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Conceptual system of metacartography: the novelty of the Georgian scientific cartographic school in the theory of cartography

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Abstract:

To date, cartography as an academic science has been reached by eight conceptual systems. These systems are map study, metacartography, cartology, graphocommunicative concept, cartonomy, cartosemiotics, geoiconics, and geoinformation concept.

Among these concepts, the concept of metacartography has a Georgian origin. Its author is Georgian theorist-cartographer Alexander Aslanikashvili. The concept of metacartography appeared in the late 60s and early 70s of the last century. This happened at a time when in science in general, and geography and cartography in particular, interest in questions of methodology increased. The emergence of this concept is a direct result of cartography overcoming the "executive-technical background" to eliminate contradictions with the fundamental achievements of this science in the development of theoretical issues of cartography.

The author of the concept, A. Aslanikashvili, used the term "Metacartography" to designate the general theory of cartography, i.e. metatheory. According to the author, the metatheory should unite all the subsystems of this science into a single logical-methodological system and determine the place of cartography in the general classification system of sciences.

Metacartography is a concept that considers cartography as a natural science discipline, trying to define its basic notions (map, mapping, etc.). It is based on the following newly understood and defined issues: 1. The research subject of cartography – the order of relationship of objectively existing objects and phenomena of nature and society (specific space) and its change over time. Cartography reveals and "cartographically conveys" the structures and patterns of complex spatial systems of objects and phenomena that are in spatiotemporal relationships with each other, and explains these spatiotemporal relationships; 2. Method of cognition - modelling of a specific space of nature and social phenomena, which in itself presupposes specific cartographic forms of logical methods of cognition - comparison, analysis, synthesis, abstraction, generalization and modelling; 3. Object language of science (cartography) – a map language that materializes (transforms) logical ways of thinking involved in the modelling process into cartographic forms; 4. Connections with the theory of cognition (through the space-time category) and connections with special sciences (through language and method).

The basic notions and definitions listed above form the concept of metacartography as a unique conceptual system. The knowledge accumulated in cartography is consolidated by the subject language of this science (the language of maps) in the maps themselves since a specific space cannot be adequately reflected using another language. The subject of knowledge - "the material spatial relations of objects and phenomena of objective reality both to each other and to the spatial system of reference" is also reflected by a specific sign system - the map language. Therefore, the goal of the cognitive functioning of cartography is to create maps of more and more new, endless topics. Therefore, the map classification system is constantly open to receive maps with new content.

In the concept of metacartography, map language is defined as a specific sign system, a means of reflecting new knowledge on the map, and the main form of cartographic transmission of this knowledge. The map language contains the entire spectrum of semiotic relations – syntactic, semantic, sigmatic and pragmatic. The logical and historical necessity of the existence of the map language is determined by the relative compatibility of the means of space representation in this language with the specific space represented by these means (language).

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According to the concept of metacartography, a map is the result of a cognitive representation of a specific space of objects of reality. It is a subjective image (reflection) of the objective world, a "linguistic image of reality". Its creation is "an act of knowledge penetration and substantive design". A map is a special form of conveying relative truth and not a conventional image. It reflects a specific space of objects with a predetermined degree of adequacy. The map reflects two sides of reality in dialectical unity – concrete space and content, that is, the spatial and meaningful determination of the objects of reality. By the "spatial behavior of signs" the map reflects the information for which map language, map and cartographic science exist.

In the conceptual-terminological system of cartographic modelling, a map is defined as a spatial symbolic and Iconic model that functions at both empirical (in description and dimensional format) and logical (by scientific interpretation and thought experiment) levels of cognition. The property of giving us new knowledge is the main property of a map as a model from a cognitive point of view. There is an objective unity here, but it in no way implies the identification of the subject of cartography and the subject of cartographic modelling. The subject of mapping is never considered only a subject of cartographic research. The subject of cartographic modelling (cartographic research) is the specific space of the subject of cartography. Therefore, the map is a material (practical) expression of the connections of cartography with other sciences.

The concept of metacartography was developed in the monographic works of cartographers of the Georgian theoretician (J. Kekelia, Kartosemiotics. Issues of the theory of cartographic signs, Tbilisi, 1998; T. Gordeziani, Cartographic concepts (theoretical analysis), Tbilisi, 2012; Theoretical foundations of landscape cartography, Tbilisi, 2014).

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