

CONFUTING POPPER ON THE RATIONALITY PRINCIPLE*

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The debate concerning Popper's philosophy of the social sciences began about twenty years ago and it was due to John Watkins that it was first focused on the rationality principle (cf. Watkins 1970). However, thanks to some recent publications, this debate has taken a new turn. What follows is intended as a contribution to the discussion which has been generated by these recent publications. These publications have all been critical of Popper's philosophy of the social sciences. Indeed, many methodologists, be they economists or philosophers, are firmly convinced that Popper's arguments in this area, especially those concerning the status of the rationality principle, are obscure, incoherent and perhaps even incompatible with the essentials of falsificationism. Michael Schmid says, for example, that "methodologically Popper's idea of rational action leads to a version of theoretical instrumentalism which is incompatible with his general philosophy of science". (Schmid 1988, p. 451) He adds that "substantially it implies an unacceptable theory of social institutions." (*ibid.*) D. Wade Hands (cf. Hands 1985) goes so far as to suggest that the position of Popper_S (the epistemologist of the social sciences) is so different from the position of Popper_N (the epistemologist of the natural sciences) that the fundamental thesis of methodological monism, the thesis so ardently defended by Popper in *The Poverty of Historicism* and in other works, is manifestly false. In what follows, I have two main objectives. The first is to show that the accusation of incoherence which has been levelled at Popper does not hold up to scrutiny, and thus that the criticisms raised in the recent publications have involved misinterpretations of Popper's position concerning the methodology of the social sciences and, in particular, of his position concerning the methodology of economics. In order to achieve this first objective, it will be necessary to reconstruct Popper's arguments concerning the rationality principle (from now on referred to as the RP). This will be my goal in the first section. However, I do not

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intend to limit myself to the task of reconstructing Popper's arguments in order to make clear their overall coherence. For even when they are correctly reconstructed, these methodological arguments appear to me to be nonetheless flimsy if not indefensible. I shall devote a second section to explaining why this is so. The strategy of this second section will be the following: instead of attacking the coherence of Popper's argumentation, as Wade Hands and many other critics have done (cf. Koertge 1974, 1975 and 1979; Latsis 1972 and 1983), I shall show that it contains a crippling defect which is essentially related to the propositional content of the RP proposed by Popper for the construction of explanations in the social sciences.

1. An asymmetrical methodological monism

Popper's philosophy of the social sciences is extremely elusive because it represents a sort of precarious balance between several different points of view. Indeed, in this domain, especially when it comes to his views concerning the RP, Popper seems to be downright *evasive*. The short text from 1967¹ which is the origin of the debate is less the exposition of a ready-made doctrine than the progressive disclosure of a point of view for which Popper seeks a logical basis, a conceptual foundation and even an epistemological justification. As Popper's argument advances, it shows this view's numerous ramifications. Thus, the position for which Popper argues in this text is particularly hard to pin down. The text leads us, usually at first without our being aware of it, from a position which eventually turns out to be problematic, to a position which Popper believes to be, in the final analysis, more secure. Obviously, we shall have to decide whether he is right on this point. The development of the argument is in a way an obstacle to the comprehension of the thesis which Popper finally defends. In this text, which is far too brief, Popper raises several central and even crucial questions concerning the RP: Is the RP true or false? Is it empirically confirmed or is it *a priori* true? Is it testable and refutable or is it a mere tautology? Should we attempt to falsify it and to replace it by a theory which can be more adequately confirmed, in order to remain faithful to the canons of critical rationalism in the realm of scientific methodology? On all of these questions, and on some others which are related, Popper's position seems to reflect a certain stealthiness. It could even be said that this position seems to be thoroughly equivocal, even after it has been given a "charitable" interpretation in order to restore to its rather abrupt and inceptive argumentation a certain amount of coherence and perspicacity. And it should be remarked right away that this argumentation has certain shortcomings. These shortcomings

1. Throughout this text I will refer to David Miller's 1985 edition of Popper's 1967 article.

must be brought to light and thoroughly examined. But before doing this, it is necessary to bring all of the important details of Popper's position into play, in order to see how he sets about examining situational logic, that is to say, the logical method of the humanities and the social sciences, within the conceptual framework of falsificationism.

In his writings, Popper apparently refers to two explanation schemata² which I shall present in rough outline further on. However, in reality, it is a question of one and the same schema being used in two different contexts. Popper uses this schema both when he discusses the explanation of events in the natural world and when he discusses the explanation of events in the social world, these latter being conceived of as individual actions (with intended and/or unintended consequences). The D-N explanation schema, developed by Hempel and Oppenheim from an idea which originated with Popper, has to be considered as canonical.³ It is constantly presupposed by Popper in his analysis of the RP. The other schema specifically concerns the social sciences and thus knowledge of human reality. I shall call it the SL explanation schema (SL for "situational logic"). It is easy to see that this second explanation schema is not really distinct from the first one. The fact is, it is only an extension of the first one to the domain of human facts, in other words, to the domain of human action. This is why the same deductive model of explanation is used in both cases. It is a model in which the *explanans* forms the antecedent, and the *explanandum* the consequent, of an inference which is logically valid, and which can also be sound if and only if all of the statements are true.

2. I shall use the term "schema" in this context instead of the term "model" because the latter will be introduced further on with a specific technical meaning.

