

Popper and Sen on Rationality and Economics: Two (Independent) Wrong Turns Can Be Remedied with the Same Program

by

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Introduction:

Karl Popper and Amartya Sen have developed social theories which are very close to each other, though neither has taken notice of the other. The independent programs they propose for the development of their theories go astray, because they build on standard economic methods, albeit in different ways. A better approach for the development of each program can be found by using Popper's important, but in the methodology of the social sciences hitherto ignored discovery, that rationality is social. Important contributions of Sen to economic theory may then be developed in ways which also contribute to Popper's social theory.

1. An alternative to Popper's approach to the methodology of the social sciences is needed.

Although Popper said that economics was the best social science, the rationality principles which economists use are quite unrealistic: they presume (1) that individuals act in ways they cannot act at all, (2) a very narrow view of the aims of actions, and (3) that the sum of individual rational actions in a free-market is a well-functioning system. Popper rejected these assumptions, but he nevertheless tried to save a version of the rationality principle, which was close to versions of it used in economics.

Popper took a clear position against (1) all functionalist versions of social scientific research, that is, all theories which presumed that societies were entities which could be treated as functional wholes which obeyed their own laws, against (2) all theories which sought historical laws of social development, above all, Marxist theories, and against (3) all those theories which claimed that social scientific theories had to be constructed with interpretative methods designed to look at events from "within".

In *The Open Society and Its Enemies* Popper developed a social philosophy which grew out of his studies of knowledge. But he remained comparatively silent on individualist social science, especially economics, such as that practiced by his friend and supporter Hayek. He set the prime task for social science to be the discovery of the unintended consequences of rational action and he defended methodological individualism as the proper method for the social sciences. As Jarvie has pointed out, he portrayed his theory of science as social. (Jarvie 2001) Although Popper later praised economics as the best social science that we have, he did not explain himself. The closest he came to doing so was his defence of the use of the rationality principle in social science, a defence which raised difficulties, since he argued that this principle must be dogmatically assumed even though it did not correctly describe much of human behavior. (Popper 1985) His argument is not only convoluted; it diluted his fallibilism and his realism. (Wettersten 2006, pp. 45ff.)

A different approach to this nest of difficulties is to use new normative theories of rationality developed by Popper's followers to develop new descriptive theories of rational behavior. In

the light of these theories, we may ask, Can rational behavior be explained in some better and more hopeful way than the established rationality principles allow? (Wettersten 2006, 2007b)

On this approach the prime task of economic theory is the study of the consequences of rational action in institutional contexts, that is, the study of how specific institutions steer events by shaping the problems individuals pose, the solutions they select, and their critical methods for appraising both. This proposal fits far better not only with Popper's thesis of the limits of rationality and the need for the social sciences to discover unintended consequences of social policies, but also with his important thesis that rationality is social. It also fits quite nicely with Sen's studies of the needs of individuals to control their own fates and to take their institutional context into account. It extends the range of events which may be explained as rational in a realistic way, as Sen also wants to do.¹

2. Popper's defence of the rationality principle ignores his most important contribution to the theory of rationality.

Popper maintained that rational thinking is a social process of making conjectures and criticising them so as to improve them. This process enables individuals working together to improve the knowledge of all. Without it no science is possible. But in his philosophy of the social sciences he left aside his social theory of conjectures and criticism. Other than its appearance as a warning that even rational action can go astray and as a recommendation that social scientists should investigate unintended consequences of actions, it is not treated as relevant to social scientific explanation. He restricted social science to tracing the consequences of individuals pursuing aims and following plans in accordance with their beliefs. This stance brought him very close to economists, where he wanted to be, but it failed to integrate his fundamental discovery, that we learn by criticism in interaction with others, into his methodology of the social sciences. Why should we ignore this crucial fact about learning and society in developing social scientific theories?

