

# Revisiting schools of cartographic thought: ideological connotations in the (Post-) Soviet school

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## Abstract:

The notion of the schools of cartographic thought was studied by Ignateva (2021). The thesis sees that the schools of cartographic thought, limited to the four language areas: Russian, German, French, and Anglo-American, flourished between the 1960s and the 1970s. Positivist sciences, such as cartography, are practices of the Western world's scientific tradition, and cartographic theory has been developing intensively in that particular period and region. The language constraints were essential in shaping the schools of thought, but the ideological connotations might also play a significant role. These connotations might stop the integration of knowledge in the second half of the 20<sup>th</sup> century and still echo, despite opportunities offered by organizations like the International Cartographic Association. In many domains, including cartography, Soviet science followed a different research stream. We can find the links to Lenin's reflection theory and Marxism-Leninism dialectics in the works of Soviet cartographers (Salishchev 1984, 1990; Berlyant 1986; Lyutyy 2002). Graham (1993) described how Marxist-Leninist philosophy – dialectical materialism – and power institutions shaped Soviet science. According to Graham, the critical difference between Soviet and Western science was dialectical materialism in the first declared non-reductionism. In the context of cartographic science in the Soviets, the non-reductionism principle saw cartography as geographic science and its objective was the same as geography's – study the Earth's surface. A map was a tool for geographic analysis, and the main research question was how to use a map effectively within geographic sciences. Therefore, Soviet scholars might have seen psychophysical methods to study map communication as reductionism. For example, Salishchev criticized and rejected the cartographic communication paradigm accepted in North America, e.g., the debates with Morrison (Salishchev 1984, 1985; Morrison 1984).

The Western (Morrison 1984) and even the Soviet scholars (Lyutyy 1986) criticized Salishchev's cartographic theory for its exclusive engagement with geography and borrowing the research object from geography. In the 1980-s, Lyutyy opposed Salishchev by developing his theory of map language (Lyutyy 1986, 2002). He followed the semiotic stream in cartography and aimed to integrate four theoretic concepts: cartographic communication, meta-cartography, cartographic semiotics and cognition. He regretted that the cartographic communication concept in Soviet cartographic science was rejected. Although he introduced his approach in 1981, he issued the monograph only by 1988 and defended the doctoral dissertation in 1990, two years after Salishchev's death. Thus, Salishchev took the authoritarian role in deciding what was appropriate in Soviet cartography based on compliance with dialectical materialism. This story raises the issue of the role of authority in Soviet science, particularly in cartography.

All schools of thought considered cognitive aspects of map use and cartographic semiotics. However, we found that cognition and map use have been addressed differently in (Post-) Soviet and European-American schools. Why does that happen? Let us compare the works of Berlyant (1986) and MacEachren (1995). We will see that the latter advances the communication approach through the progress in cognition studies and enriching it with semiotics theory and critical post-modernist theory. Salishchev's successor, Berlyant (1994), was indeed trying to incorporate communication and semiotic theory, but this attempt had a superficial character. In his book (1986), he mentioned the research on reading and understanding the maps, but he neither provides all the references nor explains the psychophysical mechanisms. He is formulating the theory of the map image (*kartograficheskii obraz*) – which roughly resembles the cartographic representation theory advanced later by MacEachren – but lacks objective evidence on how it works. Again, the reason here might be the ideological connotations in Soviet schools, which did not allow the utilization of psychophysical methods in the traditionally geographic science of cartography. Furthermore, there have been no discussions on critical cartography in the (Post-) Soviet school.

The aforementioned indicates that the Post-Soviet school of cartographic thought inherits the past ideological connotations, which explains its slow integration with contemporary research in the West. In the forthcoming paper, we

will address how Marxism-Leninism affected the (Post-) Soviet school of cartographic thought in detail. This research will be the first attempt to cover the chapter about ideology connotations in the history of (Post-) Soviet cartographic science.

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