3. We should be very careful when attributing the paternity of the D-N model of explanation to Popper. In fact Popper has progressively come to be very critical of what has been called in the literature on explanation the "deductive model". In *Unended Quest* for instance, he says: "A voluminous literature, which in my opinion has contributed little to the problem, has sprung from a mistaken criticism of my ideas on *historical explanation*. In section 12 of *Logik der Forschung* I discussed what I called "causal explanation", or deductive explanation, a discussion which had been anticipated, without my being aware of it, by J. S. Mill, though perhaps a bit vaguely (because of his lack of distinction between an initial condition and a universal law)...(...)...I did not, however, regard this particular analysis as especially important for *historical explanation*, and what I did regard as important needed some further years in which to mature. It was the problem of rationality (or the "rationality principle" or the "zero method" or the "logic of the situation"). But for years the unimportant thesis - in a misinterpreted form - has, under the name "the deductive model", helped to generate a voluminous literature." (section 24, p. 117) Even more importantly, he adds in note 178: "I now regard the analysis of causal explanation in section 12 of *L.d.F.* (and therefore also the remarks in *The Poverty* and other places) as superseded by an analysis based on my propensity interpretation of probability (...)" What this precisely means for the "zero method" of explanation is not at all clear since Popper himself does not make any link between the two topics.

The D-N schema and the SL schema are, at least in appearance, both determinist to the same extent: in both cases, the initial and the marginal conditions have the role of causes which only have the effects which we attribute to them because they obtain under a covering law, a law which the schema contains as a central logical component. Thus Popper agrees with Hempel that explanation in the social sciences is just as dependent upon nomological causality as explanation in the natural sciences, for in situational analysis, rational explanation (that is to say explanation which involves referring to an agent's reasons for acting) is shaped on natural explanation.

If these two schemata are completely similar when it comes to their logical structure, they also appear to be completely similar when it comes to the question of methodology. For, if the universal statement (the theoretical law) constitutes the nomological part of the determinist D-N schema, it is apparently the RP that plays this explanatory role in the SL schema. Moreover, Popper uses, quite misleadingly, the expression “model” or “theory” to describe that which constitutes in the SL schema the analogue of the initial conditions in the D-N schema⁴. He also claims - I think wrongly or at least without argument - that in the social sciences it is hardly possible to explain singular events as opposed to kinds or types of events, the explanation of which involves having recourse to models⁵. Apart from this putative particularity of the social sciences, the symmetry of the two explanation schemata appears at first glance to be complete.

Nevertheless, as can now be seen, there is an important difference between these two

⁴. In the *explanans* of a D-N schema of explanation, it is not the initial conditions but the nomological element which is characterised as being the “theory”. For it is precisely this statement, usually represented as a universal proposition, that has to be falsifiable and to be put to test as boldly as possible. But in the SL schema of explanation, it is the “model”, and not the RP, that Popper suggests social scientists should test. One can only suppose that this is why Popper also calls this model of the situation the “theory”: for it is precisely this part of the *explanans* that one should indeed try to refute in sociology and economics or in any other possible theoretical science of social phenomena.

⁵. Because explanatory work in social sciences can only concern events-types, the “model” searched for as giving the explanation of the observable events can only incorporate typical initial conditions. This is to say that as far as theoretical research is concerned in the general field of social sciences, it amounts to “the method of constructing models.” (Popper 1967, pp. 357-358) Popper evidently thought that mathematical model-building was precisely the kind of knowledge economists were and should be developing with success. One can say without risk of error that as a general tenet of his philosophy of social sciences, Popper always considered that this precise research strategy could be and was to be implemented as a general approach in all social sciences - and maybe also as the only fruitful one.

explanation schemata. It is a difference which we have to discuss, since it has to do with perhaps the most original part of Popper's analysis. Unfortunately, however, this means that it also has to do with that which makes Popper's analysis especially hard to follow; it means that it has to do with Popper's contention that the respective *methodological applications* of the SL and the D-N schemata are asymmetrical, even though the two schemata are logically symmetrical. According to Popper, in the natural sciences, it is always a question of attempting to test theoretical laws, but in the social sciences, it is always a question of attempting to test the "model". Popper also says that, in the social sciences, the "model" constitutes the testable and falsifiable "theory", or at least that it should be considered as the latter's only real equivalent or methodological analogue. Thus it is clear that what Popper understands by a "theory" depends upon whether he is speaking from the perspective of the D-N schema or from the perspective of the SL schema. This semantic subtlety is at the origin of much of the confusion among the commentators: although it never refers to anything other than the part of the explanation schema which is testable or refutable, the expression "theory" does not denote the same sort of proposition in the two explanation schemata. The result is a strong temptation to stress either the great similarity of the two methodological approaches or their essential disparity. And this is precisely the way in which the main views of the commentators are divided. One group of commentators emphasises the coherence of Popper's theses, while the other group emphasises the inconsistency of the methodological monism peremptorily displayed in Popper's writings. The following table juxtaposing the two explanation schemata points out the logical symmetry as well as the methodological asymmetry which our comparative analysis has revealed:

<u>D-N Explanation Schema</u>	<u>SL Explanation Schema</u>
<i>Explanans</i> : Initial conditions Theory (or Law)	<i>Explanans</i> : Model (or Theory) Rationality principle
_____	_____
<i>Explanandum</i> : Natural Event	<i>Explanandum</i> : Social Event-Type

