A GENERAL SCHEME FOR THE VARIOUS RELATIONSHIPS

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BETWEEN RESEARCHER AND RESEARCHED
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1. Introduction

The battles inside the methodology of the social sciences about the correct scientific method have --I think -- diminished. In recent years it is argued by several authors that the two main approached, the one akin to the natural sciences and the other hermeneutics (the term for all kinds of interpretative methods) are not exclusive alternatives but should supplement each other. The american philosopher Charles Taylor, for instance, defended -- what he called -- a "peaceful coexistence in psychology"[1] between the two main kinds of research. There are -- he argues -- two stances on the part of the subject towards the world and therefore two epistemologies, one of what one might call brute data (that is, data which are available without any personal discernement or interpretation on the part of the observer) and one which admits of interpretation; so in the domain of the latter epistemology disputes are settled by data of interpretation. Both models of science are necessary. The classical model and its stance of objectification of the world has its natural place in the domain of psycho-physical studies, the hermeneutic model is the natural approach to the explanation of motivated performance.

Though one can agree with this plea for peaceful coexistence not only in psychology but in other social sciences as well, several serious questions remain: what precisely is the mutual relation between the two models, between the two epistemologies and the concomitant stances? And are there only two main approaches. Could it be that more are possible or perhaps necessary? In particular remains the question: Is there indeed a fundamental difference between studying people and studying the rest of the world?

In the mentioned methodological battles and debates the discussion often aggravated to the question what the structure is or should be of the relationship between researcher and researched in the social sciences. This issue, especially concerning hermeneutics, has been the subject of many theoretical reflections.

To clarify this issue and in particular the nature of the relationship between the researcher and the researched in action research, some authors, van Beinum et al. [2] have recently used my analysis of the epistemological lessons of modern physics[3].

The development of modern physics reveals that at the experiential level we encounter several -- in fact four --qualitatively different relations between the instrument system (which is the epistemic subject) and the object system. In classical physics instrument (i) and object (o) can be considered as independent and separable. In relativity theory they are indissolubly linked, in quantum theory they partly overlap. The tracks which result from modern elementary particle experiments reveal -- in my opinion -- a new epistemic situation: instrument and object are most intimately connected. It is in this fourth relation that the authors just-mentioned are especially interested in. Apparently they found in my analyses a possibility to clarify the complex relation of the researcher and researched in action research in particular, and so a possibility to leegitimate action research as a genuine kind of research in social science.

In this paper I'll scrutinize this application of epistemological results primarily derived from the natural sciences to the social sciences. However, I will not start from ideas derived from the natural sciences, and therefore I'll carry out this inquiry by including it in a wider research. The main aim of this paper is to elaborate, for in principle any empirical science, the foundation of a general scheme for all the main relationships between the researcher and the researched which can possibly exist at the experiential level. I expect that this general approach can do at least two things: clarify the different epistemological relations in the natural sciences, and provide answers to the just formulated questions concerning the social sciences.

2. General epistemological considerations

In view of that general analysis, at first I have to make some basic epistemological remarks and distinctions.

In any empirical science scientists are concerned with records, documents, or texts, which provide the primary information for further scientific research, namely the building of theories[4]. I will use the term inscription as the most neutral and general term to indicate the data-objects of all empirical sciences. These inscriptions must result from observations or measurements. Besides a general conception of inscription we therefore need a generalized conception of instrument, wide enough to make it suitable for use in all empirical sciences. I propose the following definition: I will call an instrument any means, no matter what its nature, size, (or kind of activities,) that provides inscriptions that can be studied scientifically[5]. This definition of instrument is also appropriate for the social sciences, for it encompasses human observers, both individually and in groups[6].

The inscriptions produced by these instruments are subsequently interpreted by scientists and eventually explained. The fact that the inscriptions necessarily must be interpreted, implies that all empirical sciences, also the natural sciences, have (in this general sense) a hermeneutic character.

