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Empirical Social Science between Object Level and Representation Level

Prof. Dr. Peter Krope

Institute for Educational Sciences, Kiel University, Germany, krope@paedagogik.uni-kiel.de

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Abstract.

The question of this paper follows an empirical study carried out from 2019 to 2021. The paper looks for a method by which empirical statements about transsubjective argumentations can be answered in a syntactically correct and semantically interpreted scientific language. The answer is given by demarcating Methodological Constructivism against Logical Empirism. In Logical Empirism, only an analytical a priori is recognized. In Methodical Constructivism, the experiential a priori is addressed, which makes a transsubjective orientation possible in the first place.

Keywords: Methodical Constructivism; Logical Empirism; Empirical Knowledge Efforts; Analytical A Priori; Experiential A Priori; Transsubjectivity.

1. Introduction

An experimental study based on Methodical Constructivism has been carried out from 2019 to 2021. The term "transsubjectivity" gave the project its name. The final report on the research was presented in 2021 (Krope, Felst and Kohrs 2021). After the publication of the report, the question was raised that is to be answered in the following contribution. The question is: How can transsubjective arguments be observed in experiments?

The question contains two aspects that stand in a problematic relationship to each other. On the one hand, the term "transsubjective arguments" refers to Methodical Constructivism. On the other hand, the observation of experiments in the present is the domain of Logical Empirism. What is the problem? Relative to the question, empirical knowledge acquisition according to the paradigm of Methodical Constructivism and according to the paradigm of Logical Empirism are mutually exclusive.

To answer the question, a basic feature of a methodological-constructive empirical science will be elaborated in the following. This is the classification between the object level and the representation level.

2. The Transsubjectivity Project

The theoretical basis of the transsubjectivity project was the Constructivism founded by Kamlah and Lorenzen (1973), which is referred to as "Constructivism of the Erlangen School" according to its geographical origin and in the following contribution as "Methodical Constructivism". The second edition of the "Enzyklopädie Philosophie und Wissenschaftstheorie" (Encyclopedia of Philosophy and Philosophy of Science) edited by Jürgen Mittelstraß provides information on the paradigm in eight volumes (Mittelstraß 2005 to 2018).

The topic of the project was the development of argumentation possibilities for the rational resolution of conflicts based on the incompatibility of purposes. Conflict resolution was called rational if it eliminated incompatibilities of purposes.

Three conflict scenarios and a procedure called "conflict forum" had been developed for the study. The procedure provided for two test persons to take part in each survey. The test persons were designated as "conflict persons".

The duration of a survey was about 50 minutes. The conflict persons were asked to solve in a rational way a conflict that was commonly assumed to be unsolvable. Behind this task was the confrontation of the conflict persons with purposes classified as incompatible. The conflict persons were to proceed in three steps. In the first step, each conflict person chose one of the two incompatible purposes outlined in the task, accepted, and represented it (even if only in the simulation) as their own position and prepared to present it forcefully to the other side. In the second step, the own position of the other person involved in the conflict was presented. Subsequently, the conflict persons tried to solve the conflict by making the incompatible purposes compatible. Three identical sets were available for the procedure. Each set contained 130 figurines of people, animals, and objects from different areas of everyday life. The task of the conflict participants was to use their own sets to depict the purpose they wanted to represent. They were explicitly encouraged to embellish the scenery imaginatively. Then they came together and presented their tableau to the opposing person. Finally, they had to try to develop a common solution to the incompatibility of purposes on the third tableau.

For the present contribution, an experimental passage from the conflict "The day off from class" has been selected. The conflict was described as follows: "A school class plans the organization of their day off. Two positions emerge. Some pupils want to spend the day swimming in the open-air swimming pool in the neighboring village, while the others want to go on a day trip by bicycle along the long-distance cycle route. To fulfil his supervisory duty, however, the teacher can only allow one joint activity on the day off. A second supervisor is not available. The conflict is aggravated by the fact that some of the learners cannot swim, and some cannot ride a bike" (Krope, Felst and Kohrs 2021, 43).

3. Dialogical Counselling

In his Oxford Lectures, Paul Lorenzen (Lorenzen 1969, 81 ff.) introduced the transsubjectivity principle as follows. In accordance with philosophical usage, Lorenzen uses the term subjectivity to denote a general unwillingness to give up one's own opinion. In this context, an opinion can still be described as subjective even if it is held by many people. However, a statement does not become true merely because it is asserted by many people. Usually, the mere subjectivity of opinion is contrasted with the "objectivity" of truth. Lorenzen continues: "[...] the truth of sentences always has to be a human accomplishment – an achievement of persons. No person can do more than try to overcome his subjectivity, and this is the aim of logical discipline" (Lorenzen 1969, 82). Lorenzen proposes: "I propose [...] to call the required overcoming of subjectivity 'transcendence of subjectivity' – or 'transsubjectivity' for short. This is still subjectivity, but a subjectivity which is aware of its own limits – and tries to overcome them. Transsubjectivity is simply a term characterizing that activity in which we are always already involved if we begin to reason at all" (Lorenzen 1969, 82).