Having shown that there is an important difference between these two schemata, it is essential to make two observations. First of all, we should note that the logical structure of that which Popper calls the "model" in the SL schema is left virtually unspecified. As a first approximation, it consists of a group of typical initial and marginal conditions. In other

words, the theoretician (let us now call him the “model designer”) makes no reference to a particular spatiotemporal location; and she does not make reference to an identifiable geopolitical entity either, for she designs her model from a completely general perspective. For the purpose of the explanation put forward, she merely assumes that there really exists a certain type of situation which can be identified spatiotemporally as occurring in some social context, that is to say, in a context which comprises, among other things, certain political, legal and economic dimensions which are specific to this type of situation. Thus, to the extent that they are typical as opposed to particular, the social conditions which are assumed to exist serve more to characterise the observable situations generically than to mark them out in their singularity. Indeed, the economist (or more specifically the econometrician) proceeds by supposing or postulating that a particular economical situation obtains, more or less complex and mathematically describable as such, the consequences of which he will try to explore and make us understand. And as general or typical as it may be, the model of the kind of situation can be shown to be instantiated in a certain concrete situation of which we know of and about which the conditions put forward in the model can be assumed to be verified. However, since there is no reference either to definite spatiotemporal co-ordinates or to singular institutions in the model *per se*, the situation which the modelling propositions serve to define is not in fact observable - it is, in Hayek’s terminology which Popper often adopts himself, only observable “in principle”.

In the second place, we should observe that Popper does not specify whether or not the theoretical model of the given situation contains any nomological statements. By extending Popper’s analysis, we can respond to this question in the negative. For example, in order to explain why the Governor of the Bank of Canada decided to raise the bank rate sharply on the 15th of February 1990, we could construct a model in the following way: we first could suppose that a certain type of situation really existed at the time, and we describe this situation with the help of general propositions which refer to the incidence of different variables which, by hypothesis, are “relevant”. These variables are considered to be relevant because they may have been taken into consideration by the Governor when he made his decision. Among other things, we make statements about the rate of inflation which prevailed at the time of his decision or, to be more precise, about the incidence of its increase in Canada during the period which immediately preceded his decision. This information would of course have to be considered as part of the Governor’s knowledge at the time. In short, we could construct a model of the situation which would allow us to understand the Governor’s decision as a decision to act which was dictated by the nature of the situation to which he was confronted at the time. But if this is how we would proceed, then there would be apparently nothing which

would oblige us to state, in the model of the typical situation put forward, a genuine law correlating the increase of interest rates and the reduction in demand: for it would be quite sufficient for explaining a decision such as the Governor's to assume that he as the decision-maker *believed* that if he raised the base rate, the banks would follow suit and raise their loan rates, and that eventually consumption would decrease. Thus Hayek is right to remark, even though he does so in a way which could lead to confusion, that the theoretician of the social sciences accomplishes his explanatory task not by conjecturing about "the world as it really is", but rather by conjecturing about "the world as it is *believed* to be by agents". We see right away that if, all things considered, the model of the situation incorporates nothing but beliefs and motives - which is to say that *all* of the components of the theoretical model are, in the final analysis, suppositions concerning the prevalence of certain characteristic propositional attitudes among agents - then the deductive structure of the explanatory argumentation still necessitates the interposition of a major premise. This major premise will state in the most general and categorical way that the agent considered in the model always acts in conformity with the situation in which he finds himself (or, in a weaker formulation which I shall discuss in the next section, in conformity with the situation in which he *believes* himself to be in) and in a manner which he judges to be appropriate (or, in a stronger formulation of which it is very difficult to say whether it corresponds more closely to Popper's position, in a manner which the agent judges to be *the most* appropriate, all things considered).

To conclude this first section, Popper's intention, notwithstanding his methodological monism, is clearly to compare the explanation schemata in order to show their profound unity, as well as to differentiate each one's specific mode of application. And in this sense, Popper truly succeeds in attaining his objective, that of showing that the natural sciences and the social sciences both have recourse, *mutatis mutandis*, to the same deductive logic of explanation. Nevertheless, Popper does not hide the fact that the possible *explananda* of these two types of explanation are only partially similar. For the social sciences cannot explain (and therefore cannot predict) events which are singular: they can only explain event-types. The natural sciences can explain event-types too; but they can also predict (and explain) singular events, events such as a particular eclipse of the sun or a certain chemical reaction which is observable on a certain day in a certain laboratory. According to Popper, whether we attempt to explain a type of event or to explain unique occurrences⁶, we always employ a method determined by

⁶. Talking of the "zero method", Popper says: "In my later formulations, this method consists of constructing a *model of the social situation*, including especially the institutional situation, in which an agent is acting, in such a manner as to explain the rationality (the zero-character) of his action. Such models, then, are the testable hypotheses of the social sciences;

deductive logic: in other words, following the distinction put forward by Hayek, “explanation in principle” and “explanation in detail” both proceed by way of the logical derivation of an *explanandum* proposition from a set of premises forming an *explanans*. Therefore, for Popper, there is no difference in method between the social sciences and the natural sciences. Such are the essentials of the methodological monism defended by Popper - and finally accepted by Hayek, who had at first espoused a radical dualism in epistemology.⁷

Nevertheless, in an explanation in principle, the *explanans* is constituted by a model or a “theory” in which the “typical initial conditions” are formulated. In the social sciences, these more or less rudimentary models of “typical social situations” are constructed in the situational analysis. Popper’s very radical thesis is that “only in this way can we explain and understand what happens in society: social events.” (Popper 1967, p. 358) However, as we have seen, Popper’s argument is far from dualist; indeed, the necessary recourse to theoretical models in the context of situational analysis assures the defence and the illustration of methodological monism. Popper argues for a falsificationist methodology in the social sciences just as ardently as he argued for such a methodology in the natural sciences in his *Logik der Forschung*. But an important and crucial difference appears to characterise the methodology of the social sciences, for what is falsifiable here is the model of the situation whereas what is falsifiable in the natural sciences is the law on which the whole explanation rests.

