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Title: *Pojęcie i historia – filozofia nauki Georges'a Canguilhem*

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Summary

Georges Canguilhem was one of the greatest French philosophers and historians of science in the 20th century. His interests focused on the issues of life and life sciences, in particular biology and medicine. His methodological and epistemological works, which actually concerned these disciplines almost exclusively, were at the same time books about the history of a given problem. This simultaneous systematic and historical analysis is the main determinant of his work, and also one of his main postulates in the methodology of the history of science.

In my work, I set myself a goal of reconstructing what could be called Canguilhem's "philosophy of science", being aware that this formulation is, first of all, inaccurate from the point of view of the French naming tradition, and secondly, that it may be exaggerated. The philosophy of science was usually referred to as epistemology in France. It deals with cognition within specific scientific disciplines. Due to the Polish nomenclature, I decided to talk about the philosophy of science.

In the first part of the work I defined the interpretative scheme, which I call the science development model. I presented positions within the philosophy of science and indicated how they describe and explain the changeability of science. I also discussed various approaches to the history of science and the relationship between historical methods and philosophical views. A quite obvious thesis which I am putting forward points to the fact that the way of practicing the history of science results from the adopted concept of science and is influenced by it, providing it with supporting examples (case studies). However, this condition is not entirely clear. The science development model that emerges from various philosophical concepts about science also includes some metaphysical preferences and allows for placing a given model in perspective of realism and anti-realism controversy. However, it will turn out that the problem of the real existence of a reference of scientific terms does not prejudice the preference for some theory of scientific change. Finally, I proposed a classification of methods within the history of science and preliminarily indicated where Canguilhem's works and his methodological guidelines should most likely be placed.

In the second part, I presented Canguilhem's philosophical inspirations, that is, what philosophical currents were useful for reconstructing his science development model in the sense in which I defined it in the first part of my work. The amount of inspiration that can be considered significant in this respect is overwhelming. I focused on a few, and started with the classic currents: rationalism, German idealism, and the philosophy of life, to draw attention to the Nietzsche threads and Bergsonism. I consider the problem of vitality, both in biology and philosophy, to be the key to understanding Canguilhem's philosophical preferences. This is especially evident in the case of Hegel and his postulate on a vitalist model of understanding. I then outlined the situation in French epistemological thought at the time, with particular emphasis on Comte and Bachelard. I also added a few remarks about Canguilhem's participation in the rise and flourishing of structuralism and the secondary impact of this trend on his views.

In the third chapter, I deal with basic concepts that Canguilhem used. I have limited myself here only to the concepts that seem necessary to present what I call the science development model. As I said, each model of science development must assume certain metaphysical theses and, therefore, informs about the views of an author of a given model, which, in turn, can be called the philosophy of science. I have followed Canguilhem's comments on the following terms: 'life' and 'the living' (*le vivant*), 'norm', 'normativity' etc., 'technique' and finally 'cognition' or 'science' because he uses them interchangeably.

A review of these concepts shows a certain picture of a philosophical project, which is called biophilosophy. Life and its concept bind together various human (and non-human) actions, both those described as rational and irrational. A way to describe these activities is provided by a norm that can be quantified under certain conditions. All actions (behaviors) of living beings must be related to *milieu*, i.e. the environment. Entering into the creative relationship with *milieu*, transforming it, allows for the emergence of technology. According to Canguilhem, technology is an organic part of the body situated in *milieu*. Functions analogous to technology are fulfilled by all cultural creations, including social institutions.

The basic factor driving the creative relationship with *milieu* is the appearance of errors, that is by unforeseen obstacles. Error is the first category in the order of creation: the very appearance of life can be described as an error. From a scientific perspective, getting rid of errors is science's primary goal. That can be formulated positively, then the goal of science is truth. According to Canguilhem, only scientific truth can exist. Also 'scientific cognition' is pleonasm for him.

Scientific cognition is always conceptual. The 'concept' is an extremely important philosophical term. Canguilhem understands it in a specific way. For Canguilhem, a specific

concept denotes a problem that is faced and which is an obstacle to be removed. Hence, scientific concepts are an essential mediator between perceptions and abstraction, i.e. a quantitative relationship. Science strives to present its concepts in the form of quantitative relationships, which is their proper objectification. The possibility of introducing quantitative relationships is conditioned by the invention of specific measuring instruments.

In the fourth chapter I am turning to the proper argument in which I present the methodology of philosophy, i.e. the goals and methods of their implementation within philosophy and the closely related methodology of the history of science, which I also call the historiography of the history of science. The history of science is of course one of Canguilhem's main interests. One of his most important methodological postulates in historiography was the adoption of the concept as an object of the history of science. In order to understand what this procedure is, I presented at length the arguments from the manifesto *L'objet de l'histoire des sciences* and recalled the considerations from the previous chapter, in which I put forward the thesis that the concept should be understood as problem.

Some authors, especially Rheinberger, say that one can see two periods in Canguilhem's work. The first would be a conceptual period and the second would be an ideological period. It is believed that a book from the seventies, *Idéologie et rationalité*, would supposedly introduce a new subject in the history of science, namely scientific ideology and split Canguilhem's thought into two periods. However, the opinion of the "two Canguilhem's" is often repeated so one should refer to it with insight. I presented the interpretation of the term 'scientific ideology'. I showed examples of when scientific ideology is a protoscience and when it becomes a pseudoscience. Scientific ideology should be understood as a special type of epistemological obstacle, i.e. a problem.

In the end, I tried to show how the activity of a science historian can be interpreted in the perspective of technical activity, i.e. a form of life manifestation. This leads to showing that history of science is not only descriptive but also normative in its relation to science. Science for Canguilhem is an answer to the problems posed by the natural environment. History of science is a function of epistemology that seeks to determine the content of this answer. They are, therefore, in a certain dialectical relationship, that is, they mutually condition each other - they define each other's limits of possible change and modify each other's content. I believe that Canguilhem's interest in the history of science and practicing it in a certain way is not accidental in this context, especially if his interest in life sciences and their history is emphasized.

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