

University of Windsor Scholarship at UWindsor

OSSA Conference Archive

OSSA 2

May 15th, 9:00 AM - May 17th, 5:00 PM

Commentary on Rehg

Marcello Guarini

Follow this and additional works at: <http://scholar.uwindsor.ca/ossaarchive>



Part of the [Philosophy Commons](#)

Guarini, Marcello, "Commentary on Rehg" (1997). *OSSA Conference Archive*. 91.
<http://scholar.uwindsor.ca/ossaarchive/OSSA2/papersandcommentaries/91>

This Commentary is brought to you for free and open access by the Faculty of Arts, Humanities and Social Sciences at Scholarship at UWindsor. It has been accepted for inclusion in OSSA Conference Archive by an authorized conference organizer of Scholarship at UWindsor. For more information, please contact scholarship@uwindsor.ca.

A COMMENTARY ON RELATIVISM, UNDERDETERMINATION, AND WILLIAM REHG'S RESEARCH DIRECTIONS MODEL OF SCIENTIFIC RATIONALITY

Marcello Guarini
Department of Philosophy
The University of Western Ontario

©1998, Marcello Guarini

William Rehg attempts to formulate an approach to the philosophy of science which is characterized by the possession of universal standards of a sort; however, these standards are not "compellingly" rational. Moreover, he claims that insights from argumentation theory can be used to formulate a framework with universal but non-compelling standards. I will examine several views on the relationship between arguments and the standards for their evaluation. I will then use those different views to examine the framework Rehg has sketched.

Consider the following views on relationship between arguments and the standards for their evaluation.

Weak relativism or *weak universalism*: there are universal standards for good arguments such that (a) they allow for the possibility that what counts as a good argument in one time and place does not count as good in another time and place, and (b) they allow for the possibility that there may be a good argument for P in one time and place and a good argument for $not-P$ in the same time and place.¹

By *universal standards* I mean standards, procedural or otherwise, which are binding on all reasoning or rational beings. By a *good argument for P* I mean an argument which makes it reasonable to believe that P . With these terms being made clear, let us examine some of the other views which can be held on the relationship between arguments and their standards of evaluation.

Strong Relativism I: the standards for good argument vary from time and place to time and place. More specifically, a set of standards for good argument may be seen as correct for a social group in one time and place but not correct for another social group in another time and place.

Strong Relativism II: the standards for good argument vary from individual to individual.

Strong Universalism: there are universal standards for good arguments such that (a) an argument is good regardless of the time and place in which it is presented, and (b) it cannot be the case that there are good arguments in a given time and place for both P and $not-P$.

It is worth noting that each of these views can be transposed from the key of argument theory to the key of philosophy of science. Instead of talking about 'standards of evaluation for arguments' and the 'goodness of arguments,' we can talk about 'standards of evaluation for research programs' (or theory choice or whatever) and the 'goodness or defensibility of research programs (or theory choice or whatever).' By carrying out this transposition, we can come up with four views on the relationship between research programs (or theories or whatever) and the standards for their evaluation.

While the commitments of universalism are tolerably clear, the similarities and differences between Weak and

Strong Relativism may be in need of further clarification. In my clarificatory discussion of these views, references to Strong Relativism should be taken as references to Strong Relativism I. Also, I will be discussing these views as transposed into the language of the philosophy of science.

It may appear that both strong and weak relativism are committed to the views that (i) what counts as a worthwhile research program in one time and place may not count as a worthwhile research program in another time and place, and (ii) competing research programs defending conflicting views may both be worthwhile. However, the preceding claims appear to be true of strong and weak relativism as the result of an ambiguity. We will say that a research program is worthwhile if, and only if, it is reasonable to participate in it or otherwise support it. The weak relativist possesses the normative flexibility seen in (i) and (ii) in virtue of valuational standards which, though they are binding on all rational beings, are sufficiently liberal to allow for conflicting judgements or research to be good. For example, research programs *R* and *S*—whether in the same time and place or different times and places—may make conflicting claims, but the weak relativist can make the *normative* assertion that they are both good provided that they both satisfy the universal standards of research, whatever those are. The strong relativist is committed to something stronger than the preceding claim. Let *V1* and *V2* be two different sets of valuational standards. Say that *V1* would find *R* a worthwhile program but not *S*, and *V2* would sanction *S* as worthwhile but not *R*. The strong relativist can make the *descriptive* claim that *R* and *S* are worthwhile relative to the valuational standards which find them to be good, *V1* for *R* and *V2* for *S*. However, the strong relativist would point out that according to *V1*, *S* is not worthwhile, and according to *V2*, *R* is not worthwhile. There is no one *correct* set of standards according to which it would be rational or reasonable or worthwhile to pursue *either* or *both* *R* and *S*. If (a) and (b) are understood as claiming that *R* and *S* are worthwhile according to the correct set of standards, then they are true of weak relativism; if they are understood as claiming that *R* is worthwhile according to one set of standards and *S* according to another, with there being no way to adjudicate between the sets of standards, then (a) and (b) are true of strong relativism.² These two interpretations of (a) and (b) are incompatible. A specific example may help to clarify things further. Consider the competition between creationist and evolutionary research programs in biology. A weak relativist is able to say that there may have been a time when people were rationally justified in pursuing either of those programs. A strong relativist would be more likely to say that creationism was rational for creationists and Darwinism was rational for evolutionary theorists, but that neither position was rational for members of the other camp. It is logically possible for the strong relativists to say that creationists and evolutionary theorists, whether of the past or present, belong to a common community with common standards for the evaluation of theories or research programs. These are *non-standard* strong relativists. In principle, they could even say that everyone since Francis Bacon subscribed to the same standards for empirical research. These strong relativists may be able to make sense of how research programs making opposite claims can all be worthwhile; however, in practice, most strong relativists tend not to be terribly interested in showing how competing research programs can be rational according to a common set of valuational standards. The school William Rehg refers to as the Sociology of Scientific Knowledge (SSK) tends to be made up of strong relativists who are not interested in arguing that competing research programs can be judged worthwhile on the basis of their members conducting research according to a common set of standards. This is the *standard* or most common form of strong relativism one is likely to encounter.


