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A note on the reductionist business

Reductionism, in a loose form, is perhaps a rather common phenomenon in history and social science. Primarily, reduction in science is a philosophical problem, but if some (or many) empirical studies are affected by reductionism, it is also of importance to discuss this question in relation to history and social science. However, it seems that few are aware of working inside this specific tradition. Hence, the reduction is made without any reference to the methodological problems involved.

For instance, in an analysis of earlier studies of imperialism, Reynolds distinguishes between explanations of imperialism in terms of power, economy, ideology and sociobiology. Evidently, they are quite different theories, but used as theoretical devices they all have one thing in common; in the empirical studies reconsidered by Reynolds they are applied in a one-sided manner. Although, in fact presenting “a prismatic image of reality”, they are imperialistic in the sense that each theory bids for total theoretical power.¹ An example from the realm of political science is the “public-choice school”, in which “political man” is transformed into an “economic man”.²

Reductionism, we shall argue, is also at stake in another tradition, i.e. in the “psycho genre”. Some international contributions to psychohistory have recently been introduced in Scandinavia in *Psykohistoria* edited by Nigel Moore. This anthology comprises a theoretical part with contributions by Robert Waelder, Erik H Erikson, Géza Roheim and Alain Besançon, in which the authors discuss the relevance of psychoanalysis in history and social science. The second, empirical part has Soviet-Russian cultural history as a common denominator, and includes articles by Patrick P Dunn, Moshe Wolf, Gustav Bychowski, and Howard F Stein.

Stein, for instance, analyzes the problem of continuity and change in the Soviet Union by examining the composition “Peter and the Wolf” by Sergej Prokofjev.³ The story is in short that the young boy Peter leaves his home to tour the countryside with some animal friends, catches the wolf, and then proceeds in triumph to S:t Petersburg. Peter is, suggests Stein, a prototype of the normative model of the new Soviet man.

Stein interprets the symbolic meaning of the story as follows: when Peter leaves the safe Mir behind, he frees himself from the yoke of Russian mysticism and backwardness. The wolf, a far more complicated symbol, has both internal and external dimensions. The former symbolizes the potentially violent stroke in the Russian unconsciousness, while the latter connotes the Russian horror for the outside world.

According to Stein, the external wolf has been internalized with the effect that the Russians no longer are victims. But in the meantime, when the internal wolf has become the object of anxiety, the inner conflict instead has been projected on the external world. Peter's decision not to kill the wolf after catching it is of great importance, because it carries the meaning not of castration, but of passifying the anxiety. Peter has come to terms with the wolf inside. Then he goes to that Russian city, St Petersburg, which in itself symbolizes the striving to open up Russia to influence from the West.

The authors take rather disparate stands, but they all take the position that the psychoanalytical approach is something potentially rewarding. However, as already indicated, it is perhaps possible to look upon psychohistory and the psychoanalytical approach in general, in terms of the reductionist fallacy. In our argumentation we shall draw attention to the conditions which have to be fulfilled in a successful reduction, i. e. in which cases reduction is possible and in which cases it is not. However, we will also discuss which types of reduction are scientifically fruitful, if any. Hence we will raise some tricky questions, and give some possible answers, of importance for the scientific claims of the psychoanalytical approach in both history and social science.

Definitions

Since their 17th century breakthrough the natural sciences and especially physics have been regarded as the flower of science. This attitude towards science has, of course, also had a tremendous impact on 20th century thinking. Positivism, with its scientific ideal, is perhaps the most influential example of the longing for a unified science; a development – a metamorphosis – of the social sciences to the heights of formal science. It is in this context that the idea of reductionism must be understood.

Over the years there have been many attempts to promote scientific progress through reduction. The successful reduction of mathematics to logic (the so-called Frege-Russellian model) has been the foremost source of inspiration. The German philosopher Helmut Spinner, a critical analyst of reductionism in the philosophy of science, has argued that one of its philosophical grounds is the assumed existence of a common basis for science. Another is indirect interpretation and a sort of parallelism between observation and theory. A third one is the idea of an ontological hierarchy in which each level represents one empirical science. A fourth assumption is that the progress of science is cumulative.⁴

We can distinguish between two different types of reduction. On the one hand, reduction can be seen as a sort of scientific cleaning-process, i. e. a more comprehensive and manageable set of truth claims can be obtained in a particular science through definitional and propositional reductions. This process can also help generate hypotheses and in that sense promote new knowledge.⁵ However, it is a rather trivial form of reduction. It is, in Ernest Nagel's terminology, homogeneous and consists in clarifying the deductive relations between statements with a common vocabulary.