Because it is by means of instruments that we get the information concerning the object systems, it is the instrument which has to be considered as the primary epistemic subject. Though new measuring situations can make it necessary to abandon the classical subject-object dualism (again at the experiential level), one still needs the concepts of measuring instrument and object. One needs these terms at any rate to characterize the epistemological situation. So, if we want to know what kind of subject-object (s-o), (better i-o relation) we are dealing with in some domain of science, we have to investigate -- by analyzing the inscriptions and the total experimental situation concerned -- what the structure is of the relation between the instrument and the object system.

It is important to distinguish this instrument-object (or s-o) relation, at the experiential level, from a second epistemic relation, namely between the scientific investigator and the inscriptions which result from the first relation. The inscriptions have to be studied objectively otherwise it would not be a scientific investigation and this can be done because the inscriptions, once produced, are permanently available. And, when that investigation is properly done these inscriptions can possibly reveal that we are dealing at the experiential level with an exceptional and even till then unknown s-o relation (e.g. the spectral lines, as explained by the QT).

Not realizing that in science we are always dealing with two levels and so two epistemic relations with possible different structure can cause many confusions (as e.g. the history of the interpretation of QT reveals). This distinction is especially important in the social sciences where the instrument (or a part of it) and the scientist who tries to understand the inscriptions, can be one and the same person.

3. A general scheme for the relations between the instrument system and the object system

So, the relation between the instrument system and object system at the experiential level is crucial in any empirical science. Therefore it is important to see how many different kinds of relations can exist.

By a system-theoretical analysis it can be shown that concerning the fundamental structure of the relationship between any two systems, there can exist only four qualitatively different relations. For, whatever their nature is, systems can be conceived of as bounded sets. There are indeed four possibilities: two sets may have no members in common, or some members so that only the boundaries of the sets share a subset, or some members so that they share a real subset, or the the one has all members in common with the other. These four possibilities can be illustrated by means of Venn diagrams: either the two circles are completely discrete, or they touch, or there is a partial overlap, or one of the two circles is completely encompassed by the other.

Therefore there can be four and no more than four qualitatively different relations between two systems. So, in particular between the instrument system (the epistemic subject) and the object system, four and only four relations can exist, namely: in the

cognitive event subject and object -- either can be conceived as distinct (R0), or are essentially linked (R1), or they overlap partially (R2), or both participate completely (R3).

Summarizing: this analysis results in a general scheme for the various relationships between the instrument system and object systems, or in other words, for the various relations at the experiential level between researcher and researched.

As already concisely indicated in the introduction, analysis of the development of physics, especially its fundamental stages, reveals that indeed in physics these four relations, each in a specific domain, plays a pivotal role. [But that means reversely: from the physical theories we must conclude, that apparently in each domain a specific relation exists between the material systems themselves, and that is the reason why (in that domain) that specific relation and thus concomitant epistemology and stance on the part of the instrument is necessary to gain information concerning that fundamental aspect of the physical reality.]

4. The relationships in the social sciences

Now I have to examine if that abstract general scheme, in a similar way as in physics, also constitutes the foundation for all possible relations at the experiential level in the social sciences, so for all kinds of research by which information concerning the social reality can or must be acquired.

Of course, that inquiry needs much more analysis than here can be given. To start with, let's see how the authors van Beinum et al. in their paper describe the four relations and the approaches in which these relations are pivotal.

We have the relation R0 -- they argue -- in the classical (say) `positivistic' approach; the empirical object is studied as an object in the true sense of the word. In this approach the influence of the act of observation is excluded or can be neglected. E.g., in laboratory experiments "the researcher often creates a situation in which empirical objects are studied in such a way that the true intentions of the researcher are hidden"; so, deliberate deception takes place as e.g. in the famous Milgram experiment.

Next the relation R1 (the epistemic subject i.e. the instrument and the object are indissolubly linked). They see this relation at work in those social studies that make use of measuring instruments like questionnaires and structured interviews. Measuring results (responses) are essentially relative to the context of the researcher.

According to them we are dealing with the relation R2, i.e. epistemic subject and object partly overlap, when the researcher makes use of unstructured interviews and discussions to disclose at least partly the private world of the object of study.

At last, in action research we are dealing with the relation R3 because the researcher (the epistemic subject) and the researched (the empirical object) participate both completely in the actual action.

