

SECURITY UNDER THE UMBRELLA OF TRANS-DISCIPLINARITY

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Abstract: *We have written down our thoughts about the concept of security science under the umbrella of transdisciplinarity. The paper contains a trans-disciplinary and inter-disciplinary perspective upon security and security concept in order to introduce security science among the order sciences. Thus, security must be analyzed as a whole, as a several independent parts working together starting from the premises that each sequence of security is unique and irepeatable.*

Keywords: *security, security science, transdisciplinarity, interdisciplinarity, security concept.*

The concept of security science has emerged quite recently generating extensive debates upon its issues. Just as the case is with the concepts of military science or military sciences. However, the latter have the huge experience of debating the principles and laws of war. The remarkable evolution of knowledge and, especially of technologies, has created new systems of hazards and threats and, therefore, new vulnerabilities related to them, which has led in turn to the necessity of finding new approaches, from an inter-disciplinary perspective, of the

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security concept. Hence the necessity of introducing security science among the other sciences.

In order to develop the knowledge defining and justifying security science, we need a vast trans-disciplinary perspective upon security reached through the common effort of scientists belonging to different scientific domains belonging to or complementary to security.

Security science, whose object of study is still being defined, has reached the development stage in which it has started to move beyond the study of qualities and even quantities and to become a science of connections, structures and synergies within the process of operationalizing the new modalities of safe functioning of systems and processes, of identifying, analyzing and knowing challenges, risks and threats to the security of all the systems and processes and their vulnerabilities to them. All these new needs, intrinsic to the new society and especially to the future knowledge-based society, are generated by a sustained and, at the same time, complicated movement of all systems and processes towards complexity. As a paradox, as the process of acquiring knowledge and especially the process of acquiring knowledge about knowledge have become more intense, the world has not become simpler, but rather more complicated. The more we acquiring Knowledge about knowledge the higher complex the world becomes. Security and insecurity are no longer clearly separated, through a clear-cut border, but, on the contrary, they become intermingled in complex and unpredictable evolutions. And even though the degree of predictability and, therefore, of prognosis of system and process evolution, including their state of security /insecurity has risen considerably, the unpredictability factor, far from staying low, in certain situations – especially within dynamic and complex systems such as the social and societal ones – actually has an exponential growth.

That is the reason why, in approaching the issues pertaining to security /insecurity science, there is a need for resorting to the new technologies, the new methods and manners of analysis from this range of study of unpredictability, such as, for instance, the theory of chaos, the theory of complexity and so on.

In fact, despite its being only in the generating phase, this science has already started to use certain elements of the theory of chaos and of the science of complexity, exactly in order to start up and support new

directions of research, identification, discovery and use of methods able to anticipate events related to security or other connected domains (social, political, economic, cognitive and military), as in all of these there is a need for security, as well as in the physiognomy of the international security environment of tomorrow.

Nevertheless, in order to do that, it must be elaborated as a unitary theory by scientists from every country and from around the world. That is the reason why, in order to communicate efficiently, therefore understand each other, there is a need for a scientific language specific to the domains of security. Only such a language could solve the issue of complex inter-communication in the domain of security science. If these scientists do not know and „speak” the same language, they cannot understand one another, as they do not belong to the same communicative environment. Obviously, such a language could never be a natural language because the grammars of such languages are extremely different from one another, having extremely diverse rules, but rather one operating with the essence, such as, for instance, the language code of Mathematics. Mathematics has a universal way of communication, a language that has its grounds in Logic. Therefore, there is a possibility to elaborate or use an inter-linguistic language code that may have certain structure rules and that may ensure the standardization and inter-operationalization of security domains and policies, strategies, and actions in all these extremely complicated and diverse universes. *E pluribus unum* is also valid here, in the theory of science and security domains.

Modern and contemporary security has therefore to be based not only on natural languages, which are essentially descriptive, but first and foremost on mathematical linguistics, that is, the analysis of formal systems. Logic can offer real scientific grounds for the intelligence analysis, for cognitive analysis and security analysis and, in addition, it can be an instrument that intelligence analysts and C4 security analysts should use in order to develop security studies. By using mathematical programming and, especially, the pseudo-Boolean one, complex security issues may be solved that do not have numbers as unknown components, but political-military issues or security decisions which go beyond yes-no dichotomy or that of strategic games with zero sum. Still, these problems are different from those of the decision theory domain. Nowadays, cybernetics has already become,

in an initial format, a domain of interferences between security and modern Mathematics (the new Mathematics).

Mathematics, however, represents a science which has certain inflexible/rigid concepts, being too strictly delimited, in comparison to security science, which is a fluid science (the very reason for the denied existence of such a science) and which has vaguely defined concepts, including elements/things that are not clearly delimited, in comparison with classical mathematical definitions which include strictly delimited issues. And, yet, one cannot do anything without Mathematics. There is only that much science as there is Mathematics, Poincaré used to say and, since those days, nothing has simplified, but it has become even more complicated, Maths being called upon nowadays to detangle the threads of chaos and cognition and model the infinity between Yes and No, between 0 and 1.

A specific aspect of security science is represented by understanding the possibilities of determining various nuances between yes and no, among which the possibility to admit that it is possible, that is, going beyond the self sufficiency and domination of precision.

In this respect, security science may make use of a new mathematical methodology of the sort discovered by Academy member Grigore Moisil, who promoted Maths methodology in the domain of humanistic /social sciences, as he was a great mathematician, an exceptional logician and a great humanist. He surpassed the border of classical Mathematics and entered other domains of applied Mathematics (economy, biology etc.), and even the humanistic ones. One such domain is that of sociology, which has concepts and theories closely connected to that of security, be it national, global or international. Security science is more than a social science. It does not address only the security state of the society, but also the security of all the systems and processes, including the natural ones, wherefrom it actually gets the models of interconnection.

