature does not appear.

It should be emphasized that through the discourse the authors excluded cognitive subjectivism or attachment to a specific methodology resulting from the specificity of the research, however, we should be aware that the qualitative strategy may include the scope of subjectivism, which is the strategy essence, expressed in the perception and interpretation of facts, especially in terms of national classifications of science. In the security sciences, we do not produce facts, but interpret them from various cognitive perspectives. In the authors' opinion, researching the literature on the subject, comparison and dialectical discourse were sufficient to verify the hypothesis.

## Comparison of the determinants of the evolution of science in Poland and in Ukraine

When interpreting science, it is purposeful to refer to it in the following aspects: historical and geographical, static, dynamic, content, methodological, structural, linguistic, axiological, systemic, psychological, sociological, organizational, legal, ideological, political, economic<sup>8</sup>.

<sup>6</sup> E. Babbie, *Basics of Social Research*, Cengage, Boston 2015.

<sup>7</sup> A. Peräkylä, *Analyzing Talk and Text* [in:] Denzin, N.K., Lincoln, Y.S. (Eds.), *The Sage handbook of qualitative research*. Volume 2, Sage Publications, London 2005, pp. 325-343.

<sup>8</sup> More: T. Pszczołowski, *Science* [in:] *Encyclopedia*, publ. PWN S.A., Copyright @ 1997-2006.

The historical and geographical aspect of science indicates its sources and civilizational ties influencing its development. In the European tradition, we identify the primary sources of science in ancient Greece and Rome mainly in the development of philosophy and art, as well as in the thought of rationalism and positivism, and the same direction of the sources of science is noticed in scientific studies in Poland and Ukraine.

The static aspect of science in both countries is similar, as it concerns the acquisition of knowledge on various information carriers, ranging from parchment, paper, celluloid tapes to modern electronic records. The static aspect is expressed, *inter alia*, in institutions that collect and store knowledge (libraries, archives, museums, etc.).

The dynamic aspect of science consists in the activities of specialized scientific organizations that have the appropriate tools and legal instruments to increase knowledge resources and exchange it, which causes, *inter alia*, the accelerated development of science. The dynamic aspect in the surveyed countries is greatly influenced by the development of statehood and the level of civilization development<sup>9</sup>, and in these areas differences resulting from the political independence and historical continuity of the state as well as economic development systems that directly inspire and support various research areas are perceived.

The content aspects of science are expressed in its assumptions aimed at learning about the scientific reality and

using knowledge for utilitarian needs. Theorems and laws in various fields of science are defined, providing a basis for ordering laws and verifying hypotheses. The creation of knowledge in the compared countries is determined by the pursuit of learning the scientific truth achieved in the research process based on the following strategies: qualitative, quantitative, empirical and mixed, combining various strategies related to the problem under consideration, the goal and the subject of research.

The methodological aspect of science indicates the paradigms of a given field and discipline, and the scientific approach in this area is convergent in comparable countries. In the procedures of methodological and methodical approach to solving a specific problem, we not only study a given object and item, but also classify, describe and archive it, and define the directions of its development based on scientific knowledge.

The greatest differences in the world and also in the compared countries are noticed in the structural aspect of science. There are differences in the formal classification of science, despite the fact that from the point of genesis and its classification we refer to common sources of science according to: Aristotle (theoretical, practical, conceptual), F. Bacon (division of science into: history, poetry, philosophy), C. Wolff (sciences: theoretical, philosophical, practical), A. Comte (sciences: theoretical, applied). However, each country has its own classifications, which are created mainly for the purposes of organizing scientific activity, conducting research, promoting scientific personnel and financing

<sup>9</sup> N. Ferguson, *Civilization. The West and the Rest*, Gardners, Eastbourne 2011, pp. 80-130.

science. The concept of science is understood similarly all over the world, but its classification is different, which results from many circumstances related to the development of science in a given culture and the level of civilization development of society. There are also differences in the classification of science among the 38 member states that belong to the Organization for Economic Cooperation and Development (OECD), to which Poland has belonged since 1996. Ukraine is not a member of the OECD and is not currently applying for membership, however, it can be hoped that along with the process of social and economic changes, after formal integration with the European Union, it will undertake activities integrating also with this organization. Another aspect of the perceived differences in the science classification system in comparable countries was also the greater direct Russian influence on the structure of science in Ukraine than in Poland.