So, according to these authors we have indeed in the social sciences at the experiential level four main kinds of research characterized by the four relations between the researcher and the researched.

Evaluating their descriptions of the four approaches, I have objections at several points, especially with regards the latter two approaches. The main point is that they see a close connection between hermeneutics and action research; and -- in my opinion -- that is not correct.

The last one, action research, is indeed well described and characterized by the fourth relation (which I called R3), because instrument and object are both totally involved. This approach is required, nót when we are interested in some property of a system, or in information concerning motivated and self-interpretated performance; it is required when the existence of the researched system as such is at stake and we therefore need to know what the system as such is or could be. That requires total involvement.

In hermeneutics (so in all kinds of interpretative methods), we have however a different relation. The researcher needs to interpret meaningful behavior, or speach acts, or texts produced by the researched. This requires that the researcher to some extent has to participate in the world of the researched, otherwise it is impossible to acquire information of this aspect of the social reality. So, a partly involvement, so a relation R2, seems necessary to elicit information that would not be available otherwise.

Though I have some objections against details of their analysis, I agree with van Beinum et al. that in the social sciences just like in physics at the experiential level -- in principle -- four qualitatively different relationships play a pivotal role.

Especially the latter two approaches, hermeneutics and action research, imply a more or less involvement on the part of the epistemic subject. But this doesn't exclude its scientific character, because this involvement only is essential at the experiential level. These approaches must result in (permanently available) inscriptions. Once produced, they must be interpreted by the scientific investigator. (Hence in the case of hermeneutics we are indeed dealing with a so-called double hermeneutics. When this interpretation and subsequent an explanation is performed objectively, then that can elicit that there are basic aspects of the social reality stampt by the relation R2 and R3.

[That means, that the researched systems themselves can exist in those relations to other systems. So we can understand, that ín existing in that relation the researched systems produce texts, interpretations and meaningful actions, which aspect of the social reality of course only can be known when a researcher, an epistemic subject, enters into the same relation with that object system].

5. Conclusions

In this talk these succinct remarks must suffice to make the following conclusions (at least) plausible.

1. I conclude that the general scheme seems indeed to comprehend the main kinds of research in the social sciences. So, there is not one true type of research but there are -- in principle -- four equally applicable kinds. Which type is needed depends on the investigated fundamental aspect of the social reality.

[Of course, it is not necessary that we will find all four in each branch of the social sciences no more than in each natural science. It is quite possible that in some discipline only one of them is needed. So, Taylor's plea for a peaceful coexistence of several models of science now can get a better foundation.]

2. My second conclusion concerns the main issue of my talk: the approach to tackle the complex methodological problems in the social sciences by concentrating on the s-o relations at the experiential level in any empirical science. The great advantage of this approach is that, unlike what is often done, I have nót applied notions from the natural sciences to the social sciences. Both groups of sciences are treated on the same basis. On the basis of the fundamental system-theoretical and epistemological analysis the approaches (or models) in each science appear as specific particularizations. So, we now can see and understand that the approaches and epistemologies in physics and those we encounter in several social sciences are on the one hand very different indeed and yet on the other hand display at an abstract level a fundamental similarity in structure.

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[1]. See his paper *"Peaceful coexistence in psychology"*, in C.Taylor, Human agency and language, Philosophical Papers I, Cambridge: University Press, 1985, Ch.5.

[2]. H. van Beinum, C.Faucheux and R. van der Vlist, *"Reflections on the epigenetic significance of Action Research"* ,in: S.Toulmin & B.Gustafson (eds.) Beyond theory - Changing organizations through participation , Amsterdam: J.Benjamins 1995.

[3]. G.J.Stavenga, Science and Liberation, Amsterdam: Thesis Publ. 1991; esp. Chapter IV.

[4]. In recent years, this is especially emphasized by Latour and Woolgar in their science studies. See e.g. S.Woolgar, Science the very idea, Chichester: Ellis Horwood Ltd. 1988, pp. 68ff.

[5]. My definition is akin to the one given by B.Latour, Science in action, Milton Keynes: Open University Press, 1987, p. 68.

[6]. Cf. Latour (1987, pp. 68f).