On the face of it, it seems that Popper desired to offer a methodological approach which would be simultaneously consistent with his own philosophy of the natural sciences, on the one hand, and with neo-classical economic research on the other. The result is curious. It does

¹ Popper's theory that science is social grew out of the need to add methodological rules to a study of the logic of research. He discovered this need after he wrote his first philosophy of science. In his first view—*Die beiden Grundprobleme* without Chapter V—he presumed that basic statements were veridical and he ignored the possibility of ad hoc defenses of theories—as Reichenbach pointed out to him. (Reichenbach 1930-31) He then added methodological rules to remove difficulties which arose for his first view. (Wettersten 1985, 1992, 2005) As Jarvie has recently emphasized, Popper developed his view of science as social in *The Open Society and Its Enemies*. (Jarvie 2001; Wettersten 2006b) Joseph Agassi introduced the idea that rationality is partial (Agassi 1981) and Jarvie and Agassi together have developed this view by explaining the rationality of magic, dogmatism and irrationalism. (Agassi and Jarvie 1987) But they do not make the study of varying rational practices in various institutional settings a task for the social sciences. The best description of Popper's theory of social scientific research in the sense of being the most sympathetic to him is Agassi's. (Agassi and Jarvie, 119-150) But he also ignores too much Popper's thesis that rationality is social. On my view in contrast to Popper, who said we should put as much as we can into the heads of individuals to construct social scientific explanations, we should put as much as we can into institutions to explain how they steer events. This should be done by, on the one hand, studying how institutions shape the problems individuals seek to solve, how they influence the content of solutions individuals choose, and how they enable or hinder the critical appraisal of both and, on the other hand, using results of such studies to explain consequences of institutional arrangements. Agassi's study of medical diagnosis carried out with Nathaniel Laor is an example of the research which the program here suggested advocates: They study social rules of diagnosis, the problems they pose for individuals, and the consequences of adhering to them. (Agassi and Laor 1990) A further example of such a study is Michael Segré's portrayal of the decline of science in Italy after Galileo as a consequence of the institutions of the time. (Segré 1991) For further discussion see (Wettersten 1996; 2006a; 2006c; 2007a; 2007b)

not merely ignore his significant discovery that rationality is social and critical, but it also is quite convoluted. He asserts that the rationality principle is “almost empty”. But it is hardly clear what that means. It sounds very positivistic where “empty” can mean “non-empirical”. But Popper does not accept any such theory. Social scientists should never deem the rationality principle refuted; they should presume it is true when constructing models of social situations. The models, he says, should describe reality. For this reason he claims to be offering a realistic theory of the social scientific research. But he apparently views model construction itself as a rather ad hoc procedure: one seeks in various situations to build models. He gives no theory about whether models should be connected with each other, thereby building more comprehensive social theories, or how one chooses which social situations should be modeled.

Though at first glance Popper’s theory may appear to be internally inconsistent and/or inconsistent with his theory of the natural science, it is neither. But it is very complex and says little that is useful about how to do social science. It is above all a defensive effort to reconcile his philosophy of the natural sciences with established economic methodology. Far more progress can be expected if we look for conflict as well, and then ask what will have to give.

3. Sen’s two sided view of research in economics.

Before correcting Popper’s proposal for methodology in the social science by incorporating his view that rationality is social, on the one hand, and an explanation of how this correction may be used to develop Popper’s own social theory, on the other hand, I turn to the economic theories of Amartya Sen: He has developed virtually the same social theory as Popper and has also provided a poor approach to developing his theory because he clings to established approaches in economic theory. The social theories of Sen as well as those of Popper can be developed with the same methodological approach, because their perspectives are so close to each other, as I explain below.