The linguistic aspect indicates that science creates its own language, which is the basis for the description of the problem theory and scientific communication. It should be emphasized that despite significant differences in the classification of science, the linguistic aspect of the description of problems is similar. Therefore, when referring to the functions of science such as the descriptive, explanatory, diagnostic, prognostic, dynamological and systematizing function<sup>10</sup>, from the point of systematizing concepts, the aim is to create a language of concepts that systematizes areas of knowledge and facilitates scientific

communication. In Ukrainian terms, the following functions are commonly distinguished: cognitive, critical of the identified patterns, and practical<sup>11</sup>, but also in a different approach according to O.C. Цокыр also functions descriptive, explanatory, prognostic, reasoning. It should be emphasized that in both comparable systems of science there is a different number of functions of science, however this does not change the fact that their essence is justifying statements and hypotheses, creating an objective theory about the studied subject and developing the theory of research methodology of the studied subject.

The axiological aspect involves not only evaluation, but most of all criteria that allow to rationally explain given phenomena, processes and facts and to classify them. Given the common European sources of science, no axiological differences are noticed in Polish and Ukrainian science.

The systemic aspect indicates that a given field of science is part of the knowledge system. The world has always been a system, and therefore all fields of knowledge should be viewed holistically<sup>12</sup>.

Science also has a psychological aspect because it is the product of a special action of the cognizer. Without the subject of cognition, there is no science, despite the fact that its object of study can objectively exist.

The sociological aspect of science indicates its social importance. Science is a social phenomenon. It is created primarily by a social group of people who

<sup>10</sup> J. Ratajewski, *op. cit.*, p. 21

<sup>11</sup> В.С. Марцин, Н.Г. Міценко, О.А. Даниленко та ін, *op. cit.*, с. 5.

<sup>12</sup> L. Bertalanffy, *General Systems Theory*, PWN, Warsaw 1984, p. 33.

are methodologically and substantively prepared to practice science. The essence of the practiced science manifests itself in scientific cognition, because there is no other cognition than scientific<sup>13</sup>, which provides objective knowledge about a given subject of cognition.

The organizational aspect of science results from the degree of its formalization in scientific governmental and non-governmental institutions. Science, in this sense, is carried out by research and development institutions, scientific societies, etc. Similar organizational features of science occur in the compared countries.

The legal aspect of science means that science is subject to certain legal restrictions of a different nature in different countries. This means that in the surveyed countries there are procedures for acquiring and awarding professional titles as well as degrees and academic titles according to different procedures<sup>14</sup>, but as a result of signed agreements it is possible to recognize diplomas, which indicates that despite procedural and legal differences, the value of acquired competences is recognized. In the legal aspect, differences in the compared countries are noticeable, because Poland, through its membership in the European Union, has made changes to adapt the science and education system to the common

European framework. In Ukraine, however, this process has not started yet.

The ideological aspect indicates that science, despite maintaining its methodological and substantive independence by cultivating it in the human social environment, is not able to completely become independent from non-scientific influences. It should be emphasized that regardless of whether the ideological influences are positive or negative, the practice of science should be characterized by cognitive objectivity, and not by the requirements of an ideological institution or the “trend”. The institution or own ideological beliefs cannot determine the result of the research, or the ideology cannot interfere with the obtained results.

The political aspect indicates numerous connections between science and the world of politics, despite the fact that science assumes independence. Science is practiced in conjunction with government institutions, political and economic organizations, which mainly determine its financing. Hence, the influence of politics is reflected not only in the state budget’s expenditure on research and development of science, but also in the needs of the financing entity.

The economic aspect shows that applied science finds many patrons in the hope that the results of the research will bring utilitarian solutions. There are much fewer supporters of theoretical sciences because they have purely different financial side. Hence, the interest in the science by its patrons is not always related to the development of science, but mainly to benefits. Such an attitude is not reprehensible, because the goal of sci-

<sup>13</sup> K. Szaniawski, *On Reasoning, Science and Value*, Polish Scientific Publishers PWN, Warsaw 1994, p. 7

<sup>14</sup> Foreign higher education systems. Ukraine. A practical guide to recognition of education, Information material prepared by the recognition of education department – ENIC-NARIC Poland, Warsaw, 2020; Закон України, Про повну загальну середню освіту (Відомості Верховної Ради (ВВР), 2020, № 31); Act of July 20, 2018, Law on Higher Education and Science, Journal Of Laws 2021, item 478, 619, 1630.



ence formulated by F. Bacon are the truth and inventions that should improve the quality of social life. However, the prospect of benefits should not obscure the idea of scientific cognition.