Still, the events in the security domain (national or international) take place and happen as a succession in time and cannot be comprised as an exact mathematical computing, thus staying unpredictable. Unpredictability is also shaped by Maths nowadays, though. The chaos theory is such an example.

Fractal analysis, discovered by mathematician Bennoit Mandelbrot, may be successfully used in the analyses and security studies just as well as

in management studies. Actually, fractals refer not only to the magnificent evolution of certain combinations that generate real auras in art, but also to a complicated and magnificent architecture of systems and processes, of thinking and cognition.

At the same time, the general theory of systems may continue to be used with in security studies, given the systemic character of universal thinking. Security systems are diverse, but their character is universal. The security systems – that nowadays have become too rigid, sometimes much too rigid even – will have to be taken out from mechanics determinism, as security has become similar to a fluid pervading everywhere, like a synapse ensuring the vitality and viability of the nervous flux, like an immune system and, at the same time, like a beautiful mist, like a complex series of frequencies that charges at every nanosecond the resistance structure of the system and the process and the vehicle carrying them rapidly and efficiently in the cognitive universe.

The universal character of the security science has been time and time again proven by the fact that it has no frontiers and it helps communities, nations and society as a whole to survive and develop. There is a security of the micro-cell, of the food chain, as well as a security of the notion, of the concept, of the thought and even of the feeling. All these are part of the security of the person, of the community, of the nation, of human civilization, but also of jungle civilization, in all its dimensions, from „the Boundless” of Anaximander to Leibniz’s monad, from Wisdom of the Earth whose idea originated in the ignorance of the old country girl and eventually became the genius work embodied in the message of Brâncuși, the great sculptor, from concreteness to infinity...

In order to consolidate global security, there is a need for a constructive dialogue between security science and religion as well as between security science and spirituality. Definitely, security is a universal issue – the Universe itself needs security, otherwise it would collapse – and it is both intrinsic to systems and processes and spiritual. Spirituality itself needs security, just as security needs spirituality. Moreover, security itself needs security.

The scientist, including the one dealing with the security science, when having theoretical preoccupations in the sphere of spirituality or religion, ends up in the domain of philosophy and, therefore, in that of trans-

disciplinarity. All the theory listed above results in the conclusion that due to radical transformations produced in our world and the international security environment, it is highly necessary to adopt a trans-disciplinary approach of security science.

Nowadays, the security science is going through a complex process of definition and development, having as own domain the laws, rules, principles, and norms of security of systems and processes (including those of organizations, nations, and the whole human society) so as to know and shape processes, and even ensure the sheer management of these processes.

„The current stage of development of society, the significant conveyance of society towards an extreme and complex level, characterized by multiple inter-determining factors and conditionings which are hard to know and manage, imposes a clear focusing of societal and organizational management on the security component. We may say that under the current circumstances, the security of systems and processes becomes the main priority or, at least, acquires a degree of priority unknown so far.”¹

As a consequence, shaping security is one of the actions really vital to the functioning of systems and establishing of processes, as well as to the „stability, safety and prosperity of the country (...).

(...) The theory of security should not determine factors and principles that are valid for every situation and age as security is a significant component of all systems and processes and is determined by variable factors, including the spiritual ones. Thus, security should not be regarded and analyzed in an unilateral manner, but rather in an inter- and trans-disciplinary one, as it comprises a variable sum of situations, events and activities (opposed or related), many of which unpredictable. So, security has to be analyzed as a whole, as a several independent parts working together, and as a complex and fluid phenomenon starting from the premises that each sequence of security is unique and unrepeatable, which leads to the conclusion that it is almost impossible to elaborate a general theory on security.”² Probably, this is the very cause that security theories and concepts are so different from one country to another.

¹ Eugen Siteanu, *O perspectivă transdisciplinară asupra securității*, Revista Univers Strategic, nr. 3/2016.

² Ibidem.

At the beginning of the 21st century there have been a series of significant crises in the world. „*The financial crisis that burst at the end of 2008 in the United States had a tremendous impact on the international security. (...)*

The UK state remained rather reserved faced with the possibility for its finances to be supervised by Brussels accountants.”³

As a proof that Great Britain does not have the same interests as the European Union, UK chose to exit the Union, which determined a change in the European security environment.

„*The economic and financial crisis which broke out in 2007 and affected the states in the whole world laid a stress on their vulnerabilities and strengths and launched an ample debate on the future of European economy especially due to its impact.*”⁴

This global/gross/world „crisis generated a new type of nationalism. Citizens of US or of European states, under the pressure of austerity measures or under the conditions of the decrease of their standards of living, organized protest movements often directed against immigrants considered as putting a greater pressure on social security systems (France, US). In certain states, especially in the European ones, this phenomenon favored the ascension to power of right wing parties with a clear nationalist, anti-migration and ethnically and religiously discriminating rhetoric.”⁵

In order to draw a conclusion, we think the security must not be regarded and analyzed in an unilateral manner, but in an inter - and trans - disciplinary one because it comprises a variable sum of situations, events and activities, many of which unpredictable. Thus, security must be analyzed as a whole, as a some dependent and independent elements/parts working together, and as a complex phenomenon, starting from the premises that each sequence of security is unrepeatable.

³ Cristian Băhnăreanu, Mihai-Ștefan Dinu, *Comon and National Interests Within EU Framework*, Centre for Defence and Security Strategic Studies, p. 5.

⁴ Cristina Bogzeanu, *National interests and European interests. European Union in the context of new security challenges*, in Cristian Băhnăreanu, Mihai-Ștefan Dinu, *Common and National Interests Within EU Framework*, Centre for Defence and Security Strategic Studies, p. 35.

⁵ Ibidem.



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