Sen has observed that there are two kinds of research in economics today. On the one hand economists use rationality principles to construct elegant mathematical models. These models may presume the existence of systems in, or moving towards, equilibrium or they may attempt to describe a society with a proper distribution of goods—a so-called welfare function. On the other hand economists take account of social contexts which are not so easily put into the Procrustean Bed of neo-classical economic theory. Sen’s view of progressive economic societies lies on this side of the divide and is virtually identical to Popper’s theory of the open society. His major interest lies in showing the limits of the former traditional side in order to make room for the latter progressive side. The latter is needed in order to understand economic development and to find some acceptable measure of social welfare. He hopes to preserve the ideal of the elegant, formal side of economics by extending it take account of a wider range of rational behavior. Although he finds standard views of rationality limited, he not only does he not reject them; he seeks to save them by extending the standard approach.

One of the crucial limitations of standard economic theory Sen finds is its ethical theory, that is, utilitarianism. In, for example, *Ethics and Economics*, he gives an explanation of why the assumptions made in ethical theory are too narrow. The standard approach to economics requires that all rational behavior consists solely of attempts by individuals to maximize utilities. The utilitarian approach is thus needed in order to develop models of economic systems. Sen stresses that only a wider view of the rationality of human action can take into

account the appreciation of values which individuals exhibit as well as their desire and ability to act autonomously by choosing their own actions. Actions are often pursued even at the expense of those sorts of well-being which are easily expressed as utilities. He finds that individuals have commitments which are quite different from self-interest and these commitments in addition to the pursuit of self-interest guide their planning and choice of actions.

But, after convincingly arguing for this point of view, he adds that he hopes to extend the ethical theories of economics rather than to replace them. People do seek to maximize utilities, but that is not all they do. Sen does not say how the neglected aspects of moral, rational human behavior should be integrated with those that are taken into account in standard theories. But he emphasizes that he and others are working on the project of developing a more comprehensive and coherent view.

When discussing how we can tell whether individuals are rational, he offers no extension of standard views. He simply proposes that individuals are rational, if they have subjected their views to critical scrutiny. And when discussing justice, he does not hope to have a precise theory of the just society. But he says it is sufficient if we can say that some conditions are quite unjust. A society which tolerates famine is unjust.

If we look at the contents which Sen places on the two sides of the division he describes between an imprecise description of economic behavior on the one hand and the formal apparatus used to develop economic models on the other, we can see that a new framework, not merely an extension of the existing framework is needed. The theory of rationality on the mathematical side is too narrow to take into account of the description of actual economic behavior. On the informal side of Sen's divide we find such factors as the interest of individuals in controlling their own fate, their interest in both the process by which decisions are made and their autonomy in setting the direction they choose, and the need to take into account how real economic systems are regularly mixed, how, for example, family based economic conditions interact with markets in specific societies. In his discussions of the elegant side of economics Sen discusses above all how theories are limited, because they do not take such factors as these into account. The theory of individual decision making does not take into account the importance for individuals of the process of decision making and attempts to find a social welfare function do not take into account the value which individuals place on the process by which decisions are made. The former should be explained and then incorporated into some proper welfare function, according to his program. When he comes to discussing what should be done, however, he says we need to take the facts more comprehensively into account. He does not say we need a new theory, though he does offer his own theory of the role of freedom in development as an alternative program.

4. Sen's progressive program in economics parallels Popper's ideals

Sen emphasizes autonomy, rationality as critical scrutiny, social evaluation as the identification of unbearable conditions, the importance of effective institutions for economic activity, the importance of taking unintended consequences into account, and the importance of democracy as a learning process which contributes to economic development. Both Popper's social theory and his theory of rationality fit extremely well with all of these points.

Sen contrasts rational behavior as postulated by standard theories of rationality with the behavior of individuals seeking autonomy. He sees this latter behavior as rational, but only in an intuitive sense. He offers no alternative theory of rationality which explains how and why

such behavior is rational. He observes that it is not described by the standard principles of rationality which describe individuals as setting priorities and choosing those which have some desirable combination of the satisfaction of personal utilities and some probability of success. This theory is too narrow because individuals pursue aims which are not merely personal utilities. They attempt to solve problems in institutional settings which are defined not merely in personal terms but also in moral, family or other social terms. Individuals have commitments which they use in making their plans.