2. The propositional content of the rationality principle

Having said this, however, I do not want to suggest that Popper’s position, as lucid as it may be, is beyond criticism. The most important difficulty harboured by Popper’s doctrine is connected - and this is one point on which Popper’s critics are not mistaken - to the fate of the RP. This problem must be examined in some detail. A logically valid deduction could not result in an *explanandum* constituted by a statement affirming the existence of an event-type

and those models that are “singular”, more especially, are the (in principle testable) singular hypotheses of history.” (*Unended Quest*, section 24, p. 118).

7. This is precisely the central theme of his Alfred Nobel Memorial Lecture (Stockholm School of Economics, December 1974). Cf. “The Pretence of Knowledge”, in *New Studies in Philosophy, Politics, Economics and the History of Ideas*, London (Routledge & Kegan Paul) and Chicago (The University of Chicago Press), 1978, chap. 2, pp. 23-34. Also printed in C. Nishiyama et K. Leube (Eds.), *The Essence of Hayek*, Stanford: Hoover Institution Press, 1984, pp. 267-277.

(for example: “In the construction industry, employment levels fluctuate seasonally”) if the *explanans* did not contain, not only a model stipulating generally that a certain number of initial and marginal conditions were fulfilled, but also a universal statement which would allow us to make the deductive transition from the truth of the premises to the truth of the conclusion. The problem revolves around the question of whether the universal proposition is nomological, that is to say, whether it has the status of a properly empirical law. It is logically imperative that a statement having, if not the status of a law of nature, at least the logical form of an empirical generalisation capable of serving as an “inference ticket”, be able to occur in the *explanans*. If this were not so, then there would be no real explanation, for a legitimate explanation necessarily must have the form of a logically valid inference involving a set of true propositions. This logical and methodological imperative accentuates even more the similarity of method in the natural sciences and the social sciences. Therefore, the crucial question to which leads Popper’s whole approach concerns the identity of the “laws” that occur in an SL explanation schema. For the model of the social situation which is hypothetically proposed does not have to contain any law as such but must only contain “all the relevant aims and all the available relevant knowledge, especially that of possible means for realising these aims.” (Popper 1967, p. 359).

Popper’s very strong thesis here is that in order to explain the dynamics of the situation, *the only* nomological statement which we need to incorporate into an SL schema is the RP, that is, the hypothesis that human agents act “in accordance with the situation”⁸. (Popper 1967, p. 359) To act according to the situation in which we find ourselves means, in Popper’s terminology (a terminology which contains various expressions which he judges to be equivalent and which he uses indifferently), to act “adequately” or “appropriately”, or

8. “(...) It is the central point of situational analysis that we need, in order to ‘animate’ it (the social model), no more than the assumption that the various persons or agents involved act *adequately, or appropriately*; that is to say, in accordance with the situation (...) Thus there is only one animating law involved - the principle of acting appropriately to the situation; clearly an *almost empty* principle (...) known in the literature under the name ‘rationality principle’, a name which has led to countless misunderstandings.” (Popper 1967, p. 359) The crucial point is that, following Popper, in order to understand human society we do not need to replace Newton’s laws of motion by some laws of psychology. The only “law of motion” we need to invoke is the RP. This leaves open the intricate question of the kind of laws if any that could be needed in the model itself. But, as already argued, in a SL explanation schema all other “laws” that we need to state in order to explain the action taking place are in fact to be viewed as *part of the agent’s state of knowledge and belief*. If this is true, then those “laws” do not really have the status of laws proper for they are part of World 2 and not of World 3 - they are subjective states of mind. But this analysis would need to be deepened for it seems clearly to be at variance with what Popper says elsewhere (in *Poverty of Historicism* and in *The Open Society* as well) about the indispensability of “sociological laws” at least for the explanation of historical events.

again, in a “manner adapted” to the situation. In spite of the apparent differences in meaning, all of these different terms or phrases appear to express for Popper one and the same predicate, which can be applied to human action and decision. This rationality predicate is the central concept of the situational logic outlined by Popper. It should be observed from the outset that this predicate does not apply to all human behaviour: not every form of human behaviour can be considered an action in the sense in which this term is employed in situational analysis. In order for a behaviour to qualify as an action in Popper’s sense, it has to be analysable, at the very least, in what Ludwig von Mises would have called “praxeological” terms, that is to say, as a relation between a goal which an agent has the intention of attaining, and which is identifiable as such, and the means which are used to attain it. Therefore, only deliberate behaviour, behaviour which is generally described as intentional, purposive or goal-directed is at issue here. If situational analysis is not able to explain all human behaviour (for example, it cannot explain mechanical gesture, reflex movements or unmotivated actions), it is not necessary to attribute this fact to a methodological deficiency. It is merely a limitation on the domain of application of situational analysis.

