

## Rewiews

**Juraj Schenk: Znaky, indikátory a indexy v sociologickom výskume  
(Signs, Indicators and Indexes in Sociological Research)**

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The level of each science and scientific discipline, sociology not excluding, can be distinguished, among other aspects, from methodological point of view. From the methodological perspective, it is necessary to draw attention to the achieved level and scope of methodological instrumentation, but also to the application of methodological standards in the research practice. The enforcement of such methodological standards in research practice is of fundamental importance for sociological research which, in recent decades, has been significantly shifted by the development of information technologies and methodological innovations. The shift is caused not only by introduction of these innovations and technologies, but also by paradigm shift in scientific research which is moving from classical science to non-classical science.

These problems are specifically manifested also in Slovak sociology where, for a long time, the domain of complex methodological backgrounds has not been sufficiently covered. Contemporary Slovak sociology therefore needs to fill this void with methodological writings that would on one side reflect current shifts in scientific research, sociological research in particular, and at the same time they would offer profound insight into sociological methodology, thus enabling creation of pressure to uphold high methodological standards of the sociological research. This would also offer support to sociological research practice and could indirectly improve the quality of the research. Sociological research is a complex cognitive process which implies number of non-trivial problems, specific structure and specific research areas. With such complexity in mind it only follows that for part of sociological research community it is not possible to dedicate adequate in depth attention to important contemporary methodological problems, issues and challenges.

Schenk's monography *Znaky, indikátory a indexy v sociologickom výskume (Signs, Indicators and Indexes in Sociological Research)* published by Stimul in 2015 offers the desired methodological support for sociological research. It is a methodological guide which focuses on strictly defined set of methodological topics. Schenk has devoted large part of his pedagogical and scientific career to sociological methodology and this publication follows in line of his more recent works dedicated to this area, for example *Škálovanie. Základné jednodimenzionálne metódy (Scaling. Basic One-dimensional Methods)* (Schenk – Hrbovská 2010), *Metodologické problémy multiagentového*

*modelovania v sociológii (The Methodological Problems of the Multiagent Modeling in Sociology)* (Schenk 2011) and *Kauzálné modelovanie v sociológii: princípy, metódy a aplikácie. (Causal Modeling in Sociology: Principles, Methods and Applications)* (Schenk 2013).

In this monograph, the author focuses on specific methodological topics essential to sociological research. These topics are signs, indicators, indexes and classic typologies. By author's own words this text is a complement to his previous publication on scaling mentioned also above and in the preface author credits Hirner's methodological conception as a starting point for his publication. Ambition of this text is to fill the gap in Slovak sociology left after Hirner by, on one hand, developing Hirner's conception in times of abovementioned shifts in scientific research, and on the other hand it is trying to introduce current methodological standards into sociological research. To do this the author returns to methodologically fundamental topics mentioned above.

Schenk gives two reasons for this step. The first one is that „*the scientific quality of sociological research is largely decided in this area*“ (p. 6) Second reason is that in the Slovak sociology there has been no systematic methodological work for the last forty years. At the same time he also points out the need to develop and complete original Hirner's conception.

The publication consists of four parts representing particular problem areas. The first part, named *The Signs*, deals with signs, their definition and characteristics, rules of creation, their selection and basic sign types. The author points out that there are two ways a sign can be understood in science. There is point of view of logic where a sign is understood as a symbol and there is point of view of empirical sciences, including sociology, where a sign is understood as carrier of information about relevant phenomenon. In this context he discusses Babbie's concept of attribute characteristics and Řehák's concept of signs and provides critical evaluation of both. This evaluation is followed by definition of sign , its characteristics and showcase of method for identification of signs in social research demonstrated on well-chosen examples. The part on Signs is concluded by delimitation of basic sign types based on their epistemological value and character.

Second part is titled *The Indicators* and is dedicated to the problems of indicators in sociological research. There is discussed the relation between a sign and an indicator, classifications of indicators and two specific approaches to construction of the synthetic indicators – the substitutional approach and the representative one.

The chapter begins by clear definition of indicator and its relation to sign in sociological research. The author presents Bailey's three-level model and then lists extensive categorization of indicators special while putting emphasis on a. the causal and correlation indicators, b. the definitional, inferential and empiri-

cal indicators and their combinations and c. indicators of one-dimensional and multidimensional social phenomena. The end of this chapter is dedicated to substitutional approach for creation of synthetic indicators and explanation of internal and external correlational indicators with selection of examples from sociological research practice. The representative approach is only briefly mentioned as it is mainly discussed in following chapters.

The third chapter, named *The Sociological Indexes*, focuses on problems with construction and the use of indexes in sociological research, their categories and types. The chapter provides step by step presentation of particular index types with subsequent detailed presentation of their use on examples selected from hypothetical scenarios or from sociological research practice. The author further focuses on distinction between statistical and sociological indexes while at the same time listing types of statistical indexes. Separate subchapters are dedicated to detailed presentation of 1. Extensive indexes, 2. Ordinal indexes, 3. Intensive indexes, and 4. Sociometric indexes.

The last chapter, named *Typological Operations in the Attributes Space*, is focused on classic typologies that represent another way for construction of the synthetic indicators. The chapter is divided into the two subsections with first one focusing on typologies based on their construction and the second one dedicated to typological operations. This part is largely based on the older works by the author mainly the study *Typological Operations in the Attribute Space* published in 1986 in *Sociológia* and the study with the same name published in *Sociológia* 1990 – special issue: 105-111, XII World Congress of ISA, Spain, Madrid 1990.

At the end we can state that the monograph represents very good sociological handbook for students and also the wider sociological public who use sociological methods and approaches in practice. At this point it should be noted that in this study the author rigorously fulfilled the goals he set for himself. The monograph has significance from didactical, educational and methodological point of view and also from point of view of paradigm shifts in sociology and whole science as such. The reason being that the rise of information and communication technologies might appear as a solution to several problems sociological research, however it is important to keep in mind the essential basics of sociological research which are still crucial building stones of well conceptualized sociological research.

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