

**GENERAL THEORY, MIDDLE-RANGE THEORIES AND HEURISTIC MODELS IN SOCIAL SCIENCE.
[Section “*Philosophie des sciences*” or “*Philosophie politique et sociale*”]**

The unification problem is a permanent problem in every scientific domain from physics to sociology, without speaking of the unification of science itself (cf. Neurath, Carnap, Morris). But it has been met with a different force depending on the domains, the periods, as well the importance given to pragmatic considerations.

1. Thus, in the beginning and the middle of the 20th century, the unification of the various parts of physics was considered as one of the main problems both in physics and in the philosophy of physics. However, even if this remains a goal for many philosophers (Hooker, Kitcher, e.g.), the idea that the world might be much too much varied and complex for a unified theory to be accessible, or so fundamentally “dappled” that the project might simply be irrelevant, has broadly spread into the scientific and philosophical community (Galison and Stump, Cartwright, e.g.).

2. In the social sciences, one can observe both a comparable oscillation between the two poles. But the discussion has taken a different form compared to the one in natural sciences, given not only the different nature of these sciences but also the different degree of development of these disciplines. Thus, unlike the natural sciences, most parts of the social sciences rest on common sense intuitions (people often act according to their self-interest, but sometimes they feel sympathy for others, they often try to find the best means adapted to their ends, but sometimes they act without thinking thoroughly, etc.), so that the lack of unity and the resultant disagreements in these sciences, however strong they often seem to be, must not be really based on as *substantial* reasons as is the case in the natural sciences, where two paradigms often conflict on the nature of “unobservable” entities or processes. Actually, the main basis of the lack of unity in the social sciences might come instead largely from more *formal* reasons, and more precisely from a much too weak norm of analyticity (except in some privileged domains such as economics, demography, the sociology of stratification, network analysis, etc.), without considering disagreements on the relevance of this norm itself (postmodernism, e.g.).

3. Thus, till recently, most attempts at unifying social sciences have arisen under the format of vast syntheses. These aimed at keeping the alleged best *intuitions* of the previous global (and themselves weakly analytical) theories set up by the founders (such as Marx, Weber, Durkheim, etc. in sociology, or Marshall, Hayek, etc. in economics.). Talcott Parsons is typically representative of this kind of attempt, but the same projects have reappeared much later. Habermas is currently the most representative, but Niklas Luhman, Anthony Giddens, Jeffrey Alexander, to quote just a few examples, are also characteristic of this still strong trend in the social sciences. Even if Foucault and Bourdieu themselves didn’t furnish a general theory, they are often considered as having themselves outlined such a theory.

4. As recently as the end of the Second World War, Robert Merton sharply criticized Parsons-type general theories and enhanced the value of much more modest theoretical attempts, aiming at making a list of the social processes that might be observed in very different situations, such as the “self-fulfilling prophecy.” Merton noticed that, in these cases, the social theorist is most of the time not able to deduce the model of such a specific mechanism from a more general explanatory theory, although this model is more than just a description of a singular process. Merton called this kind of theorization of middle or actually even very low level of abstraction: “middle-range theory.” One could argue that, on the one hand, his own style was not analytical enough for Merton to be able to launch a real research programme following this path, and that on the other hand, the lack of analyticity was a general characteristic of sociological studies, apart from its quantitative parts (see Lazarsfeld, e.g.). Since that time, Rational Action Theory, however criticized it has been in social science, especially in sociology, for the (too reductionist) content of its substantive hypotheses has nevertheless given a very clear idea of what an analytical form of sociology ought to be. And a new style of sociology has emerged since the late nineties, both analytical and focused on the research of

middle-range theories adapted to the various social mechanisms (Hedström and Swedberg). Jon Elster and, to some extent, Raymond Boudon still earlier can be considered as the leading figures of this growing trend.

5. This trend deserves specific consideration from the point of view of the philosophy of science not only because the misgivings surrounding the idea of a general theory might have the same fundamental reasons in the natural and in the social sciences (the complexity and / or the huge diversity of the world) but also because the focus on the social *mechanisms* or processes instead of the “*laws*” of the social world (Marx, Mill, Durkheim, neo-marxism, neo-durkheimism) is in particular keeping with a similar concern in physics (Cartwright) and still much more obviously in biology (Darden, Thagard). What is fundamentally at stake is the relevance of the Hempel nomologico-deductive model of explanation in consideration of the effective process of sciences (W. Salmon). On the one hand, this convergence is sometimes explicit in the philosophy of the social sciences or in the social sciences themselves (See Elster, Boudon, Veyne). On the other hand, Cartwright said that her reading of philosophers not only of biology but also of history (such as Scriven and Donagan), whose careful investigations showed the way the social sciences (especially history) effectively proceeded, had played a major role in the emergence of her own ideas in the philosophy of physics.

6. Nevertheless, even in analytical sociology, even among the sociologists who were convinced by the irrelevance of vast intuitive syntheses and the reciprocal relevance of middle-range theories, the aim to construct a unified theory has not entirely vanished. James Coleman is particularly representative of this pole of theorization in the social sciences. Broadly discussed, the *Foundations of Social Theory* have often been strongly protested at by the sociological community as an impressive application of the much too reductionist Rational Action Theory to sociology (see J. Clark), which is not surprising. But, and on the other hand, the *Foundations* produced skepticism among most of the middle-range oriented social scientists themselves (H. Whyte, Ch. Tilly), whose reasons have not been clarified. The more or less implicit reason might be that such a theoretical construction sacrifices heuristics to abstract unity.

7. My specific goal in this paper is to investigate this latter problem, which also has correspondence in the natural sciences (Thagard). According to me, what is fundamentally at stake here is that what “middle” means in “middle-range theory” has not been considered straightforwardly, that is the issue of *the level or degree of abstraction that is relevant in the discovery process*. I suggested above that the so-called “middle-range” theories, such as the model of self-fulfilling prophecy, displayed a rather *low* level of abstraction. But the issue of knowing whether it is not possible to go to a higher level of abstraction than the so-called middle-range theories deserves consideration. This means that one ought to try to analyze mechanisms such as the self-fulfilling prophecy mechanism as constituted of smaller (and more abstract) processes, for example as the submission of individuals to the “epistemic authority” of an involuntary opinion leader. In turn, epistemic authority must be found in other more concrete mechanisms, such as the “threshold effect” (Granovetter). The issue is to know whether it is still worth constructing an elegant theory if it doesn’t permit us to make discoveries as well as a less abstract and less logically simple theory. One can probably go to an higher level of abstraction than self-fulfilling prophecy, threshold effect, wishful thinking, etc. not only without wasting any explanation power but, on the contrary in obtaining a more unified view of the underlying micro-processes. But to what extent ?