A more problematic, but according to Nagel, potentially more theoretically yielding type is the heterogeneous form of reduction. This one is characterised by

a subject matter of the science to be reduced (secondary science) that is separated from the subject matter of the science which it will be reduced to (primary science).⁶ Strictly speaking, reduction can be defined as “(. . .) the explanation of a theory or a set of experimental laws established in one area of inquiry, by a theory usually through not invariably formulated for some other domain.”⁷

The reductionist fallacy

In psychohistory, according to Moore, there are four approaches; a) the great man who is the bearer of, or emancipated from, the ideas of an epoch or, for instance, a neurotic; b) the focus on culture in terms of an analogy between the child's ontogenetic development and cultural development, c) a more structural approach, exemplified by the French so-called Annales school; and d) the psychoanalytic approach, in which the scholars own feelings have a great role to play, as “the reconstruction of the past to a large extent depends on the process of identification within the historian/analyst; another advantage seems to be the analysts' possibilities to revive the past (. . .).”⁸

Unfortunately, there is no discussion of psychohistory in relation to other approaches. The anthology is in fact a rather restricted one. Hence it does not give a clear-cut picture of the state of the art in the “psycho genre”, which could have been useful for the general reader of this introduction.

In his discussion of psychohistory Moore argues that the purpose of history “is to interpret facts of past human actions with the purpose of discovering non-manifest facts.”⁹ However, Moore's definition carries many problems, among other the one concerning the different roles and objectives of the scholar and the analyst respectively.

The meaning of “manifest” (and consequently “non-manifest”) is obviously different for the two respective professionals. The historian chooses and interprets a relevant package of data. Principally the distinction between manifest and non-manifest does not exist. For the historian it is rather a problem of good or bad interpretations. The analyst, however, has the ambition to make non-manifest (latent) facts manifest facts. History shall be emancipated and the ultimate goal of the historian/analyst is to present the “real” reality.

Furthermore, and as a consequence of that, one has to ask what constitutes this actual reality. According to Moore's definition, at least two interpretations seem possible; a) history should only study individuals; or b) all social phenomena should be reduced to human actions. The first interpretation implies that history is not allowed to study objects (such as business cycles), but only subjects (individuals). The other interpretation postulates that all objects could in the end be analyzed in terms of subjects, i. e. be reduced to actions of human individuals or in analogy with human behaviour.

Although it may be possible to argue for both interpretations, the first interpretation is simply not realistic as a description of historical research, as many historical studies focus on object-like phenomena. But is the second one acceptable? Does culture develop in the same fashion as human sublimation, or can for example the accumulation of capital be explained by Freud's anal-theory?¹⁰ The answer seems to be negative. One crucial argument, as Spinner has demonstrated, is the impossi-

bility of finding criteria for a demarcation between, for instance sociology and psychology.¹¹ And as a consequence of that, there is no way of going through with the reduction. One just does not know what to reduce.

Another way of reasoning would be in terms of methodological individualism. The meaning of this rule is, according to Popper, that "(...) all social phenomena, and especially the functioning of all social institutions, should always be understood as resulting from decisions, actions, attitudes etc, of human individuals (...)." ¹² The crucial argument for this rule is that man is an acting creature, who can not be equalized with objects, and that man also creates all social facts, although some may be unintended.¹³ But even so, one may argue, when man has created social facts at least some of them could be regarded as independent objects ruled by social laws.¹⁴

For instance, in the analyse of "standard operating procedures" (within the framework of organization theory), the interesting point of explanation is not the actions of individual office-holders per se, but routine solutions of routine problems.¹⁵ Obviously man makes a difference. But the social and psychological background of the individual seems not to be of crucial importance for an explanation of organizational behaviour, when men are turned into "institutional patriots".

On the other hand, it does not seem reasonable to argue for a holistic point of view. Some aggregates are "genuinely functional", and some "merely summative" (and thus reduceable).¹⁶ It is highly probable that actions are results of a set of intermingled factors; social and psychological as well as rational in Popper's sense of the term. An interesting point of departure is therefore the "constructivist" analysis of "the manufacture of knowledge", which is neither holistic nor individualistic, but have features of them both.¹⁷ And this does, of course, have bearing on our present topic; the constructivist hypothesis seems to outdate, at least the heterogeneous form of reductionism in history and social science.

So, when is it actually possible to make a reduction? In *sensu stricto* reduction is, according to Nagel, "(...) effected when the experimental laws of the secondary science (and if it has a theory, its theory as well) are shown to be logical consequences of the theoretical assumptions (inclusive of the coordinating definitions) of the primary science."¹⁸ In the meantime, the borrowed laws of the secondary science need not be derivative of the primary science, but it is absolutely necessary that all concepts of the secondary science also occur in the primary science. If that is not the case, reduction is impossible. It is, however, possible if assumptions are introduced for connectability (logical connections, conventions, factual or material linkages), and after that derivable from the primary science.¹⁹

But there are also non-formal conditions for reduction. Nagel argues that the assumptions of the primary science must be supported by empirical evidence with a degree of probative force. Otherwise, the reduction does not implicate a development of the secondary science. And in that case, there is no point in the reduction. The meaningfulness is also in quest as regards the content of the sciences involved. Alas, there is no point in a reduction of a more developed science to a less developed one. The reduction must also concern statements, and not properties, because reduction is a strictly logical affair.²⁰ With this elaborate set of rules in mind we can conclude that psychohistory seen in the light of reductionism is an impossible venture. One just can not formulate reduceable statements.

