

LOW EVIDENCE SITUATIONS IN THE SOCIAL AND HISTORICAL SCIENCES
RATIONAL CHOICE AS A HEURISTIC DEVICE

SIEGWART LINDENBERG

Process and Mechanism

In previous decades, the philosophy of science was concerned with historiography. Typical questions were: Is it a (real) science? Is it dependent on the value judgment of the author? Are there general laws involved? Does one have to be Caesar to understand Caesar? This discussion was valuable for shedding light on the controversies within the philosophy of science, but as far as I can see, little was gained for historiography itself, including historical sociology. Maybe there was one exception: Popper's *Poverty of Historicism* published in 1957. For my purposes here, two of Popper's suggestions are especially relevant. First, historiography should reconstruct the logic of the action situation of the relevant actors. Second, historiography should furnish an analysis of social movements (Popper, 1960:149-159). For the reconstruction of the action situations, Popper suggested using rational choice as a point of departure:

"For in most situations, if not in all, there is an element of *rationality*. Admittedly human beings hardly ever act quite rationally...but they act, none the less, more or less rationally; and this makes it possible to construct comparatively simple models of their actions and inter-actions, and to use these models as approximations" (Popper, 1960:140 ff).

For the analysis of social movements, Popper suggested first and foremost *institutional analysis*. Popper also supplied us with an example (*ibid.*, pp. 152 ff). Progress as a trend had been attributed by Comte with an innate tendency impelling humans to perfect their nature. By attributing a collective phenomenon to one particular human tendency, Comte overlooked the fact that humans have many other tendencies as well and we need to know how human interaction is organized if we are to say what collective phenomenon will emerge. As an example, Popper cited scientific progress. It is brought about by the free and regulated (i.e. institutionally protected) competition of ideas.

Contrary to most authors, Popper not only offered a meta-analysis of what historians do but suggested what should be done, and he gave some good

arguments for it. As I see it, the strong point of Popper's approach is that his two suggestions jointly imply that people who write about history do not just think dynamically in terms of historical processes but also in terms of "mechanisms".¹ If one postulates autonomous historical forces (such as the autonomous growth of, say, population or rationality or freedom or productive forces), then one demonstrates that one is thinking dynamically, but no mechanism is specified as to how to these growths come about and under what conditions they are larger or smaller or even reversed. If one attributes progress to a human tendency, one also fails to specify how progress comes about. In order to reconstruct mechanisms that work over time, it is necessary to identify the more or less stable structure of the circumstances under which human beings act and under which they coordinate their actions. In order to say how these circumstances influence action, one also needs to reconstruct the individual's subjective action situation.

Popper's suggestions for historical analysis were neither well known nor widely accepted. This is where De Swaan performed a very valuable service (De Swaan, 1996). He recently elaborated and defended Popper's suggestions, especially for historical sociologists.² Like Popper, he advocated a heuristic use of rational choice theory: historical sociologists should approach rational choice theory "pragmatically" and use its most important concepts as search strategies and sensitizing concepts. De Swaan also urged historical sociologists to concentrate on the analysis of collective action, which is very close to Popper's suggestion about "social movements". For De Swaan, both suggestions also imply adding an interest in mechanisms to the interest in processes. For De Swaan, dilemmas of collective action are at the heart of every historical-sociological theory, since it is the solution to these dilemmas that specifies how people manage to cooperate. As regards one point, De Swaan even went further than Popper. He connected the two suggestions much more closely than Popper by pointing to the central place of rational choice theory in any theory of collective action. It is only through rational choice theory that the dilemma aspect of coordinated action becomes explicit.

Both authors rendered a valuable service to historical sociology in particular. Still, their suggestions remain very incomplete. The use of rational choice theory as a heuristic device has not been worked out by either of them. It is also not clear what they meant by "rational choice theory". Popper did intimate that it is useful to take "the pure logic of choice" as it is used in economics as a null hypothesis and then elaborate the deviations from this "pure" model.³ For him, complete rationality is most likely if and when there is complete information (see Popper, 1960: 141). De Swaan seemed to go in quite the opposite direction. Although he found a weak rationality assumption (without utility or wealth maximization) most acceptable, he recommended game theoretic models and Olson's theory of collective action, both of which require an assumption of maximization. What makes things even more confusing is that for De Swaan,

rational choice theories and “formal” theories are about the same thing (as is evident from his title). In this light, Adam Smith is not a rational choice theorist.

I would like to elaborate below on rational choice as a heuristic device. Why use rational choice theory, especially in historical research? What kind of “theory” do we mean when we speak of rational choice theory? What purpose can the heuristic device serve in concrete analyses?