It should be emphasized that the general assumptions of science are similarly perceived in both analyzed countries. The general classification of science and research into basic<sup>15</sup> and applied<sup>16</sup> results from the usefulness of their research results for the development of theoretical knowledge and science, and the possibility of applying research results to improve the quality of social life in the research area. On the other hand, there are differences in the structure and formal classification of science, which was defined in the national legal acts of the compared countries. The conclusions from the comparison of the structure and classification of science indicate significant differences that result from different legal systems as well as the culture and evolution of science systems. Security problems are taken into account in the studied systems, however, their perception differs in the surveyed countries.

The assumption that security is an autotelic value<sup>17</sup> indicates that regardless of the civilization development of nations, it should be perceived in the same way in all parts of the world. However, in this assumption, only its first part is true, because civilization and cultural determinants make each nation perceive

security separately from the scientific, social, practical and civilization point of view. From the scientific point of view, few countries specify the scientific discipline of security in their scientific system, however many of them from the scientific point of view perceive security in terms of security studies. Even if there is security in a country's science systems, its cognitive scope is perceived differently. Hence, it was considered justified to compare the general assumptions of science and its structure, and above all, the scientific situation of security in terms of Poland and Ukraine.

## Security sciences in polish terms

From the formal point of view, security studies in Poland were arbitrarily appointed by a resolution of the Central Commission for Degrees and Titles in 2011<sup>18</sup> and confirmed in the ordinances of the Minister of Science and Higher Education of 2011 and 2018<sup>19</sup>. However, the genesis of security sciences should not be sought in legal acts, but in the need of a security entity to persist, survive and develop in various natural, social, economic and political conditions. Everyone in the world dealt with security as the need of the subject of security, regardless of the

<sup>15</sup> В.Г. Андрійчук, Сутнісний аспект методології наукових досліджень, Економіка АПК 2016, No 7. с. 79.

<sup>16</sup> О.І. Гуроров, Методологія та організація наукових досліджень. Підручник, ХНАУ, 2017, с. 272.

<sup>17</sup> A. Czupryński, Aksjologiczne aspekty bezpieczeństwa, Europejski Przegląd Prawa i Stosunków Międzynarodowych nr 4(35), Warszawa 2015, pp. 71-85

<sup>18</sup> Resolution of the Central Commission for Degrees and Titles of January 28, 2011 amending the resolution on the definition of fields of science and fields of art as well as scientific and artistic disciplines, M.P. 2011 No. 14 item 149 (repealed).

<sup>19</sup> Regulation of the Minister of Science and Higher Education of 8 August 2011 on the areas of knowledge, fields of science and art as well as scientific and artistic disciplines, Journal of Laws No. 2011 No 179, item. 1065 (deleted) Regulation of the Minister of Science and Higher Education of 20 September 2018 on the fields of science and scientific disciplines, and artistic disciplines, Journal of Laws No. 2018 item 1818.

level of civilization development and the scope of its perception and definition from the scientific point of view<sup>20</sup>.

From the cognitive point of view, the genesis of security sciences in Poland should be sought in: theory and practice of the art of war, former military sciences, former defense sciences, politics and administration sciences, management and quality sciences, legal sciences, economics and finances, philosophy, cultural and religious sciences, sociological sciences, social communication and media sciences, polemology and irenology<sup>21</sup>. The specific cognitive areas, in the scope defined for them, include aspects of the security of the human individual, social groups, nations, man-made organizations to improve the quality of social and economic life and the state as a legal entity in the international arena. The foundations of this cognitive trend indicate the need to perceive security in connection with many sectors of knowledge, and it is not reasonable to perceive security from the cognitive perspective of one knowledge sector, or at least those sectors of knowledge with which the subject of research interacts.