Some of the commentators (see in particular Latsis 1972) were quick to compare the situational analysis outlined by Popper to the neo-classical theory of microeconomics. And it must be acknowledged that they did so with Popper’s approbation.⁹ Indeed, the microeconomics approach could be considered a procedure involving the construction of models of typical situations, because it takes for granted (1) the existence of preferences in the case of every social agent (preferences which necessarily reflect long term goals, short term objectives and explicit aims), (2) the fact that some information is held by the agent, this information pertaining to the agent’s situation and being considered in the ideal case as fully reliable, accurate and exhaustive, and (3) the existence of certain budgetary constraints related among other things to the agent’s income.

⁹. Some of Popper’s statements actually point in this direction. For example: “We may say that our actions are to a very large extent explicable in terms of the situation in which they occur. Of course, they are never fully explicable in terms of the situation alone; an explanation of the way in which a man, when crossing the street, dodges the cars which move on it may go beyond the situation and refer to his motives, to an ‘instinct’ of self-preservation, or his wish to avoid pain, *etc.* But this ‘psychological’ part of the explanation is often very trivial, as compared with the detailed determination of his action by what we may call the ‘logic of the situation’; and besides, it is impossible to include all psychological factors in the description of the situation. The analysis of the situation, the situational logic, plays a very important part in social life as well as in the social sciences. It is, in fact, *the* method of economic analysis.” (Popper, 1945, vol. ii, p. 97) In *Unended Quest*, Popper also says, referring to his “zero method”: “The main point here was an attempt to generalise the method of economic theory (*marginal utility theory*) so as to become applicable to the other theoretical social sciences.” (section 24, pp. 117-118)

Nevertheless, Popper makes no explicit reference to microeconomics axiomatic in this context. He merely claims that the scientific explanation of an action or of a decision to act can be reached by using, besides the model of the typical situation which was discussed above, the RP. This principle of action is presented by Popper as the “law of animation” of the system under examination. And as we have shown already, it corresponds formally to the major of an explanatory deductive reasoning. Popper claims that it is *sufficient* and also gives the impression that it is *necessary* to state the RP, along with a situational model, in order for the explanation of a social event-type to be possible. This thesis is bold enough to warrant more attention.

On the one hand, a situational analysis involves a static description of an agent’s beliefs and motivations. In other words, we suppose that the agent has certain objectives or preferences and that he possesses a certain amount of relevant information which is more or less exhaustive and reliable: every situational analysis involves a state description covering each of these two vast categories of factors. However, considered dynamically, a situational analysis has to do more: it has to allow us to make a logical inference to a course of action (an “option-choice”). Popper thinks that, for this to be possible, it is sufficient (and perhaps even indispensable) to appeal to the “principle of acting appropriately to the situation”. Popper claims that this principle is “*almost empty*”. (Popper 1967, p. 359) He says that this principle is not a universal law, a statistical law or a psychological statement. And above all, that it must not be regarded as a metaphysical assertion, that is to say, as an irrefutable proposition.

In fact, Popper’s statement in the 1967 text is not as categorical as the commentators made it out to be. It is much more hesitant than we are often led to believe: Popper states that the RP “has little or nothing to do with the empirical or psychological assertion that man always, or in the main, or in most cases, acts rationally.” (Popper 1967, p. 359) He maintains that the RP used in situational analysis is not a statement to the effect that, in all observable cases or in the majority of observable cases, human agents actually act (and will always continue to act) in a manner which is appropriate to their situation.

The question of what the RP actually states is complicated by the fact that Popper seems to claim something which has usually been considered to be inconsistent. For in the 1967 text, he says, although at different points in his argument, that the RP is both “false”¹⁰

¹⁰. Popper’s exact words are: “(...) the rationality principle seems to me clearly false - even in its weakest zero formulation (...).” (Popper 1967, p. 360) He also says: “There are, as I have indicated, good reasons to believe that the rationality principle, even in my minimum

and “approximately true”. How can Popper escape the charge of inconsistency? To resolve this dilemma of interpretation, it is absolutely essential to observe that during the course of his argument, Popper finds himself using not one, but, rather, two distinct and radically different formulations of the RP. The first formulation, which I shall describe as “objectivist” (RPO), does not coincide logically with the second, which I shall describe as “subjectivist” (RPS). For the statement that “Agents always act in a manner appropriate to the situation in which they find themselves” (Popper 1967, p. 361) is not at all equivalent to the statement which Popper arrives at by transforming the RP into a “minimum principle”, which “assumes no more than the adequacy of our actions to our problem situations *as we see them*”. (Popper 1967, p. 365) We are obviously confronted here with two different formulations of the RP. In order to clarify the essential difference between these two formulations, let us restate them as follows:

RPO: It is always the case that agents act in a manner appropriate to their situation.

RPS: It is always the case that agents act in a manner which is adequate to their situation as they themselves see it.

It may be that, with a view to the task of explanation which is proper to the social sciences, we would obtain a formulation of the RP which was clearer, more adequate and more precise if we opted for the subjectivist version, as Popper himself seems to be finally doing explicitly. Nevertheless, if in making such a methodological choice, we are attempting to adopt a point of view which is more useful, more legitimate and also more defensible, because it conforms more closely to the observable facts, then it is necessary to be clear about the fact that logically speaking this formulation complicates things. These two formulations are not semantically equivalent, for they cannot be substituted for one another *salva veritate* (and far from it). In the objectivist formulation of the RP, the point of view is that of the external observer who may have much more information about the situation than the agent himself, since she observes the situation *ex post*. In the subjectivist formulation, the point of view is that of the agent himself and this information is the one held *ex ante*.

