

## MORE ABOUT JUDGMENT AND REASON

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**Abstract:** This paper is a response to Siegel 2004. I take Siegel's remarks as a basis for clarifying, defending, and further developing my account of the role of judgment in a theory of rationality.

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An article in the October 2004 issue of *Metaphilosophy* by Harvey Siegel discusses the judgment-based model of reason advocated by Trudy Grovier and myself. While Siegel has some criticisms of that model, they are offered in a constructive spirit. Siegel attempts to advance discussion by proposing a hybrid account of reason that integrates judgment with the rules and principles central to the classical model of rationality that Grovier and I seek to replace. In this response, speaking only for myself, I will proceed in the same spirit as Siegel and attempt to advance discussion, rather than just defend my own earlier position (which has developed since my 1988 book).<sup>1</sup>

I will focus on two of Siegel's main themes. First, Siegel notes that in ordinary discourse "judgment" refers to both a process and a product; for present purposes we can take the products as propositions worthy of being believed. While I have emphasized the process in my discussions of judgment, Siegel urges that the product is equally important: "The theory of rationality is vitally concerned with the rational status of those products/outcomes/conclusions" (2004, 611). I agree and will go further: our primary epistemic interest is in those products. But, I will argue, our epistemic evaluation of those products depends on the process. Before developing this argument, I want to introduce the second theme. In my earlier work I described judgment as our final epistemic recourse when we run out of rules to which we can appeal. Siegel argues, however, that judgment is subject to normative evaluation, and that

<sup>1</sup> For further work on judgment and its role in rational evaluation see Brown 1992, 1994, and 2000; Sankey 1997; Stark 1995 and Stark in preparation.

for such evaluation “criteria are essential, and so, therefore, are rules” (611). He adds:

- (a) If we are to distinguish rational from irrational judgment—which is basic for an adequate account of rationality—there is no alternative to doing so by appealing to relevant criteria and/or standards.
- (b) Since doing so requires appeal to rules or principles, that aspect of the classical model needs to be retained by any adequate view of rationality. (611)

Again I largely agree with Siegel, but I will argue that in crucial cases the application of criteria (rules, principles, standards) and the choice of which criteria to apply depend on judgment—in the process sense. As a result, judgment becomes the central concept in an account of epistemic evaluation.

Before proceeding, I should remind the reader that exercising judgment is not the same as having an opinion. On my account, exercise of judgment is a skill that is subject-matter specific and one that we develop by mastering available information and techniques in a field. An individual may develop the ability to exercise, say, engineering judgment or medical judgment in much the same way as one develops the ability to write computer programs or construct proofs in logic. Further, the exercise of judgment is topic specific: just as a skilled chess player exercises this skill only with respect to a specific position on the board, so a skilled physician exercises medical judgment with respect to a specific patient in a specific condition. Thus judgment is already a normative notion. There is no such thing as judgment in fields that lack rationally acceptable results. For example, there is no such thing as judgment among self-described sorcerers. How we *assess* whether a particular type of judgment exists is another question—which takes us to the first of the themes introduced above.

When we engage in epistemic evaluation, we are seeking products that have certain properties—the most important being truth. Truth, however, is often elusive, and the concept of truth is highly contested. For this brief discussion I will focus instead on consistency, which is a necessary condition for truth and is not a controversial concept. (I am concerned at the moment with consistency as a property of a set of propositions, which may have only one member. Siegel also uses “consistency” in another sense, which I will consider below.) In many cases consistency is easy to assess, and we know how to deal with inconsistency. But philosophical insight often comes from considering hard cases. I want to sketch four such cases that are of historical importance; each will bring out a different situation that arises when we deal with inconsistency.

First, consider set theory as developed by Cantor and adopted by Frege. We now know that this theory is inconsistent. Yet before Russell’s fairly subtle proof there was no reason to suspect inconsistency in the apparently simple claim that every description specifies a set. There

are, I take it, no grounds for concluding that Cantor and Frege were less than rational when they failed to note the inconsistency. To be sure, inconsistency is a fundamental defect. But the fact that a theory is inconsistent is not sufficient to disqualify it as a subject of rational belief; this occurs only when the inconsistency has been recognized. Thus although consistency provides a criterion that an epistemic product should meet, consideration of how we apply this criterion points to a fundamental role for the epistemic process. Moreover, complexities remain even when inconsistency has been established. The next two examples will underline this point.

Consider Einstein's introduction of the special theory of relativity. Special relativity has two basic postulates. R1: The laws of nature are the same for all frames of reference that are moving at a constant velocity with respect to each other; and R2: The speed of light is the same for all frames of reference irrespective of the relative motion of the frame and source. To a classical physicist it is immediately apparent that these postulates are mutually inconsistent, but early in his first relativity paper Einstein says that they are "only seemingly incompatible" (1998, 124). The apparent contradiction can be brought out by considering two points in space, A and B, and two reference frames, F1 and F2. A and B are stationary in F1 and equidistant from the origin. Suppose that two flashes of light occur at A and B and arrive at the origin of F1 simultaneously. F2 is moving along the line between A and B toward B at the constant velocity  $v$ . Let the origins of the two frames coincide at the moment when the flashes occur as assessed in F1. The flash from B will arrive at the origin of F2 before the flash from A. In classical mechanics this does not raise a problem, since the speed of the light pulses from A and B are different in F2. Using  $c$  for the speed of light from A and B as measured in F1, light from B moves toward the origin of F2 at a speed of  $v+c$ , while light from A moves at  $v-c$ . Working in F2, we can thus calculate that the flashes from A and B were simultaneous. But R2 blocks this calculation and forces the conclusion that the flashes are simultaneous in F1 but not in F2.