Sen describes those problems individuals face in attempting to come to terms with their institutional contexts. He describes their desires and hopes to choose direction, rather than to simply have economic alternatives open to them in the sense of having various paths to financial well-being as measured in the amount of goods they have at their disposal. He also takes into account their desire for achievement and autonomy, their desire to solve problems.

The activities he describes are examples of the exercise of rationality as fallibilist theories envision it, that is, it is problem-solving activity which involves learning from mistakes and setting new goals which should solve problems. Sen takes no notice of either this or of the rationale these theories offer for viewing rationality as he does. Indeed, even though his numerous publications contain an unbelievable number of references, he avoids any mention of Popper or fallibilism. He never considers revising the rationality assumptions of established economic theory in order to improve his research program. He merely notes that his contributions do not fit standard theories very well and expresses conviction that seeking to reconcile the differences will lead to progress.

From a moral point of view the activities Sen describes are those called for in a fallibilist moral theory. They are autonomous activities which require that individuals take responsibility for their actions and learn from their mistakes. This moral view goes well beyond the utilitarianism to which economic theory is tied. Sen realizes this and hopes to extend utilitarianism, but this is not possible: the activities he describes are not merely extensions but conflict with the moral judgment of the utilitarians. The normal theory can be extended in some easy ways. But it cannot be treated as a catch-all for all moral perspectives. Sen claims that Nozick and Rawls each takes account of some important moral facts, but each ignores those facts which the other takes into account. But these so-called facts cannot simply be added together and then accounted for in some comprehensive theory. They are statements of competing moral perspectives.

5. Sen's methods cannot reconcile old principles with new results.

Sen hopes to reconcile standard approaches to rationality used by economists with his own innovations in economic theory by extending the former to include the latter. In doing so he uses an inductivist method, pursues the theoretical ideal of a complete system, and presumes a functionalist social theory. In the end he rejects all three as unrealizable: he knows that his inductivism cannot produce an holistic theory of a functionalist society. He suggests that we should approach as near as possible to the ideal until we find Arrowian inconsistencies, a procedure he calls 'brinkmanship'. We may then not have a perfect system, but we will have the best possible system.

Sen's inductivism is evident, above all, in his critical method. This method is to show that current systems do not take specific facts into account; they must be extended to remedy the deficiency. Although he never explicitly states the inductivist assumptions that facts can be gathered without theoretical guidance and that all facts gathered should be incorporated into

some ideal system, he offers no standards by which to judge whether some theory which does not take some facts into account should be deemed incomplete. Rather he adds facts he takes to be important. Although he uses his theory to gather and choose facts—when talking about freedom, for example, he argues that it is important for economic development—his criticisms of various alternatives are treated as mere observations that some criticized theory is incomplete. Nozick accounts for rights, and Rawls accounts for distribution of goods, so neither is wrong, but both are incomplete. Becker accounts for human capital as part of the market, but neglects the value of freedom itself. His view is not wrong but incomplete. Sen does not explain why he dismisses the normal view that these are simply contradictory theories.

By demanding that a true theory should account for as close to all the facts as possible Sen adds to his implicit inductivism the theory that the true theory will be an all-encompassing coherent system. A theory which accounts for all the facts will, we may presume, describe societies in comprehensive ways. He does not single out which aspects of some particular societies or of all societies he intends to account for. Having no standard to select those facts which should be explained as part of economic systems, and contending that theories are inadequate for not taking some facts into account, the only plausible interpretation of his critical approach is that it presumes that any social theory which fails to take some social facts into account is to that degree inadequate. This approach precludes the construction of adequate theories of aspects of societies. Each proposal should be subjected to the systematic analysis offered by the methods of the elegant side of economics. (He does this in essays in *Rationality and Freedom*.) If it fails to meet these standards it must be extended to avoid inconsistencies.