The sciences about security in Poland are in line with the assumptions of securitization as well as human security. The subject of knowledge of security sciences is perceived in a socio-psychological and humanistic perspective and is situated on the border with the sectoral knowledge of many scientific disciplines related to its

genesis and evolution. Thus, the sciences of security include assumptions concerning the protection of human rights and dignity as well as decent conditions for existence and development, and the security of political beings and organizations that man creates to guarantee his own persistence, survival and development.

The basis of the created security sciences in Poland were the military sciences mentioned in the decree on the establishment of the General Staff Academy in 1947<sup>22</sup>, and then in the decree of 1952<sup>23</sup> as the right of military universities to award academic degrees, however the field and scientific discipline were only specified in the order of the Minister of Higher Education in 1965<sup>24</sup> and this state lasted until 2011, when military science was removed from the list of scientific fields and disciplines. The then created defense and security sciences did not replace the former military sciences but divided the cognitive area of former military sciences and extended it with selected elements of human security in various social conditions. Similarly, in 2018, defense sciences were removed from the list and their cognitive scope was taken over by security sciences. Thus, in a short period of time, the security sciences evolved from a formal and cognitive point of view and expanded their scope of interest to former defense sciences.

<sup>20</sup> A. Czupryński, J. Falecki, R. Kochańczyk, *Policja w systemie bezpieczeństwa narodowego*, Academy Scientific Publisher WSB, Dabrowa Gornicza 2021, pp. 17-35.

<sup>21</sup> A. Czupryński, *The essence of security sciences*, *Scientific Journal SGSP* 2020, No 73/1/2020, pp. 103-123.

<sup>22</sup> Decree of October 22, 1947, establishing the General Staff Academy, *Journal Of Laws of 1947 No. 65*, item 379 (deleted).

<sup>23</sup> Decree of December 10, 1952, on military academies, *Journal Of Laws 1952 No. 49*, item 324, art. 35 (deleted).

<sup>24</sup> Ordinance of the Minister of Higher Education of July 15, 1965, on the specification of academic degrees and titles depending on the field of science or scientific discipline to which these degrees and titles apply, *M. P. 1965 No. 38*, item 217 (deleted).

It should be emphasized that the subject of research is not present in the security sciences in a natural reality. Security as a subject of research is perceived as a metaphor<sup>25</sup> as a semantic representation of social phenomena and processes that do not have physical attributes, except for symbolic ones, which cannot be fully parameterized according to the adopted system of measures, with the exception of some of their elements. If we assume that the subject of security research is a material part of reality or its conceptual metaphors perceived by the senses and mind of the researcher located in a specific cognitive area, we can include:

- a defined and precise social reality of security;
- social communities and collections that interact with security;
- social institutions and relations between them in the field of shaping security;
- social processes and phenomena affecting security;
- systems, subsystems and their elements as well as interactions between them and the intra-system environment and the security system environment.

It is considered as justified that the subject of research should be precisely defined and have certain cognitive boundaries in the adopted research process. However, from the scientific discipline point of view, the area, object and subject

of research<sup>26</sup> do not have and probably will not have a precisely defined cognitive scope, but only a general one, because explaining one of many problems causes, just like in entropy that directly proportional to the discovered areas, the areas of exploration in vertical, horizontal and layered system are increasing<sup>27</sup>. We can make such an assumption when interpreting the scope of cognition in security sciences, although other justifications are also found in the literature on the subject<sup>28</sup>.

Security sciences, due to the multitude of their sources, use the methodology of other disciplines and build their own methodology of cognition on their basis. Hence, in the constitution of each discipline, the formal subject of research in the ontological, methodological and axiological aspect is very important, which by some scientists is referred to as administrative formalism, however, it is necessary to avoid cognitive chaos based on the subjective adoption of cognitive assumptions.

In Polish terms, the classification of science defines the boundaries of its fields and disciplines, which should result from the tasks, features and functions of science as well as its evolutionary and revolutionary development. If a given piece of knowledge fulfills the basic characteristics and functions of science, then we can conclude that it is a piece of

<sup>25</sup> See.: G. Lakoff, M. Johnson, *Metaphors we live by*, Publ. Aletheia, Warsaw 2010; M. Fabiszak, *Kognitywna teoria metafory – nowe terminy, stare pojęcia?* [in:] H. Kardela, Z. Muszyński, M. Rajewski (scientific editor), *Kognitywistyka. Problemy i perspektywy*, Publ. University of Marii Curie-Skłodowska, Lublin 2005, pp. 137-147.