Finally, the scientific status of psychoanalytical theory is rather difficult to pin

down. Jarrick, for example, tries to solve the problem by making a distinction between scientific and speculative theories. The latter category, in which Jarrick puts psychoanalytical theories, stresses transcendental aspects; meaning and not truth; and is not possible to falsify.²¹ Clearly, psychoanalytical theories are not scientific in the positivist sense of the term, but the main point in this context is that their cognitive status is vague and in that sense not highly developed theories. That is of course one more argument against the application of the psychoanalytical approach in history and social science. It would be a waste of time and effort to reduce a more developed science to a less developed one. Hence, it is the scientific claims of psychohistory that has to be reduced.

Our tentative conclusion would therefore be that trivial or homogeneous reductions are possible in the social science and, if successful, valuable. And this of course also includes the case of psychohistory. But non-trivial or heterogeneous reductions are not possible in the social sciences or between social and formal sciences respectively. Heterogeneous reductions, as a strictly logical mode of operation, seem only possible in the formal sciences.

However, Spinner argues that reduction is, even at best, not a progressive program, i. e. even if it would be possible to fulfill the above-mentioned conditions. And that is because of the underlying assumption of cumulativeness, which is seen as a "(...) steady progress towards an unique set of explanatory principles of laws of ever-increasing generality, empirical content, systematicity, and comprehensiveness – a pattern of continuous cumulative growth of knowledge resulting in the last resort in a nomological unity of science (...).²² According to Spinner cumulativeness implies a conservative brand, instead of putting forward pluralism and criticism. And furthermore, even a successful reduction has as a consequence a loss of information as well as a more restrictive formulation of the reduced theory.²³ Indeed, there is interesting discussion of non-cumulative models of scientific growth. The constructivist hypothesis mentioned above, as well as Kuhn's arguments for "paradigmatic revolutions" challenge the theory of cumulative growth.²⁴

Concluding remarks

The reductionist fallacy is of course more obvious when psychoanalytical approaches are applied on a macro level. Stein, in the example given earlier, does not only give a hermeneutic interpretation of what Prokofjev has expressed in his composition "Peter and the Wolf", but in fact an analysis of the ethos of Russian cultural history. But even on the strictly individual level, as in the psychobiographical studies of Eriksson, reductionism is very much at stake.

The underlying idea of unification is problematic. When psychoanalytical theories are applied without restriction the implicit hypothesis is that man is always the same and not bound by time and space. However, although it may be reasonable to say that symbols, myths, cosmologies etc. exist in every society, it is not self-evident that they are structurally the same. Furthermore, it is a rather strong medicine to swallow, as the proponents of psychohistory argue that Freudian psychoanalysis should be the yardstick. It has in fact been argued that psychoanalysis is the modern cosmology of the West.²⁵ Instead, the most fruitful way of using psychohistory would be to analyze the different meanings and functions of symbols, myths and cosmologies in different cultures and societies.

Secondly, when confronted with new areas of investigation psychohistory could also be used as a heuristic device to produce ideas and hypotheses.²⁶ And, thirdly, psychoanalytical theory could be instrumental in cases where, as Jarrick has argued, strictly scientific explanations are out of reach. For instance, the meaning of Nixon signing a letter “your good dog Richard”, would clearly be a case for the psychoanalytically oriented scholar. However, it is not possible to make direct inferences from the symbolic meaning of this statement or from an general analysis of Nixon’s mental health to the activities of Nixon as president. As we have tried to demonstrate a reduction is not possible. In need would also be, for instance, a political analysis of Mr President’s working relations with the Congress, bureaucratic in-fighting etc. At most, if we are interested in Nixon as president, the psychoanalytical approach could give a part of the explanation.

In this short note we have tried to pin down the reductionist traits of psychohistory. Could this also be the case in other fields of historical research? How about the often used “state as actor” approach?²⁶ And is not Marxism an obvious exemple of economic reductionism (which might explain the failure of Marxism in the field of political theory)? Possibly a similar study of history in general could be instructive.

NOTES

1. Reynolds 1981, p 233.
2. Laver 1981.
3. In Moore 1983.
4. Spinner 1973, pp 55–56.
5. Gregor 1971, pp 96–97.
6. Nagel 1961, p 339.
7. Ibid, p 338.
8. Moore 1983, p 23.
9. Ibid, p 16.
10. Ibid, pp 18, 88.
11. Spinner 1973, pp 21–24.
12. Popper 1974, p 98.
13. Johansson 1975, p 100.
14. Berger & Luckman 1967, pp 47–50.
15. Allison 1971.
16. Nagel 1961, p 393.
17. Knorr-Cetina 1981.
18. Nagel 1961, p 352.
19. Ibid, pp 352–356.
20. Ibid, pp 358–363.
21. Jarrick 1982, p 118.
22. Spinner 1973, p 45.
23. Ibid, pp 45–47.
24. Knorr-Cetina 1981, Kuhn 1970.
25. Berger & Luckman 1967, pp 173–175.
26. For an intriguing discussion, see Laver 1981, p 10 ff.
27. For a discussion of the “state as actor” approach in relation to other approaches, see Allison 1971.

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