Thus, the emphasis is placed on the various “constraints” which have an effect on the individual agent’s choice of action. The “objectivist” formulation represents the claim that

formulation, is actually false, though a good approximation to the truth. Thus it cannot be said that I treat it as *a priori* valid.” (Popper 1967, p. 362)

human beings *always* adapt their behaviour in a manner which is adequate to the objectively observable situation, in other words, to the situation in which they actually are as it would be seen from the ideal perspective of an omniscient observer who was attempting to explain their actions. It is obvious that this “objectivist” formulation would not hold up very long against the observable data. Therefore, it would not be astonishing if this formulation of the RP were false and recognised as such. For an RP which is formulated in this manner can be falsified in a way which accords completely with Popper’s arguments as presented in the *Logic of Scientific Discovery*. This universal proposition is refuted as soon as it is admitted that there exists at least one individual whose action is not appropriate to the situation.¹¹ This means that, logically speaking, the “objectivist” formulation of the RP is falsifiable, and no one would contest that it already has been falsified and thus that it is plainly false. This seems to me to be the only reason that Popper claims that the RP is false: he surely means that it is necessary to acknowledge that it is empirically false, since, in its extreme or absolute form, it is generally refuted by the observable facts.

Up until now, it has not been clearly perceived that things are otherwise when it comes to the subjectivist version of the RP. As I remarked above, one of the main difficulties involved in interpreting Popper’s doctrine is connected to his assertion that the RP is “approximately true”. For he makes this assertion after having stated in the same 1967 text that the RP is false. How can we make sense out of his position? There is a strong temptation to think that Popper means that there is simply a probabilistic interpretation of the RP. Such a way of interpreting the RP would amount to saying that, if, as a universal proposition, the RP must be considered as false, it could still be regarded as a relatively accurate statistical proposition. However, this is definitely not the line of argument which Popper follows. If, for Popper, the RP is “approximately true”, this is because he finally adopts, rather surreptitiously, the only version of the RP which he can hold to be true: the subjectivist formulation of the RP - and this at the expense of the objectivist formulation.

If the RP is relatively adequate for the situational analysis Popper considers an indispensable explanatory method in the social sciences, this is because we have every reason to suppose that all agents (individual human beings, firms or any other decision-makers)

¹¹. It is virtually impossible to determine whether Popper means an action which is *optimally* adapted or an action which is *sufficiently* adapted for satisfying the limited requirements of the agent in the given situation (cf. the *satisficing* principle in Simon 1976). No matter how we answer this question, it seems clear that, in the context of the argument presented in 1967, Popper moves progressively from a very strong formulation of the RP to a formulation which is relatively weak.

follow a course of action which is adequate to *their* view of the situation in which they find themselves. And it is clearly not the case that all agents follow a course of action which is adequate to their situation as it might be described by an independent observer, that is to say by a model designer who possesses information which differs from the information of the agents, either because it is more reliable, or because it is more exhaustive.

This becomes all the more clear when one reflects that (and Popper insists on this point), in situational analysis, there may be a lot to learn by comparing two non coinciding SL schemata (one being made from the *objective* and the other from the *subjective* point of views) which are both designed to explain the same human event.¹² The discrepancy between these two explanations would necessarily have to do with the fact that the situational model is not constructed in exactly the same way in the two schemata. It is easy to imagine, for example, that a qualified observer who is external to the situation might have different and more reliable information about this situation than the agent himself. This would be sufficient for explaining that if, from the agent's perspective, the chosen course of action was adequate to the situation *as he saw it*, it was not in fact adequate to the situation as seen from the perspective of an external observer. If need be, such an explanatory strategy might make it possible to explain that an agent's objectives were unattainable because the means he chose for pursuing these objectives were not really adequate, that is, not adequate to his situation as it actually was. This simple remark makes it clear that if, from the exterior point of view, the agent cannot be described as being always rational or adapted, he could still be described as rational from the point of view which was his own at the time of the action. He can in fact *always* be said to be adapted to the situation from his own point of view - and here lies an insuperable problem for situational logic.

If this analysis is correct and if it is, as I believe, faithful to the essentials of Popper's argument, an inescapable consequence seems to follow: *the* RP cannot be described as false. And indeed, it is not *the RP in general* that Popper considers to be false; it is a particular version of the RP that is held by him to be false, having been refuted by the facts. In a word, only the objectivist version of the RP is false. The RP \circ presents itself as a universal law which does not have to do with the agent's belief in the adequacy of his actions (a belief which was at least partially determined by the necessity of acting with certain constraints, in a context of fallibility or incertitude) but rather with the optimal adequacy of these actions in a situation in which the information available to the agent is assumed to be reliable and exhaustive. Of

¹². This is essentially the research strategy which Popper proposes in *The Poverty of Historicism* and which he calls the method of the "zero hypothesis".

course, probably no agent ever has at his disposal all of the *available* information, let alone all of the information which, in theory, it would be possible to find out. No agent ever knows whether his information is completely correct, reliable and exhaustive. No agent can be absolutely sure that the information at his disposal is true and sufficient for confronting the circumstances in which he finds himself. An *absolutely* objective description of his situation is never available to him or to any other agent. The results of his actions make this clear constantly. Like everyone else, he has to content himself with conjectures and refutations. This is why it is never justifiable to think that his actions are completely or maximally adequate to a situation about which he knows everything in some absolute sense. And of course, it is even more apparent that it is never sound to think that his decisions always are actually optimal, especially when one takes into consideration the constraints which are always brought to bear on him.