In Methodical Constructivism, the principle of transsubjectivity is adopted as a norm for dialogical counselling. In dialogical counselling, the participants try to "gain orientations for a reasonable commonality of action and in this sense overcome their subjectivity [...]" (Kambartel 2018, 109, in an Encyclopedia article on transsubjectivity).

The conflict participants of the transsubjectivity study had the task of simulating the process in which the pupils try to discuss their conflict and reach a solution. At the beginning of the counselling process are the pupils' desires. In this process, the striving that people support through their actions is called a desire (Begehrung). These desires remain subjective as long as they are only shared by a particular group of learners at a time. If one of the learners (S_1) participates in the counselling and proposes A_1, let it be said: "S_1 desires that A_1", symbolically: "$S_1 \Pi A_1$". Here Π (for "practice" in the Aristotelian sense) refers to prescriptive statements. Let it be the case that further desires (A_2, ..., A_n) follow in counselling, which may lead to resolution (Beschluß) B after rule-guided counselling. If all learners have participated in the counselling and agreed to the decision, it is said: All learners have the need (Bedürfnis) that B, symbolically: "$S_i \Pi^* B$". Starting from the initial desires A_1, ..., A_n, the resolution B has come about through reasonable counselling, which is considered justified because it has come about transsubjectively.

4. Language Development

In the following, the phases of a dialogical counselling session are described using the terms "predicator", "term" and "concept" (Begriff) as stages of language development.

Predicator. In small sentences, with examples and counterexamples, the pupils say something about an object, e. g. about swimming. Words are assigned to the objects, the predicators. The method of determining a predicator with the help of examples and counterexamples is the exemplary method.

Term. The pupils agree on rules about how they will use the introduced predicators. For example, "swimming" is not to be defined according to the competition rules of the German Swimming Association in their counselling

about the day off. The result of the explicit agreements are terms for context-invariant unambiguity in the discussion.

Concept. If the phonetic form of a term is disregarded and attention is only paid to its standardized use, we are talking about a concept. For example, the statement about the agreed term "swim" remains unchanged if the pupils replace the word "swim" with another synonymous word such as the Latin "natare".

In the conflict "swimming or cycling", the pupils had decided to develop an alternative to the school competition for good grades. The activities of the day off from class were to serve to promote the community experience. A regularity shared by the pupils in the counselling would allow to observe what the term "community experience" means. According to Kuno Lorenz (Lorenz 2010), in the modern logical semantics that follows Frege, the meaning of a term is traced back to the predicators. This means: the predictors are regarded as bearers of a truth claim that can be decided on without (as is the case in the mentalistic approach) considering the "inside" of the persons involved. The meaning is what can be given to understand with the term because of its explicit agreement.

5. Between Object Level and Representation Level

In an essay on the background of Methodical Constructivism in the history of science, Kuno Lorenz (Lorenz 2008) defines the function of the dialogical principle through a classification between the object level and the representation level. Based on this essay, the present contribution describes how language is developed in dialogical counselling between the extreme positions of the object level and the representation level.

"Object" (Gegenstand) is the most general of all predicators. It does not say anything about what it is. The term is to be understood purely formally. In the following, the constitution of the object is presented because of Logical Empiricism (first) and Methodical Constructivism (second).

Firstly. Empirical knowledge efforts in Logical Empiricism are (according to Krope 2000) about the relations between empirical quantities and processes on the one hand and numbers on the other. According to Suppes and Zinnes (1967), these relations are represented in the re-presentation theorem. Formally, an empirical relative is described by $\langle E, R_1, ..., R_n \rangle$. Here, E represents the set of objects. The various relations are represented by $R_1, ..., R_n$. A relation related to any two objects from E could be that a conflict partner b behaves more argumentatively than a partner a. Secondly, a numerical relative $\langle R, S_1, ..., S_n \rangle$ is defined. Here, the set of all real numbers is regarded as the object set R; $S_1, ..., S_n$ stands for different types of relations. An example of such a relation is the less-than-more-than relation, e. g. $3 < 4$. Under certain conditions, the empirical relative can be represented by the numerical relative. For two objects a and b with the assumed order relation, the formal representation could look as follows: $a < b \leftrightarrow \varphi(a) < \varphi(b)$. Here, the sign < stands for the order relation assumed above in the empirical relative, $\leftrightarrow$ for "exactly when" and the Greek letter φ for the assignment function. The concept is about naming rules that must be fulfilled in the empirical relative so that it can be represented by the numerical relative. This task is to be performed by the representation theorem. The representation theorem describes the knowledge efforts in a meaningful and useful way, as long as the description is limited to the syntax of the statements, i.e., to the formal, logical, mathematical relations. Correspondingly, the constitution of the object in Logical Empiricism is provided for without explicit specifications, while the assumed order relation and the assignment function are described with the help of mathematical methods.

