Global Journal of
Archaeology & Anthropology
ISSN: 2575-8608

Juniper Publishers
key to the Researchers

Mini Review
Volume 8 Issue 1 - February 2019
DOI: 10.19080/GJAA.2019.08.555729

Glob J Arch & Anthropol

A New Research Path of Philosophy of Science

Xiaoqin Xing*

Minnesota Center for Philosophy of Science, Minnesota, USA

Submission: February 14, 2019**; Published:** February 20, 2019

***Corresponding author:** Xiaoqin Xing, Minnesota Center for Philosophy of Science, Minnesota, USA

Mini Review

While reading this paper I was attracted by a new and supervisory view. The author thinks that previous studies on the history of philosophy of science were mainly theoretical-oriented, with the structure and development model of scientific theory as the clue or basic content. The author advocates a "problem-oriented" study of the history of philosophy of science to explain the growth of scientific knowledge and the mode of scientific progress. He argues that in the practical study of philosophy of science, the philosophical thinking of philosophers of science basically revolves around two major issues, namely, the rationality of scientific problems and the rationality of the development of scientific problems. The author analyses the starting point and problem-solving strategies of logical empiricism, logical positivism, historicism and problematicism, and reveals the deep promotion of problem consciousness and problem orientation to the theoretical construction of philosophy of science. The author's work provides a new train of thought and clue for the study of the history of philosophy of science and strengthens the problem consciousness and problem orientation in the study of philosophy of science.

As a branch of philosophy of science, problemology has gradually been recognized by academic circles. An important research direction of problemology is the generation, inheritance and development of systematic exploration of problem ideas. The author finds that the division of observation vocabulary and theoretical vocabulary by logical empiricism leads directly to the division of empirical and conceptual problems and enlightens Laudan's problem-solving theory. The components of the legitimate problems of logical positivism change from single proposition to compound proposition, from completely true proposition to probability true proposition. This change leads to the shift from absolute legitimacy to relative legitimacy, which directly enlightens the problem view of historicism. The author argues that Lakatos has dealt with the theoretical and trial-and-error links of Popper's four-paragraph schema more elaborately, which can better describe the diachronic changes of the legitimacy of the problem and transcend the Popper's thought of the problem. He shows that Laudan puts forward a more open and flexible problem view based on criticizing and absorbing the earlier problem thoughts. This work explores the rationality of scientific problems and their development and enlightens an important direction of the development of problem philosophy.

The author finds that the scientific community is positively related to the legitimate problem domain, and the kind of scientific community determines the kind of legitimate problem domain. Problem domain is the legitimate limit or scope for scientific researchers to raise questions based on abstract theory, which is represented by a set of problems consisting of obvious problems and potential problems. Through the analysis of the problem domain, the author demonstrates the generation mode and evaluation criteria of common problems, anomalous empirical problems and revolutionary problems [1]. If the proposition of anomalous empirical and revolutionary problems leads to paradigm shift, they are more important than proposing and solving a common problem. Common problems and some empirical anomalies can be solved according to the paradigm, which produces a set of legitimate scientific questions and answers. Another part of anomalous empirical problems has been transformed into a revolutionary one because it has not been solved for a long time in the paradigm. Revolutionary problems may lead to the emergence of a new paradigm, which is a kind of cross-cutting expansion of the problem domain or a fundamental change of problem-solving methods. The proposition of revolutionary problems is the expansion of the problem domain of natural science, the expansion of the community of natural science, and therefore a qualitative breakthrough in the problem domain. The concept of "problem domain" proposed by the author is the key concept to get through the traditional philosophy of science and the new philosophy of problem and to realize the new turn of philosophy of science.

The paper puts forward a new model of scientific progress which is different from that of Laudan's. Firstly, the author divides scientific problems into positive problems, neutral problems and negative problems according to the relationship between problems and research tradition, and then analyses Laudan's empirical problems, conceptual problems and scientific progress model. Laudan's empirical problems include solved problems, unresolved problems, and anomalous problems. In the author's opinion, the solved problems can consolidate the positive problems in the research tradition. Some unresolved

problems do not play a role in the research tradition for a while and can be regarded as neutral problems. anomalous problems and some unresolved problems are negative problems that weaken the research tradition. The more negative problems the theory encounters, the greater the threat to the research tradition; if some unresolved problems are not solved for a long time, they may turn into anomalous problems and shake the core assumptions of the research tradition. However, once the unresolved problem is transformed into the solved problem, the research tradition can be consolidated and strengthened. The author expands Laudan's space for exploring "conceptual problems," which are no longer regarded as negative problems, but may also be positive and neutral problems. In this way, Laudan's model of progress, i.e. "to maximize the scope of solved empirical problems, while minimizing the scope of anomalous and conceptual problems", has been refined and expanded to the new model: to transform the negative and neutral problems in the empirical and conceptual problems into positive ones as far as possible.

References

1. Ma L (2017) On Problem-oriented Philosophy of Science. Philosophical Researches, 3: 118-126.

DOI: 10.19080/GJAA.2019.08.555730

How to cite this article: Xiaoqin X. A New Research Path of Philosophy of Science. Glob J Arch & Anthropol. 2019; 8(1): 555730.
DOI: 10.19080/GJAA.2019.08.555730