

František Ochrana

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**Methodology  
of Social Sciences**



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František Ochraňa

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# Introduction

Science is a logical instrument based on our rational explanations of observed phenomena. Science can be likened to an optical device through which we look at an inspected object. The result of the examination is a scientific statement regarding the examined issue. The overall testimony of science regarding the world is called the “scientific image of the world.” Part of this statement is also a statement on social reality. This statement is the result of an examination conducted by social sciences.

Original science which emerged within ancient society was of a syncretic nature. Natural and social research issues were of the same character and testimonies of ancient science were similarly not separated. Science in turn underwent a complex evolution (Bernal, 1960) when it gradually separated into the individual scientific branches. With the advent of modern times and during the period of the Enlightenment, the understanding of natural and social reality developed proportionally to about the same extent. The late 19th and early 20th centuries, however, marked a turning point regarding the knowledge of scientific issues. The revolution in natural sciences gave birth to new scientific knowledge, new scientific branches and new scientific procedures (Kuhn, 1997). Within the development of natural and social sciences, a clear “discrepancy gradually emerged.” What were the causes of this separation between the natural and social sciences? Do these causes arise due to the objective nature of the different types of reality under study, or are they rather of an epistemological nature? Whatever the case is, seeking answers to the aforementioned issues falls within the methodology of science.

The methodology of science is of a crucial importance for the building of science as a whole as well as for the forming of the different scientific branches. That is, it seeks (among other things) to find out what is the nature of the “scientific image of the world,” what is the substance of

the “scientific law,” what methods and procedures could and should be used within scientific research. In the field of social sciences, these issues are also associated with the question of the nature of clarifying statements that social sciences provide. Are the statements of social sciences similar to the explanations from natural sciences, or is it rather a revelation of the meaning and understanding of social phenomena based on a clarification of the system of rules? Is social cognition by its nature a causal explanation (Hempel) and is it rather an interpretation (Winch)?

All these are questions of the methodological nature that show the way towards the answer with respect to the character of the resulting scientific statement based on the examined issues, and based on what the given scientific statement provides evidence. This publication attempts to look for the answers to these questions and to establish possible grounds for their solutions. I would like to thank Prof. PhDr. Vladimír Čechák, CSc. and Prof. PhDr. Miroslav Krč, CSc. for the review of this study and for their comments and suggestions towards further research.



# 1. Specification of the Issue. The Subject of Social Sciences. The Issue of Commensurability and Incommensurability of Social and Natural Sciences

Every science, if it should be called as such, has to possess certain attributes that define it as a scientific system. These attributes include, in particular, the examined object for which the given branch of science differs from other sciences, its own scientific methods and procedures that are specific just to the given scientific discipline, functions which this branch of science fulfils, and formulated “scientific laws” that are characteristic to the given scientific discipline. In addition to these specific features, each branch of science also has its general characteristics that distinguish science from the other forms of cognition of the outside world. These include first and foremost the logical consistency and accuracy of scientific statements that exist in the form of a relatively coherent system of logically harmonised testimonies. An essential feature is also the objectivity of scientific statements that correspond to the attained level of knowledge about the investigated subject.

## 1.1 The Subject of Social Sciences

The research subject of social sciences is society as social reality. Social reality is a specific form of existence that has evolved from nature. In this sense, a society is intrinsically connected to nature. A society is “surrounded” by nature, lives in a particular geographic environment and at the same time also affects nature through its activity. Nature and society thus comprise two mutually interacting subsystems.

On the other hand, social reality is, from the perspective of scientific abstraction and specification, such a distinct form of being that society is a relatively independent *social* system, significantly different from both non-living natural systems and living non-social (e.g. biological) systems.

The essential difference is primarily the ability of a *social* individual to *rationally* think, to make decisions, to set up their own objectives in the form of intended, expected (anticipated) outcomes of conscious activity<sup>1</sup>.

Both of these facets of the issue have a significant impact on the methodological approaches within social examination, as shown by the “history of methodology.” To the extent that we take into account only the evolution side of the “separation” of a society from nature, the issue of the scientific explanation of social reality appears analogous to examination by the natural sciences. To the Vienna Circle members, the constitution of a social science (sociology) is an issue of the application of physicalism and, in principle, there is the possibility of a uniform science (see Neurath, 1931, 1934, 2006). A similar methodological position is also held by Hempel. As long as there are certain laws in nature, the same also applies to the realm of social reality (Hempel, 1942, 2006). The task of social sciences is, in turn, to be able to detect these laws<sup>2</sup>, to define them and through a scientific explanation, to get know how to explicate the substance of a scientific issue<sup>3</sup>.

However, if we hold the opinion that social reality is so very different from a being of nature, we come to a different methodological approach, as elaborated by Dilthey (1967) and Winch (2004). Within this methodological approach a society is (when compared to nature) understood as being a qualitatively different form of existence. That is, people act with a certain purpose (Brentano, 1993; Husserl, 1995, 1996), whereas in nature we do not encounter intentionality. Figuratively speaking, in nature only “blind unconscious forces” operate.