Any holistic aim in the social sciences presumes a functionalist view of societies. Only societies which are functional, or functional under certain conditions, could be truly described by some comprehensive and systematic social theory. Functionalist social theory has been effectively criticized from both within and without the social sciences, but it is not surprising to find an economist taking it for granted. Neo-classical economic theory presumes that under certain assumptions societies can be described as well functioning systems. Sen is not, of course, satisfied with a merely economic description, because he realizes that no economic description can be adequate which does not take into account the moral dimensions of human beings. Only then can their rationality be properly understood. But this does not lead him to question the functionalist assumptions of neo-classical theory, but rather to call for their further development. In doing so he lands pretty much back where sociology under Parson's leadership was. A complete social system should be constructed which can be applied to describing how each society functions. The only caveat is that no such system is possible, so we try to find out how close we can come to it.

The difficulty facing Sen's program for finding a social welfare function which his moral theory is intended to serve becomes clear at the end of his essay, 'Social Choice and Individual Behavior' in *Freedom and Development*. He suggests that there are three reasons why one should not view the construction of a social choice function to be impossible. He wishes to answer each. The first reason for deeming such a function impossible is that Arrow's results show the impossibility of rational social choice. He suggests Arrow's negative result merely shows that not enough information has been incorporated. The remaining problem is merely one of incorporating enough information. He assures us that this is possible, but no test of this hypothesis is suggested. The second reason for deeming a social choice function impossible is that rational social choice cannot take account of unintended consequences. He suggests that the problem can be resolved, if one takes into account the unintended and

predictable consequences of social action. He seems to assume that there is no serious problem in identifying these results, and no position is taken about the possibility of unpredictable unintended consequences or what the consequence for theory construction should be if there are such. The third reason for rejecting the possibility of social choice function is that rational social choice does not take account of human motivation. He suggests that rational choice need not be so narrow as to be restricted to the pursuit of individual interests, that ethics plays important roles in all economic systems. But he does not explain how to extend the standard approach to take that into account.

6. Fallibilism can further the programs of Popper and Sen.

Problems which Sen's studies raise include those of how to improve the opportunity and capacity of individuals to think better, of how institutions impact their capabilities to pose and solve problems, of how critical appraisals about what is to be done can be made, and of how one can cope with unintended consequences of social planning. All of these problems can be handled nicely in the context of a fallibilist theory which recognizes that all judgments are provisional, are made in social contexts which set parameters for them, and are subject to criticism in institutional contexts. These problems grow quite naturally out of the studies of both Sen and Popper. But neither have developed methods for dealing with them within the most promising framework, perhaps the only framework, for dealing with them. This is a framework which builds on fallibilist theories of rationality. Unfortunately both Popper and Sen have concentrated on reconciling their own views with traditional views of rationality and economic methods. Popper has emphasized methodological individualism at the expense of his social theory of rationality. Sen turns far too much to attempts to put them in the Procrustean bed of standard economic theory.

An alternative program may avoid both the problems faced by Popper in his convoluted theory of the use of the rationality principle in the social sciences and those faced by Sen in trying to reconcile his progressive ideas with standard economic theory. This program takes account of (1) how institutions lead individuals to pose problems and to select solutions, of (2) how learning is hindered or furthered by institutions, thereby providing social accounts of rational practice in differing contexts, of (3) how institutions interact either by complementing each other, that is, by improving the ability of individuals to pose problems and solve them, or by hindering them. (Wettersten 2006a; 2007b)

This program can be carried out if individual problem solving is viewed from the perspectives of the varying institutions in which problems are posed, solutions sought, and criticism of alternatives developed. Instead of using individual problem solving to explain institutions, we may use institutions to explain how individuals pose problems, how they solve them and how they critically evaluate alternative solutions to them. Institutions are not merely blocks in the road which have to be overcome after problems are posed or roads which make solving problems easy. They determine which problems are posed, which solutions are selected, and how individuals learn. The social theories of Popper and of Sen may be developed by the construction of empirical theories of how various institutions do these things.

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