Low evidence situations

Some things about human behaviour are not so difficult to find out. For example, whether or not somebody smokes. Other things, however, can be difficult to get at, especially the subjective aspects of the “logic of the situation”, as Popper called it. In order to use rational choice theory, we need knowledge of (perceived) restrictions and of preferences (motives). Both of them have subjective aspects, the latter even more explicitly subjective than the former, and that is why I would like to focus on the more troublesome of the two, the motives. It is virtually impossible to arrive at a purely empirical determination of motives, since there are so many measurement problems (see Fischhoff, Slovic, Lichtenstein, 1980; May and Jungermann, 1986; Zaller and Feldman, 1992). Of course one can ask people, but they are rarely clear about their own motives and a survey of this kind needs to be guided by theory on possible motives. The subjectivity should be “objectivized” to some degree. For example, in his study of the East German revolution, Opp tried to get at the motives for protest behaviour (see Opp and Voss, 1993). Although it looks like he simply asked people, he allowed his survey to be guided by three propositions. 1. In order to protest, people have to be dissatisfied with some public good aspects. 2. With regard to the protest behaviour itself, they care about the expectations and the approval or disapproval of protest behaviour on the part of relevant others (including themselves). 3. They care about the physical and material risks they run when they engage in protest behaviour. Opp’s regression models can be taken as tests of the three propositions on motives.

Historical research does not really offer an opportunity for theory-guided assessments of motives. In this research, motives are either ignored or presumed. This creates what might be called *the dilemma of the historian*. If motives are ignored, it is very difficult if not impossible to describe a process without referring to autonomous historical forces. For example, for the explanation of historical processes, Smith assumed that human nature, including basic preferences, was constant in relation to the speed with which historical processes unfold. Thus Smith could use the assumption of a constant human nature to explain how people would behave in certain changing circumstances and what their motives would be to try to establish certain institutions, such as property rights. By contrast, Marx was interested in showing the influence of institutions

on human nature, which is why he had to make human motives more or less an epiphenomenon, and ultimately had to assume an autonomous development of productive forces. This implied that the heart of historical development is inexplicable and should be kept out of the historical analysis.⁴ The price for this step is high, since what is left if one opts for autonomous historical forces is that one makes it impossible to link interest in processes to interest in the explication of mechanisms. For Popper and De Swaan, this combination of process and mechanism was the crucial ingredient of historical analysis.

The other aspect of the dilemma is also not very attractive. If one works with motives in historical analyses, one has to take into the bargain that in most instances, one is dealing with low evidence situations. How does one make one’s assumptions about motives less arbitrary? What empirical test applies to these assumptions? Common sense? Plausibility? Consistency? Reference to an authority? One finds all of these possibilities, but most frequently the last. Take for example the argument about motives in the 1830s: “the ‘deep-rooted fear of rebellion and disintegration’ made an increasing number of people propagate general primary education...” (De Swaan 1988: 107). What was evidence there for this “deep-rooted fear”? De Swaan was referring to a book by Brian Simon. But Simon himself was confronted with the problem of a low evidence situation. In this way, the problem can be shifted from one author to another. Assume that, contrary to fact, there was ample evidence of fear of rebellion and disintegration. Even then the problem would not be solved, because how do we know people were driven to propagate general primary education because of it? If we are lucky, there is a historical letter from someone mentioning that this fear of rebellion made him propagate general primary education. How good is this evidence? In any contemporary situation, people would be absolutely unwilling to accept a sample of $N=1$ as a basis for generalization. The evidence remains meagre, even with a number of letters or diaries. In this particular case, it did not really matter for the larger argument De Swaan was trying to make, but the fact remains that low evidence situations are very troublesome for anyone trying to reconstruct the mechanism that creates the process.

The dilemma, of course, is not unique to historical research. It appears in all the social sciences, albeit in less dramatic form. As a dilemma, it probably cannot be solved. But there is a way to make one aspect of the dilemma less forbidding by using a number of theories that enrich rational choice models.

Theory Guidance in Low Evidence Situations

For low evidence situations, first and foremost we need a theoretically argued *restriction* of possible presuppositions, especially regarding motivation. We need at least a “ball park” the presuppositions have to stay in. What falls inside and what outside this ball park? How do we know? My first answer is: we need

a theory that allows us to specify mechanisms on the micro level that are embedded in a macro context, a theory that has proven its usefulness for such explanatory tasks in the past and does not use much information about each individual (see Lindenberg, 1985). All three requirements are important, but for low evidence situations, the last is crucial. The only theory known to me that meets all three requirements is the theory of rational choice. However, there are so many versions of it that it is necessary to be somewhat more specific.