Within a society, people act as rational beings endowed with consciousness. The social world is a world of norms and values that motivate human activity. People create rules that are regulators of their actions.

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- 1 The subject is therefore endowed with an ability to act and decide, which fact the contemporary theory explains in part “purely rationally” (Neumann and Morgenstern, 1994) and in part prospectively (Kahneman and Tversky, 1979).
  - 2 It does not matter what “kind” of social reality it is; the significance is the idea of a “social law” in the sense of existence of a “factual law.” An example of such an approach within the domain of political science is given by Novák (2013) in his upcoming study *From the so-called “sociological laws” by Maurice Duverger towards two models of democracy*.
  - 3 In this context, there begs to be mentioned the Marxist idea of the “social (or societal) law” begs to be mentioned. According to Marx (see *Theses on Feuerbach* as well as *Capital, Volume I*), cognition of objective laws allows to *practically* transform the society to be practically transformed. Marx set himself apart from the previous social theory by means of his radicalism by request for a revolutionary change of the present-day society. Within the eleventh thesis (see *Thesis on Feuerbach*), he writes that “philosophers have only diversely *interpreted* the world, but the aim is to *change it*” (Marx, 1958: p. 19).

Society itself is also, in turn, the result of this acting. Outwardly it appears as social reality whose examination – or “understanding” – calls for the use of a different methodological approach than when studying nature. The key feature of social sciences is then to “understand” history and social reality.

As is obvious from the brief outline of the different methodological approaches, the whole issue becomes considerably complicated, so much that, as M. Scheller puts it, “opinions on the *substance and origin of a mankind* were at no epoch so much uncertain, vague and confused as they are in our time” (Scheller, 2003, p. 120).

Although both of the above-mentioned approaches to the study of social reality differ, they may agree that the subject under examination by social sciences is social reality. The disagreement arises, however, when establishing the question “what is the nature of social reality?” Is it the reality that is “only” a result of evolution and nature and therefore society comprises “integral unity,” or are nature and a society comprised of fundamentally different forms of existence? The answer to this question is serious enough that within the presented publication we shall gradually attempt to seek a more detailed answer to it.

## 1.2 The Issue of So-called Commensurability and Incommensurability, Respectively, Social and Natural Sciences

The core of the dispute we have labelled the “issue of commensurability and incommensurability, respectively, of social and natural sciences” express by the words of H. White, who draws attention to the issue of the relationship between natural and historical sciences within contemporary theory. He states: “Magnificent achievements of science in our time not only inspired humanitarian scholars to establish the science of society which would be similar to the science of nature, but also sharpened their hostility towards history” (White, 2010: p. 42). The essence of this issue rests in the dispute over the nature of so-called commensurability and incommensurability, respectively, social and natural sciences.

The issue is further complicated by the fact that some scientists themselves while engaged in the examination of society are averse to the scientific disciplines that do not use “exact”<sup>4</sup> scientific procedures

4 In this context it is fair to mention one problem related to the definition of the term “exactness of a scientific inquiry” as it was pointed to me by one of the opponents to this book,

and methods. Those scientists who conduct their research within certain domains of social reality and use procedures similar to those adopted by natural scientists are reluctant towards the procedures and scientific disciplines that do not adopt such procedures in their investigations of social reality.

This dispute is aptly expressed by White in the example of history and other fields of science: “A significant number of philosophers agree that history is either some sort of a third-class science, to which social sciences have the same relationship as once was had by natural history through natural sciences, or a sort of a second-rate art, whose epistemological value is highly questionable and aesthetically uncertain. These philosophers seem to have concluded that if there is something like a hierarchy of sciences, then history falls somewhere between Aristotelian physics and Linneian biology – and therefore it is of some value to collectors of exotic world views and fallen mythologies, but there is no way it may contribute to the establishment of the “common world” which, according to Cassirer, finds its daily confirmation in science” (White, 2010: p. 43).

Also in this case, the essence of the dispute represents the issue of commensurability and incommensurability, respectively, of social and natural sciences. The substance of the solution to the problem of commensurability or incommensurability of social and natural sciences rests in the quest for an answer to the question whether it is possible to consider both types (classes) of sciences as “the same kind of a scientific cognition” supported in scientific research by identical methodological foundations, and, in principle, if it is possible (and desirable) to use the same methods for examination of social reality, or whether this is, in principle, impossible. By commensurability of natural and social sciences it is understood that both “kinds of sciences” are only subsets of the same “family of scientific cognition of examined reality” (in principle attainable “unified science”). In such a case, natural and social sciences are commensurable, the fact of which is also reflected in their adoption of

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Prof. Čechák. Natural scientists and so-called exactly-founded social scientists, who refer to themselves as “exact social scientists”, label by the term “exactness” only those scientific procedures that are based on quantification and procedures which can be measured. However, the scope of the term “exactness” does not become exhausted by this definition. Into the set of elements constituting the extension of “exactness” belong also those procedures that do not necessarily use only quantification procedures. We therefore may ask proponents of the (basically positivist) “exactness” whether, for example, procedures such as logic (e.g. logical inference) cannot be considered accurate (“exact”) procedures only because they do not use measurements the way natural sciences do? To “exact” scientists, the problem seems to be different. See e.g. the study aptly titled *Econometrics – exact or social science?* (Víšek, 2013).

a common tool for explaining scientific problems, which is the scientific explanation.