In the following, (secondly) the methodological-constructive constitution of the object for the empirical acquisition of knowledge is presented. Examples of empirical statements are "Plato is a philosopher" and "Kiel is the capital of Schleswig-Holstein". With the two sentences, examples of empirical elementary statements of the form N ε P are available. Here N stands for a proper name ("Plato"), P for a predicator ("philosopher") and ε for the attribution of the predicator to the proper name. If an empirical statement is to be made but no proper name is available, the indicator ι ("this") can be used in place of the proper name in conjunction with the symbol o as an empty predicator (for "object"). "ι o ε P" is to be read as "This object is attributed the predicator P". Finally, for the determination of the predicator, a deictic action (pointing action) is needed, which is an action pointing to objects. In the transsubjectivity study, each conflict person was supposed to indicate something about his or her own object to the other conflict person by arranging figurines on a tableau. Through a linguistic expression, the nominator (n), the predicator is then named, formalized "n ε P". The basis for the nominators are pre-scientific, life-worldly familiar experiences that consist in the mastery of distinctions. The empirical knowledge gained through the constitution of objects is context dependent. During language development from the object level to the representation level, this knowledge is to be made available to all participants in dialogical counselling. A conclusion based on the observations that goes beyond the framework of dialogical counselling is not clearly

established. It should be called "underdetermined" according to a term coined by Willard Van Orman Quine (1980, 20 – 46).

Differences in the empirical acquisition of knowledge become clear in the constitution of the object. In Logical Empiricism, only an analytical a priori is recognized. In Methodical Constructivism, the experiential a priori is addressed, which makes a transsubjective orientation possible in the first place.

In the experiment on the conflict "The day off from class", the two conflict persons had the dialogical counselling of the pupils end with a decision. The decision was that the day off from class should serve a community experience. The sentence was referred to as statement A. In addition, the plan had been developed for the pupils to spend the day together doing outdoor activities (statement B). The two elementary statements can be joined together in logic as the first partial statement and the second partial statement to form the subjunction, formalized (with the sign $\rightarrow$ for "if – then"): $A \rightarrow B$. Through formalization, scientific language on the representation level and object constitution on the object level step apart to the maximum.

In scientific language, persons involved in a speech situation can enter contact with uninvolved persons regardless of the situation. Scientific language acquires empirical relevance through the fact that the participants introduce the uninvolved into the regularity with which they have developed the language from the object level to the representation level.

6. Conclusion

The starting point of this contribution is the question of how transsubjective arguments can be observed in experiments. In summary, the answer is: the method of observation is the qualified joint reversion. The three key words are explained below. By "reversion" is meant to be said: The process in which the conflict persons have developed the language from the object level to the representation level is reversed. "Qualified" is meant to say: as soon as the conflict persons are instructed in the formal representation of logical facts, the language of science can serve as a starting point for the reversal. "Joint" refers to the fact that the subjects involved in the conflict and the empirical scientists who are not involved carry out the reversal.

Since a dialogical counselling can have a discontinuous time course, the methodic observation is not chronological but systematic. Meanwhile, the consequence of the language structure is followed. The methodical observation begins with the scientific linguistic presentation and ends with the learning and practicing of linguistic distinctions in the interpersonal comparison.

The article raises the question of what can be observed with the method. The answer is that conclusiveness can be observed. This answer requires a conceptual introduction (after Thiel 2005). Dialogical counselling is referred to as argumentation. Arguments are the individual steps of a dialogue-based counselling. "Argumentation chain" means: Each argument makes use of the result of the argument immediately preceding it. A chain of argumentation is conclusive if no participant in a dialogue-based counselling can reject any counselling step without contradicting a previously accepted step.

At the beginning of a reversal there is a hypothesis about the conclusiveness of a counselling process. The conclusiveness of a chain of reasoning and deviations such as ambiguities, rule violations, leaps and omissions are accessible to the empiricist.

The developed method of observation and the confrontation with the empirical efforts of Logical Empiricism leads to a further finding. It says: A methodical-constructive empirical science between the object level and the representation level is designed for a syntactically correct and semantically interpreted scientific language.

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Author's Biography

Prof. Dr. Peter Krope, born in 1940, studied Latin, physical education, science of education, psychology, sociology, professor at the Institute for Educational Sciences, Kiel University, domains of interest are research theories and research methods in the social sciences and the Methodical Constructivism, retired in 2005, continued to work at Institute for Educational Sciences in the Center for Constructive Educational Science in an interdisciplinary research team with about 50 years of tradition, current book publications: http://www.waxmann.com/autor100994.