After a considerable struggle Einstein concluded that the problem lay in a third assumption, S: It is a matter of fact whether two events at a distance from each other are simultaneous. Einstein eliminated the inconsistency by rejecting S even though physicists had not previously considered it subject to challenge. The set {R1, R2} always was consistent, but this fact did not become part of the human epistemic corpus until an appropriate cognitive process led us to recognize it. There is nothing arcane in the idea that it is not always clear how to deal with an inconsistency, but this case reminds us that radical options may come into play.

My third example is Bohr's theory of the hydrogen atom, which was inconsistent and recognized as such when it was proposed. The inconsistency arises because Bohr assumed that the electron circles the nucleus

in certain stable orbits. But Bohr also assumed classical electromagnetic theory which entails that stable orbits cannot occur. To be sure, the inconsistency was recognized as a serious defect, but in the prevailing circumstances this was not considered sufficient grounds for ignoring the theory. Bohr's theory was introduced in a period running from about 1900 to 1925 in which the overall state of atomic theory was confused. In these circumstances, those with the appropriate expertise considered Bohr's theory to be a progressive step, in spite of an obvious imperfection.

Finally, consider Gödel's proof that we cannot prove the consistency of arithmetic. In spite of this proof, a few years later Gentzen published a proof that arithmetic is consistent. The difference lies in a disagreement over the allowable methods of proof: Gentzen used transfinite induction, a method that Gödel rejected. There is still disagreement about Gentzen's proof among those with the appropriate expertise. Thus whether we should believe that arithmetic has been—or can be—proved consistent is a matter of judgment. Moreover, only those who have studied the proofs and the related issues are in a position to exercise such judgment.

This discussion has already taken us into the second theme from Siegel's article: the centrality of criteria for epistemic evaluation. I agree with Siegel that there are criteria that epistemic products must meet in order to be rationally acceptable. Consistency is one such criterion, but, I have argued, how we deal with a set of propositions that is objectively consistent or inconsistent depends on judgment in many important cases. Siegel also proposes that we need criteria that apply to the exercise of judgment, and he focuses on one example—consistency in the second sense noted above: "If  $p$  is a good reason for  $q$  in circumstances  $C$ , it will be so in all relevantly similar circumstances" (608). But how do we assess whether circumstances are relevantly similar? In the case of Bohr's theory, physicists judged it appropriate temporarily to ignore a known inconsistency. I am not aware of any rules that will pick out the situations in which this decision is appropriate. We might propose such rules on the basis of our experience thus far, but unexpected circumstances may then lead us to relax or reconsider these rules—which takes us back to reliance on judgment. Criteria for relevant similarity become ever more elusive as we move to a wider realm that includes moral, legal, and political issues. An anecdote will underline the overall situation. In a discussion of departmental policy, a colleague once objected to dependence on judgment and expressed a preference for general principles but could not offer any account of the rules to be used for selecting the operating principles. There are, no doubt, many situations in which it is desirable to have general operating principles. But deciding which principles we should adopt, and when they should be relaxed or reconsidered, takes us back to judgment. Thus while I recognize a central role for criteria in the assessment of epistemic processes and products, I submit that when we press the question of the rational basis for accepting such criteria we eventually reach a point where

we depend on judgment. In this sense, judgment is a foundational concept in the theory of rational acceptability.<sup>2</sup>

I want to press the interaction between criteria and judgment in one more direction. As Siegel notes, I consider an account of judgment to be only part of an account of reason. In my 1988 book I argued that to achieve full rationality the results of judgment must be submitted for evaluation to those with the relevant expertise. This does not require that I accept their consensus, only that I take their responses seriously as a means of enhancing the basis for my judgment. I can now improve on this account.<sup>3</sup> The idea is that while judgment has genuine epistemic significance, it also suffers from the limitations that humans are heir to: limited information, limited insight, excessive fascination with our own ideas, and so forth. Since our aim is to get at the best candidate for truth, we ought to adopt procedures that enhance our chances of arriving at this end by seeking input that goes beyond personal limitations. Other people—with other perspectives, skills, and information—can provide such input.

I now recognize two additional sources. One is the use of formal methods. Given a set of beliefs and a body of appropriate formal methods, we are led to consequences of our beliefs that follow independently of whether we foresaw them or are pleased with them. Such results may lead us to reexamine earlier judgments. In the sciences, empirical testing—understood as interacting with nature in order to get feedback—provides a second source. The key point is that, since the natural world exists independently of our beliefs, once we probe in a particular way we cannot predetermine what the result will be. Again, we are taken outside the circle of our own beliefs (cf. Brown 1995, 2005). These means of improving judgment interact. We might, for example, consult others on the availability of a wider range of formal techniques than we now have at our disposal. Still, these means of improving judgment all take us back to judgment. So, we rely on judgment to select our critics, to decide what to do with their input, and to determine when it is time to arrive at a decision and move on. The same applies to other sources of input. The outcome of this process is still a judgment, but it is an enhanced judgment, one that is better founded than its predecessors. The entire process can be thought of as moving along an ascending helix (cf. Hooker 1987, 13) in—as Siegel has emphasized—a fallibilist framework.

<sup>2</sup> Bishop and Trout (1995) discuss several cases in which simple algorithms provide more accurate results than do experts in a field. I agree that in such cases using the algorithms is preferable to reliance on judgment. But I submit that examination of the ways in which these algorithms were developed and assessed would show a fundamental role for judgment. Let me emphasize that I do not advocate reliance on judgment. Rather, I maintain that in fact judgment plays a central role in epistemic evaluations.

<sup>3</sup> The following discussion is a result of extensive conversations with Cliff Hooker. I cannot distinguish his contributions from my own, but I am sure that he deserves at least 50 percent of the credit for anything of merit in these remarks.

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