The core of each rational choice theory is more or less the same. It consists of a number of well corroborated assumptions which I once put together in the acronym RREEMM: Resourceful, Restricted, Expecting, Evaluating, Maximizing Man. People are resourceful, which means they are actively engaged in influencing their restrictions even if these restrictions are fixed at any given moment in time (scarcity). People also generate expectations about the states of the world and evaluate these states as more or less valuable for them. Given the fixed restrictions, people will try to make the best of it, i.e. they try to realize as many valued states as they can (they maximize in this sense). In action situations, all this means that people react to changes in relative scarcities by substituting one good for another. Although this core is quite empty, it does contain some hints on a heuristic device for low evidence situations. For example, the historical analysis that assumes a "deep-rooted habituation" is already outside the ball park. It is possible that people accept their lot, but that is due to the restrictions in the action situations, thus to the costs of finding new alternatives, and not to "deep-rooted habituation." If the relative costs of exploring new alternatives go down, then people (who always try "to make the best of it") will start or resume looking for new alternatives. This phenomenon is well known from peasant revolutions (see Wolf, 1986). One aspect of the assumptions on restrictions is probably the most reliable regularity we know in the social sciences: that behaviour is governed by changes in relative prices. If one good becomes more scarce, i.e. more "expensive", *relative* to another good, then people will purchase, have, use, or consume less of the former and vice versa. Exceptions to this regularity have been quite well explored and one can safely assume its reliability. With regard to the core of rational choice theory itself, it has proven its usefulness time and again. A historical analysis that omits the influence of relative scarcity and thus of substitution as well is without any doubt outside the ball park. Imagine reading that even after working conditions (pay, housing, working hours, etc.) deteriorated considerably, the "traditional loyalty of the servant to the master" led to the situation that the servant, against his or her own self-interest, remained faithful to the master. We would respond on the basis of RREEMM that the author of this statement was either overlooking the reduction in service by the servant or the increasing sanctions by the master. Thus, there is an explicit instruction to search for evidence of the reduction in service or the increase in sanctions.

The core does offer some boundaries for the ball park, but leaves too many sides without a fence. Important ball park restrictions are based upon how the core is filled in. Let us move from the left to right of RREEMM and see how it is usually filled in micro-economics. In an effort to make the best of it, people are assumed to be so *resourceful* that their behavioural alternatives are always at the frontier of the feasible set and not within it, since the maximum utility of alternatives that are not at the frontier is smaller. *Restrictions* are mostly financial restrictions; at best, time and effort are added. With regard to *expectations*, it is usually assumed that people are completely informed, i.e. that they know all the relevant alternatives and their prices. With regard to *evaluations*, it is usually assumed that only material goods are valued, that preferences are stable and that the number of people to whom you would *like* to give something of your scarce means is very small. This last point is the assumption of limited generosity. *Maximization* is quite clearly and technically defined in this context.

The assumption of stable preferences makes it possible that, for the explanation of behaviour, one mainly looks for changes in restrictions. That leads to an approach in which the analysis of changes in objective opportunities for categories of people is the central task. There is little information needed about each individual.

Maybe this "homo economicus" is what Popper meant by the "null hypothesis". But what Popper did not see is that in low evidence situations, we don't get very far with the assumptions that individuals maximize, that they are completely informed, and that their preferences are stable. Stable preferences are often made plausible by citing bad explanations with changing preferences as part of the argument. For example, imagine someone saying that the French Revolution came about because an important part of the population began to have democratic values. Then preferences are assumed to be changeable and the explanation is so poor that we tend to agree that we should not allow explanations to be based upon preference changes. However, the poor quality of the explanation is due to the missing mechanism and not the assumption of preference change. The evidence of changing preferences is so strong it cannot be wise to let the assumption of stable preferences determine part of the rational choice heuristics. But what should be done instead? If we drop the assumption of stable preferences, then the links from macro-to-micro and back up from micro-to-macro are much more difficult to establish. We no longer have any reason to focus our attention on changes in restrictions. There is also another problem regarding preferences. Should we follow the economists and assume that people only value material goods? If we do so, it is very different than, say, the assumption of complete information. The latter can be defended as an ideal type of rational choice, but that does not hold true for restricting preferences to material goods. Such a restriction to material goods, with all its advantages for measurement and model building, is substantively so arbitrary that we lose the

advantages of heuristic guidance by rational choice in low evidence situations. We have no way of saying whether we are inside or outside the ball park.

The major claim here is that without a theory of preference, the heuristic value of the rational choice theory is very limited, especially in *low evidence* situations. Such a theory is not easy to find, all the more so because of the requirements that it be relatively easy to lay the macro-micro-macro links and that only limited information on each individual be needed.