But if the RP is “approximately true”, as Popper claims, it is because, in spite of everything, there is reason to believe that human actions are adequate to *situations as they are perceived by agents*. It is remarkable that even though Popper is careful to show that the RP is false, he boldly states, without any argument, that the RP is sufficiently true to play an essential role in situational analysis. It seems to me that it is necessary to maintain that it is the RPS and not the RPO which is approximately true. However, Popper does not seem to see that the second formulation of the RP, the one I am arguing he considers to be “approximately true”, is irrefutable. I would like indeed to stress that if the RPO is itself falsifiable, it is not the case that the RPS allows potential falsifiers. In situational analysis, we presuppose that any agent whose decisions and actions are to be explained is or was in some particular context which can be schematised by a model of the situation “type” (in other words, of the “type” of situation which the context represents). This model reduces in fact to whatever information the agent had at his disposal at the time of his decision to act: beliefs concerning the natural and social world he finds himself to be in, and knowledge of his aims, goals, desires and preferences. According to Popper, such a model must be testable, at least in principle. Now anything which could potentially falsify the model must necessarily refer to whatever information could have (or should have) been at the agent’s disposal (in principle or ideally speaking) but which was *not* in fact a

uld only be possible if the observer could have access to the beliefs of an agent other than by observing his behaviour. But this is clearly impossible.

Thus, there is nothing astonishing about Popper’s contention that even a madman acts

in accordance with *his* perception of the situation.¹³ The contrary seems to be properly unthinkable and therefore logically impossible. How would we set about refuting an agent who would claim to have acted in a manner which was adequate or appropriate to the situation as she herself saw it at the time of her action? There are only two ways which seem to be possible. Either we could show that the agent has not actually performed the action which she believed to be adequate to the situation as she perceived it at the time of the action, or we could also show that her perception of the situation necessitated that she act otherwise than she did. For this second possibility, we would have to show that at least two of her beliefs were inconsistent with one another. For example, we might show that her belief that a certain means was sufficient for attaining a certain goal was in conflict with her belief about the general nature of the situation. Thus, in order to refute the RPS, we would have to have direct access to the beliefs of the agent, either to compare them with the course of action actually taken by him, or to compare them among themselves. Either way, it would be a question of showing that the agent was in some sense incoherent. But if, as I would maintain, the only means of access to agents' beliefs is by way of inference from their actions (and I am here considering belief statements as a kind of verbal action), then it is difficult to see how a contradiction between a person's beliefs and his chosen course of action (in no matter what situation) could become apparent.¹⁴ And it is just as difficult to see how a contradiction could become apparent between (a) the beliefs which a person must have had in the past concerning his situation and (b) the beliefs which he must have had at the same time concerning the actions which seemed to be, from his point of view at least, imperative if not necessary in the particular context in which he found himself.

13. The same idea can be found in Jarvie : "After all, if we interpret (as Malinowski did) 'nonrational' as 'neurotic' then we can say that Freud provided rational accounts of the formation of neuroses. That is, he tried to show how people's resort to neuroses was, from their own point of view, reasonable." (Jarvie 1964, p. 137) However, it should be remarked that Noretta Koertge does not admit that this is an inevitable conclusion, even though Popper has no hesitations about drawing this conclusion from his preceding analysis. In fact, Popper inescapably commits himself to the view that all human behaviour must be understood as subjectively (but not always as objectively) adequate and therefore as always rational.

14. A discrepancy or, worst, an inconsistency between a decided course of action and the alleged reasons given by the agent for this decision cannot be looked at as being by itself the mark of irrationality. More than that, a simple declaration from someone that he has a certain belief or that he is in a certain psychological state is of course not to be regarded as a privileged mean giving direct access to this agent's system of beliefs. Deception and self-deception may not be the general rule here but it is surely widespread. And in the course of action, it has to be seen, for instance within a game-theoretical framework, as very useful and efficient.

Thus, it no longer appears astonishing that, in the 1967 text, Popper gradually comes to the conclusion that the RP is a principle which is almost empty of content. In fact, this is an understatement, for the only methodological criterion Popper acknowledges for deciding whether to temporarily accept as approximately true or to reject as apparently false any theoretical propositions is factual refutation. Therefore, it seems to me to be evident that the RPS is logically irrefutable, in exactly the same way that, for Popper, probabilistic assertions or metaphysical statements are irrefutable. In other words, the RPS is irrefutable because it cannot conflict with any observation which could be made by an external observer and which could be used to falsify the hypothesis that agents always act adequately to their situation as they themselves see it. However, as is well known, this is not Popper's own conclusion. Nevertheless, such an RP seems to be in a way always verified - although this does not mean that it should be automatically described as a mere tautology or as an analytic proposition.

And yet, Popper explicitly states that the RP is false. What can he mean by this statement? To maintain that the RP is false is merely to take for granted that some agents do not “always act in a manner appropriate to the situation in which they find themselves”. (Popper 1967, p. 361) My critique of Popper can be clarified further by a brief examination of his example of the flustered driver. It should be recalled that, in this example, Popper describes a flustered driver “desperately trying to park his car when there is no parking space to be found.” (Popper 1967, p. 361) Popper uses this example to falsify the RP, but how does this example work exactly? It merely makes it apparent that the real or objective situation is such that, in spite of the fact that there are no available parking space, the driver persists in trying to park his car.¹⁵ However, it is rather surprising that, in his analysis of the situation, Popper does not connect the irrationality of the driver to the contradiction between the information which the latter has at his disposal and the chosen course of action. For if the driver does not know or does not believe that the parking space where he is desperately trying to park his car is insufficient, then his behaviour does not contradict the RPS¹⁶.