However, if we compare the real situation in the approaches and methods used in natural and social sciences, we find that social sciences lag behind natural sciences, particularly in terms of the use of exact methods. Is this really so? If so, then social sciences lag behind natural sciences by a full century. While over the period of the constitution of Newtonian physics, social sciences managed to “keep up” with natural sciences, during the era of Einsteinian physics they have failed to do so<sup>5</sup>.

However, if we assume that social sciences are, in their research subject, *significantly* different from natural reality because the social reality is characterised by intentionality in actions, then we may understand (illuminate) social phenomena through the form of understanding related to the meaning (Winch) as opposed to the form of causal explanation (Hempel). In such a case, social sciences are incommensurate with natural sciences. Therefore we cannot apply “exact” methods to them which are typical for the field of natural research and rather we make use of specific methods that are, on the other hand, inapplicable within the study of nature, because in nature, phenomena do not occur that require exposing the intentions of the acting agents.

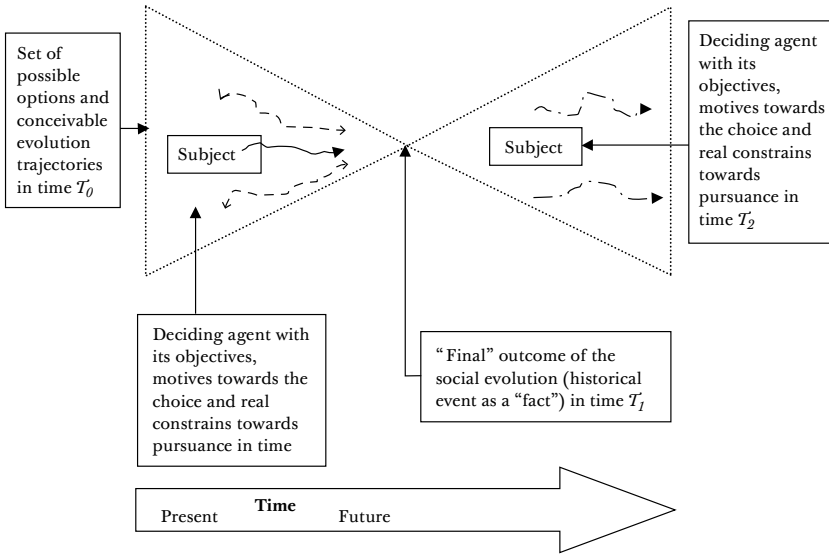
In this sense, the efforts of social scientists to “catch up” with natural sciences – especially through the implementation of “exact,” formalised methods – represent an endeavour destined to fail. This limitation has its objective causes inherent in the very essence of social reality. In the words of N. Hartmann, himself a seeker of new ways of ontology, the starting point for the solution may be exposure of the “being of events” (Hartmann, 1976: p. 71), when we explore social reality as a dynamic system (Haken).

### 1.3 The Subject as a Deciding Agent

Generally speaking, the research subject of social sciences is social reality. Although social reality is a result of the activity of subjects, outwardly the society acts as an objective determinateness. People are at a given time and place born into a certain society, live in it and find it as a world that

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5 Thus proclaimed lagging of social sciences behind natural sciences has a negative impact on the administration and funding of science, when e.g. within competition for public resources towards funding of scientific research are social science projects by so-called exact-based decision makers pushed out at the periphery of priorities.



**Figure 1:** Deciding agent.

Source: Author.

is “given to them.” Thus we say that social reality is, with respect to the given subject, an objective factor of its life that affects its being.

However, the human being is, on the other hand, a deciding agent (Heidegger, 2002) who at the given *historical time* decides through its actions. The essence of the issue is graphically illustrated by Figure 1.

The subject appears in the role of an agent surrounded by certain, given outward conditions. These also include the results of previous events. Past (having already occurred) events affect current events and these in turn affect the set of future trajectories and trends of social evolution. The given social conditions create a primary social framework for the actions of the subject in the relevant (present) time  $T_0$ . Time represents the attribute of being of the presently existing (contemporary) social era. A set of conceivable options with certain recognised (as well as unrecognised) evolution trajectories “open” ahead of the subject as a part of social reality, which are characteristic for the given period of time (time  $T_0$ ). The given evolution trajectories represent the potentially conceivable evolution tendencies of a social movement, impacted by the framework of social, natural, and other conditions<sup>6</sup>.

<sup>6</sup> These in turn may in the domain of theory materialise e.g. in the form of visions. See e.g. Potůček et al. (2000).