<sup>26</sup> A. Czupryński, *Obszar oraz obiekt i przedmiot badań w naukach o bezpieczeństwie* [in:] A. Czupryński, B. Wiśniewski, J. Zboina (scientific editor), *Nauki o bezpieczeństwie. Wybrane problemy badań*, CNBOP-PIB, Józefów 2017, pp. 29-33.

<sup>27</sup> A. Czupryński, *Istota pojęcia nauka* [in:] A. Czupryński, B. Wiśniewski, J. Zboina (scientific editor), *Bezpieczeństwo. Teoria – Badania – Praktyka*, Publ. CNBOP-PIB, Jozefow 2015, pp. 42-46.

<sup>28</sup> T. Kośmider, W. Kitler (scientific editor), *Granice tożsamości nauk o bezpieczeństwie. Perspektywa materialna i formalna*, Difin, Warsaw 2017.

knowledge that meets the requirements to be a field or a discipline. The criterion for distinguishing a given discipline may be the cognizing subject, the object of cognition, research methods, the conceptual apparatus, the social need to develop theory and practice<sup>29</sup>.

From the social point of view of each scientific discipline, its usefulness is very important, manifested in the knowledge about social reality and the possibility of its application, and from the scientific point of view, the possibility of crossing the limits of cognition and development as well as accumulating knowledge about the studied subject.

According to T. Kotarbiński, the division of sciences can be classified according to the subject of research and its properties, the methods applied, the logical nature and the required cognitive efficiency of the researcher<sup>30</sup>. However, according to J. Ratajewski, the classification of science into scientific fields, disciplines and specialties should result from the features and functions of science.

Common features of science include:

- the ability to generalize the results of scientific activity, which means the ability to perceive and introduce scientific problems and build scientific theories;
- objectivity of expressed judgments and statements based on scientific cognition;
- accuracy and unambiguity in the formulation of the presented judgments and statements;

- compliance of all cognitive activities in science with those recognized by the scientific community;
- highly informative language used in science, which enables the verification of submitted judgments and statements;
- legitimacy and logical connection as well as the certainty of judgments and statements conveyed in scientific communication;
- constant criticism of all announced judgments (statements) and an attitude of constant checking of already existing and conveyed judgments (statements);
- the creative nature of the results of activities enabling the enrichment of the hitherto scientific achievements<sup>31</sup>.

Each sector of knowledge, to be a science, should fulfill its functions: descriptive, ex-planning, diagnostic, prognostic, methodological and systematizing<sup>32</sup>.

According to S. Sulowski, the criteria that define a discipline include, among others: the language of cognition, the method of cognition, researchers with specific skills, institutions conducting specific research, the history of the creation and evolution of a specific discipline<sup>33</sup>.

Generally, we can assume that a specific scientific discipline consists of academic staff; generated knowledge; area, object and subject of research; methods of scientific knowledge; the language of concepts and the social need for research,

<sup>29</sup> A. Czupryński, *op. cit.*, pp. 108-112.

<sup>30</sup> T. Kotarbiński, *Elementy teorii poznania, logiki formalnej i metodologii nauk*, Publ. De Agostini, Warsaw 2003, pp. 573-580.

<sup>31</sup> J. Ratajewski, *op. cit.*, pp. 13-20;

<sup>32</sup> *Ibidem*, p. 21.

<sup>33</sup> S. Sulowski, *O rozwoju badań i postulacie interdyscyplinarności w naukach o bezpieczeństwie* [in:] S. Sulowski (scientific editor), *Tożsamość nauk o bezpieczeństwie*, Publ. Adam Marszałek, Torun 2015, p. 33-34.

but above all, it is necessary to share the same paradigms in a given discipline by scholars<sup>34</sup>.