15. Noretta Koertge seems to believe that it is the “repetition” of the action which makes it irrational, as if, in this example, Popper’s charge of irrationality had to do with the fact that the agent’s behaviour is compulsive and stubborn. However, it is obvious that the agent’s irrationality has to do with the contradiction which must be assumed to exist between the facts of the situation (which the agent is presumed to know) and the action performed. It is a question of situational *logic* and not a question of psychology.

16. Of course, one can also suppose that for Popper the flustered driver *knows* that the parking place is inadequate. This is precisely how Maurice Lagueur (see his text in this issue) prefers to interpret Popper’s argument. But then, if this was the case in Popper’s example, we would have to consider that situational logic cannot by itself explain this kind of behaviour. It would clearly fall out of its domain and a genuine psychological explanation, at least sharper than the one Popper gives us, would be in order. The main difficulty here lies in the fact that this

Only an objectivist SL schema would state that there were no available parking space when the driver was desperately looking for one. But this statement could only be made by an external observer or a model designer: only someone with an external point of view could conclude with certainty that the RPO was not respected, in other words, that the driver did not make the best possible decision. In order to make it clear that the driver's actions are not rational, the subjectivist SL schema would have to state something completely different: it would have to state that the driver *knows or truly believes* that there are no available parking space but that he foolishly thinks otherwise. Popper never makes this point clear. Indeed, he never even touches upon it. He should surely be held to account for such an ambiguity.

Even if Popper is right to maintain that “a principle that is not universally true is false” (Popper 1967, p. 361), his conclusion that “the rationality principle is false” (Popper 1967, *ibid.*) does not appear to me to have been demonstrated. For it is difficult to maintain that a principle is false when it has been formulated in a manner which makes it logically impossible to falsify. It follows that the RP is not false: in the subjectivist formulation at least, it has instead the appearance of a proposition which is *a priori* true. But Popper explicitly denies that the RP has any claim to *a priori* validity. It cannot be held *a priori* valid from his standpoint simply because the RP has to be recognised from the beginning as false. Indeed, Popper claims that there is no way to escape the conclusion that the RP is manifestly false (cf. Popper 1967, p. 361). It seems to me that there is no need to try to escape this conclusion since it was never established.

What should we conclude from this discussion of Popper's 1967 text on the RP? Popper claims that the RP is a principle which is crucial for the development of knowledge in the domain of social reality. He makes this claim in the context of an investigation of the explanation of human action, an investigation which retains the main logical and methodological features of the D-N model. This is the reason he maintains that the model of the situation “type” must be testable and falsifiable in order to be methodologically legitimate. But the explanations which are characteristic of the social sciences can only conform to this “covering law model” to the extent that they involve an RP, an “animating

typical psychological explanation would have to be made without supposing the subjective rationality of the driver in Popper's sense. I, for one, am not sure that it is possible to cope with that difficulty.

law”, to which Popper wants to attribute both a minimal empirical status and a form of epistemological immunity. An attentive reading of the 1967 text shows, however, that although Popper views the RP as an explanatory principle throughout the text, he surreptitiously changes his way of formulating it during the course of his argument, going from an objectivist formulation at the beginning of the text to a subjectivist formulation at the end. Unfortunately for Popper’s argument, logical analysis reveals that, in its subjectivist formulation, the RP is not falsifiable: it is indeed impossible to imagine an empirical method of falsifying it. It is virtually impossible for any social scientist to say what could happen in the world that would force her to give up the RPS. And since, for Popper, the only criterion of factual content is empirical refutability, it is difficult to accept his claim to have provided the social sciences with an empirical methodology capable of transforming the social sciences into theoretical sciences in the same sense in which the natural sciences are theoretical sciences.

On the face of it, the position defended by Popper seems very shaky. I would even go so far as to say that in his short text on the RP, although it is not apparent at first glance, Popper concedes essentially what his opponents would like him to concede. For this debate indicates, perhaps more than any other, the limits of empiricism in the social sciences. In this debate about the status of the RP, Popper’s main interlocutors are those who are opposed to empiricism, at least to its natural-scientific form, a methodological approach that they don’t think suited for social sciences. These interlocutors who might be described as “apriorists” prefer nowadays to call themselves “subjectivists” or “hermeneuticists”.¹⁷

If we base our evaluation of Popper’s position on the arguments which he uses in 1967, it seems clear that the apriorists have won their case with respect to one of the most important points of the debate. For the rationality principle that Popper puts at the theoretical core of all social sciences (i.e. the RPS) looks more like a “synthetic *a priori* truth of pure reason” in the domain of social reality than like an empirical law of nature. If this is so, then its methodological status makes it more comparable to the metaphysical principle of causality than to any law of the natural sciences.

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¹⁷. This school of thought goes back to Ludwig von Mises, Friedrich Hayek and ultimately to the whole Austrian School of Economics and is perhaps best represented today by figures like Israel Kirzner and Don Lavoie. See for instance Kirzner (1982) and (1986). But see especially Lavoie (1986) and (1991).

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