CRITERIA AND FEATURES OF SCIENTIFIC CONTENT IN METHODS OF SCIENTIFIC METHODS' SYSTEM STRUCTURING (ON EXAMPLE OF LOGISTICS THEORY CONSRUCTION)

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The article dwells the criteria and features needed for constructing the theory of logistics as a system of a scientific knowledge.
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Differentiating the two definitions –the «method» and the «methodology», there is a need to underline, that their parallel and indeterminate from context meaning can cause a well-known conceptual misuse, which in its turn leads to a wrong theoretical conclusions and premises. The root of such misunderstanding can be found in a history of philosophy, where these two meanings used as identical. At the present time, when we see the doctrine of method is being differentiated itself – in separate, particular methods and approaches and methodological principles, - and they also must be analysed, we face the doctrine of a method reappraised. In this particular case we identify the *methodology* as a system of bases and methods of scientific cognition, and every single *methodological tool* (be it a method, an approach, a principle, any form and type of an analysis) – as a relatively independent part of a methodology – that is to say, as a totality of modern scientific methodological tools and techniques.

Evidently, both the entire system of methods and the content of knowledge along with functions, principles and tools, are the elements of a system of that or another conception or a theory, which itself is a synthetic knowledge with interdisciplinary nature. This discourse can be entirely applied to a logistics as a science [6, p. 16, 49-52; 11].

As every system of a scientific knowledge, the one of the logistics must meet the following criteria of methods' evaluation – the security factor; being of a scientific nature and impartial; simplicity, reliability and repeatability; the efficiency; the economisation and rationality; the exploitation. Applying these features to the logistics, they can be supplemented with the *logistic axiomatic verbal formula («axiomatic of transport logistic»)*, suggested by R.G. Leontyev [6, p.17-22, 49-54].

When we consider the criteria system for methods' evaluating, the logistics system of methods must answer the requirements fully and simultaneously. This condition is crucial, as the methods' evaluation criteria are the logical continuation and practical implementation of scientific nature feature of any theoretical knowledge. The criteria are:

1) *the validity of knowledge*, i.e. its correspondence to the cognized object – each scientific knowledge must be the one of the subject, as there cannot be a studying over nothing. The characteristic feature of the scientific knowledge is that not merely information about the validity of any phenomenon is given, but also there are bases exemplified (be it the result of an experiment, proving or logical consequence), which proves the truth of the content of the knowledge. That is why the feature of the scientific knowledge, that characterises its verity, must indicate the principle of its own reasonableness. Contrary, there is no need to give proof to the verity of other modifications of knowledge. Thus, the ground of every scientific conception and, consequently, of every science at all is the *principle (the law) of sufficient reason*: every true idea must be backed by the other ones, which verity has already been proved.

2) *the systemacy of knowledge*, that characterises various forms of knowledge and which is connected to knowledge's organisation - its unique trait. The systematic organisation forms the foundation of knowledge's content validity, as it implies a rigid inductive-deductive structure. The latter is based on the grounds of available experimental data, logical arguments, opinions, principles and conclusions.

3) *the intersubjectivity of knowledge*, i.e. general validity, its liability, generality of the verity of the scientific knowledge (in contrast with the varieties of the true knowledge). In this sense, the truth of a scientific knowledge is universal, impersonal and belongs to forms of knowledge that are based on acknowledgement of truth from objectively solid reasons. The criterion of the intersubjectivity is realised in the requirement of objectivity and repeatability of the scientific knowledge, i.e. the result carried out under the same circumstances from different researchers must be invariable. Form the other side, if the result is invariable for every researcher, it cannot be called the true scientific knowledge, since it doesn't have the features of objectivity and repeatability.

4) *the completeness of the theory* relative to a certain object domain. This criterion suggests that the theory would envelope all phenomena and processes from this certain object region. At the same time the systematic (the typological) approach is widely used. It helps to take a wider look on main aspects of the object of research (be it an effect of a process), studying it under the particular grounds of classification. The systematic (or typological approach) can also help to analyse all further levels of an object, fragmentised on classes, subgroups, levels, etc.

5) *the relative consistency of knowledge* (or of a theory) that implies that all ideas, principles, axioms and other structural elements of a certain theory or conception must be in accordance with each other. Although, after the works of Kurt Gödel were published, it became clear that the composite theoretical system would be incomplete from one hand (thus the statement of inability to entirely formalise the scientific knowledge comes). From the other hand, its consistency cannot be wholly proved within the scope of the given system - in other words, it can be nor proved, nor refuted [9, p. 510].

6) the application of following forms of *organisation of a scientific knowledge* for its display: a fact (a result or a phenomenon), a statement, a hypothesis (a «hypothetical knowledge»), a concept (its content, volume, the rules of dividing a concept, its logical forms, etc.), categories, an issue (as a «knowledge about ignorance»), principles, ideas, laws and paradigms (as an experience, as a model and as a conception and as a model of a problem definition), a theory and a meta-theory [1, p. 122-123, 142-143, 166-201, 230-236; 2, p. 417-419; 3-5; 8, p. 440-458, 489-491; 10, p. 270-283; 9].

In addition to the criteria of a scientific nature of a scientific knowledge there can be singled out common for every sector of a scientific knowledge (as well as for logistics) *features of a scientific character* of a conception. These are: accurately detached (but not closed) range of objects of knowledge and their forms; a presence of the object of knowledge as a totality of their relations, interaction and change; the content and problems of the topic; the criteria of the knowledge's validity; methods, tools and means of a research, aimed to solve the question using the established criteria and oriented on the object and topic of knowledge; initial empirical and theoretical basis; special theoretical skills as a deductive system, conceptions, principles, requirements, conditions, etc. (the ones of non-empirical nature); a professional conceptualization, i.e. the presence of special categories' meanings, terms and senses for solving the problems in a system of a professional research; correlation and consistency with other branches and spheres of scientific theoretical and a posteriori knowledge; the ability of using methods, tools and approaches for acquisition both theoretical and

empirical knowledge; the falsifiability (or testability) of a theory.

Certainly, the factors listed above can be distinguished by their gnosiological and methodological levels, by a degree of using the general-scientific and special-scientific methods, by a degree of formalisation, the intensity of using the methods of logical cognition, etc. On the one part, these are so called «strong» sciences, which generate a peculiar «gnosiological ideal» – these are mathematics, physics, chemistry and some others – their theories are constructed on a rigid deductive basis. On the other part, these are «weak» (in a gnosiological respect) sciences, (in particular humanities, social sciences as well as the economics) because of the extreme complexity of their object, imprecise predictability and high degree of stochasticity in their processes, high degree of dependence from a «subjective factor», variety of display and not always evident link between political, economic, social, demographic and other pursuits of individuals, large communities, governments and institutional structures of the latter's, etc.

The list of given above features, that are the criteria of a scientific nature of any conception can be called a «weak (narrow)» and a «strong (broad)» version of a science. Although we consider this statement to mean, that in this case only the current condition is displayed, in which a range of branches doesn't meet the requirements of «weak» or «broad» versions (i.e. of the «gnosiological ideal» of a science, that was formed under the specific economic and historical circumstances, and that determines the level of the theoretical progress of a science) [7, pg. 29].

We would also like to notice the fact, that the consideration of the disciplines that compose the group of the «weak» version of a science from the historical perspective, the tendencies of their progress and strengthen of the interdisciplinary scientific integration show the development (uneven, though) on the direction of its «gnosiological ideal». In this connection the most evident proof is the latest advance in the economics, sociology, history along with the applied areas of marketing, management, business administration, etc.

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