The classification of science in Poland distinguishes scientific fields and disciplines (Table 1), which are formally defined in legal acts issued by the com-

**Table 1.** The structure of science in Poland

No.	Fields of science and art	Number of scientific disciplines in a specific field and their names
1	The field of human sciences	(7) Archeology; philosophy; history; linguistics; literary studies; sciences about culture and religion; art sciences
2	The field of engineering and technical sciences	(9) Architecture and urban planning; automatics, electronics and electrical engineering; technical informatics and telecommunications; biomedical engineering; chemical engineering; civil engineering and transportation; material engineering; mechanical engineering; environmental, mining and energy engineering
3	The field of medical science and health science	(4) Pharmaceutical sciences; medical sciences; physical culture sciences; health sciences
4	The field of agricultural sciences	(5) Forest science; agriculture and horticulture; food and nutrition technology; veterinary; zootechnics and fishing
5	The field of social sciences	(11) Economics and Finance; socio-economic geography and spatial management; security science; social communication and media studies; political science and administration; management and quality sciences; legal sciences; sociological sciences; education; the canonic law; psychology
6	The field of exact and natural sciences	(7) Astronomy; informatics; maths; biological sciences; chemical science; physical sciences; earth and environment sciences
7	The field of theological sciences	(1) Theological sciences
8	The field of art	(3) Film and theatre arts; musical arts; fine arts and conservation of works of art
Together: 8 fields of science, 47 scientific disciplines, including the discipline of security sciences		

Source, prepared on the basis of: Regulation of the Minister of Science and Higher Education of 20 September 2018 on the fields of science and scientific disciplines and artistic disciplines, Journal of Laws of 2018, item 1818.

<sup>34</sup> A. Czupryński, *Kryteria dyscypliny naukowej* [in:] A. Czupryński, B. Wiśniewski, J. Zboina (scientific editor), op. cit., pp. 9-16.

petent minister for science, and its further specification to the level of scientific specialties falls within the competence of scientific discipline councils at universities or research institutes.

Security sciences are in the field of social sciences and have their theoretical and utilitarian aspects as they are an applied discipline.

Security can be characterized either in a negative or positive way.

Traditionally, negative security is viewed in the context of threats and is perceived with the use of force and coercion<sup>35</sup>. In negative terms, security is perceived and defined as a reaction to threats for the security entity and often referred to as the lack of threats, which is not very precise because threats always occur, but not always their level directly limits the possibility of persistence, survival and development of the security entity.

Using a positive approach, we can define security as the objective and subjective certainty of existence, survival, possession, functioning and development freedoms (possibilities) of a given entity<sup>36</sup>. This perception of security seems complete and generally embracing its essence, regardless of the threats. In the subject literature security is perceived as:

- guarantee of the inviolable survival of the security entity and its free development<sup>37</sup>;

- state of confidence, calmness, lack of threat and protection against it<sup>38</sup>;
- territorial integrity, sovereignty, free choice of the path of political development, achievement of prosperity and social development<sup>39</sup>;
- the state obtained as a result of properly organized defense and protection against all military and non-military threats with the use of forces and resources from various areas of state activity<sup>40</sup>, and many others.

Multiple interpretations of security indicate that its general perception is most justified in terms of processes, because it recognizes its essence as duration, survival and the ability of the security entity to develop.

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<sup>35</sup> R. Zięba, *International Security after the Cold War*, Academic Publishers and Professional, Warsaw 2008, p. 16.

<sup>36</sup> R. Zięba, *Pojęcie i istota bezpieczeństwa państwa w stosunkach międzynarodowych*, *International Matters* no 10, Warsaw 1989, pp. 49-50.

<sup>37</sup> J. Stańczyk (ed.), *Współczesne pojmowanie bezpieczeństwa*, ISP PAN, Warsaw, 1996, pp. 17-20.

<sup>38</sup> R. Zięba, *Institutionalisation of European Security*, publ. Scholar, Warsaw 2007, p. 27

<sup>39</sup> J. Czaputowicz, *Kryteria bezpieczeństwa międzynarodowego – aspekty teoretyczne* [in:] S. Dębski, B. Górska-Winter (ed.), *Kryteria bezpieczeństwa międzynarodowego państwa*, PISM, Warsaw 2003, p. 13.

<sup>40</sup> T. Szubrycht, *Współczesne aspekty bezpieczeństwa państwa*, ZN AMW no 4, Gdynia 2006, p. 89.

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