In recent years, efforts have been made to develop a theory of preference on the basis of Gary Becker's household economics. This theory (see Lindenberg, 1992), called the "social production functions theory", has also been used to explain social revolutions (see Lindenberg, 1989). There is no room to present his theory in any detail here. The most important point is that the individual is not viewed as a consumer but as a producer and that individuals are the same in one important respect: in one form or another they all want to produce physical well-being and social approval. But individuals differ cross-sectionally and over time in how they can achieve these general goals. This production is extremely important for individuals, and this has clear consequences for the heuristic value. If I don't know how people systematically produce their physical well-being and social approval and what possibilities they have for substitution, then as a sociologist, I know next to nothing about them. Here, even the assumption that people are strongly concerned about money changes into an institutional argument. Adam Smith gave us an example that was rarely followed by other economists. He said the entrepreneur, the worker and the land-owner probably all want the same things in life but in order to produce them, they need to have the necessary means. In the British economy of the time, money was a crucial means toward most desired goods, including status for non-aristocrats. However, the three different classes, entrepreneurs, workers and land-owners, earned money in very different ways. The entrepreneur earned money through profit, the worker through wages and the land-owner through rent. The goals on the micro level were thus formulated in terms of the macro context of the British economy of Smith's time.⁵ There is no complicated psychological reasoning in which long chains of assumptions link the two levels, as occurs at times with psychodynamic and learning theories. The way back to the macro level was also quite easy for Smith, since the way from the macro down to the micro level was so short. As long as there is economic growth, profits and wages can both grow. If economic growth slows or even stops, profits and wages will be negatively correlated and then two of the three classes will find themselves in conflict with each other.

Another important aspect of a theory of preferences is the phenomenon of "stubborn" behaviour that is not easily influenced by changing relative prices. This behaviour occurs quite predictably in certain situations. Probably the most important one is the situation characterized by losses. There is ample evidence

that losses loom larger than gains. A threat to the established modes of production of physical well-being and social approval will thus make people focus very singularly on losses. They will think of little else. This can safely be added to the robust propositions of the heuristic device. People with a loss perspective will deviate quite strongly from what Popper took to be "pure rationality". But contrary to Popper's suggestion, we do not merely observe a deviation from "pure rationality". Instead, we incorporate this deviation and its conditions, as part of the theory of rational choice, into the heuristics for low evidence situations. Last but not least, a theory of preferences should also say something about the likelihood that people will behave altruistically. Unfortunately this point too can only be briefly mentioned in this short paper, and again the reader is referred to the literature. A quick and easy statement about altruism that has been corroborated time and again, even though it is open to exceptions, has been that altruism decreases rapidly with social distance.⁶ As crude as it is, this assumption is robust enough to be included in the rational choice heuristics for low evidence situations.

Conclusion

Popper and De Swaan both suggested linking the interest in processes to an interest in explicating mechanisms. Both authors argue that rational choice theory is necessary for this purpose, especially as a heuristic device in historiography and historical sociology. De Swaan made the argument even more forceful by stating that in order to wed the explication of mechanisms to the analysis of historical processes, one needs a theory of collective action and that, in turn, necessitates the use of rational choice theory because otherwise the problem of collective action (free-riding) cannot be grasped.

In this article, I tried to show that these suggestions do not go far enough. They fail to address how most if not all historical analyses deal with *low evidence* situations in which assumptions about preferences, i.e. motives, are difficult or impossible to test. In order to safeguard against ad hoc solutions to this problem in historical analyses, one needs a heuristic device. This heuristic device should at least provide guidelines on which motives are and which are not likely in a given situation of constraints. Rational choice in general could be a very suitable instrument for such a heuristic device. However, without an explicit theory of preferences, the value of rational choice theory is very *limited* for low evidence situations. These situations occur in all the social sciences but are most frequently the subject of the kind of analyses Popper and De Swaan suggested the use of rational choice theory for. Because of the strong dominance of economists in the field of rational choice theory, this limitation of the theory has not received the attention it deserves. In this paper, some recent developments in this direction were briefly discussed. In my view, it is precisely in this area of *structurally*

embedded preferences that the rational choice heuristic device for low evidence situations should be developed further in the future.

NOTES

1. Popper's approach is actually quite close to what Adam Smith called the "didactic method" (see Smith, 1983 (orig. 1763), pp.145 ff.). Smith, however, was much more specific in the way he worked out his approach.
2. De Swaan, though, does not refer to Popper in his paper.
3. This is almost identical to Weber's use of "goal-rationality" as ideal type.
4. See Lindenberg (1980) for a more detailed analysis of this confrontation of Smith and Marx.
5. For Smith, profit, wages and rent were thus institutionally created utility arguments (see Lindenberg, 1981).
6. A more elaborate treatment of this topic can be found in Lindenberg (1996).

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