I take Rehg to be a weak relativist (or a weak universalist). It is clear he dislikes the relativism of the SSK school, and it is clear that he thinks that the standards for evaluating scientific reasoning ought not to be "compellingly rationally", which appears to be a rejection of what I called strong universalism. Rehg wants a philosophy of science with normative force and with the ability to find a non-trivial place for the social factors which influence the doing of science. If common procedural rules are subscribed to by the participants of a


scientific dispute, then perhaps the rationality of the parties to the dispute can be evaluated by determining if the procedural rules have been followed. Moreover, perhaps these procedural rules can allow for appeal not only to traditional epistemic virtues like empirical adequacy, coherence, and various kinds of simplicity, but to social considerations as well. By recasting scientific dispute as being about which direction(s) research ought to proceed in or which research program or programmes ought to be supported, finding a place for the legitimacy of an appeal to social considerations in our procedural rules ought to be facilitated. An example might help to make this a bit clearer.


Consider the research being done on the influence of pre-natal exposure to androgens and estrogens on brain development, behaviour, and cognitive abilities. (See Longino and Doell, 1983, for a series of references to the relevant literature.) According to one model, brain development as well as certain behavioural and cognitive abilities are determined by pre-natal exposure to gonadal hormones. Call this the linear model (since there is a simple, one-way connection between hormones on the one hand and brain, behaviour and cognition on the other). According to a non-linear model, there are many different factors which may or may not restrict certain behavioural and cognitive abilities. As long as the traditional epistemic virtues underdetermine the choice between these two research programs³, it would appear that a number of different positions could be held with respect to this research. One position which could be taken would claim the following: both research programs are worthwhile until one begins to vastly outstrip the other in terms of satisfying the traditional epistemic virtues. Notice that underdetermination has forced a shift towards examining research directions as opposed to theory choice. The position just outlined does not choose one model over another; rather, it suggests that the programs developing the models be allowed to compete until one demonstrates superiority over the other. While it may be rational to participate in either program until one wins, how does the researcher decide which program to participate in if the choice is epistemically underdetermined? "By the use of non-epistemic values and social considerations," is a possible answer. However, this may not be the end of the story. Social considerations may also underdetermine which program a researcher should sign on to. This is not a serious problem if it is rational to sign on to either program. However, there are, I think, situations where the underdetermining nature of social considerations might be a problem for Rehg. Above, I outlined one way of responding to a situation where choice between competing research programs is underdetermined by traditional epistemic virtues—it may be rational to participate or support either or both programs. Another response may go as follows: social considerations may be used to argue that one research program ought to be funded while another ought not to be. Given a context of limited resources, there may times when we have to decide who to fund and who not to fund. If the choice between competing research programs is underdetermined by the traditional epistemic virtues, and we are in a situation where a choice must be made, then social considerations must be brought into play. But if social considerations also underdetermine the choice to be made, then there is no rational basis on which to choose one research direction over another. It may be rational to choose either (as a weak relativist is in perfect position to point out), but there is no basis on which we can say that one choice is superior. I do not see this as a serious problem⁴, but I am not sure what Rehg would say. He makes two claims which, when taken together, require clarification: (1) "[T]he research decision making (RDM) model does not depend on relativist commitments", and (2) "Relativism follows only if one can identify a weak spot in the very content of science, such as a gap between observation and theory". Taken together, these claims suggest that Rehg thinks that the RDM approach can close the gap between theory and evidence (which is the same thing as solving the underdetermination problem). Above, I have argued that there may be situations where social considerations may not allow us to bridge this gap. I am not sure that this is a serious problem since it commits us to no more than a weak relativism which may occasionally be able to give us no aid in situations where we must choose between programs. However, if Rehg was suggesting that such situations would not arise, then the RDM model may have limitations which he has not acknowledged. If he was simply claiming that underdetermination does


not commit us to standard forms of strong relativism, then the preceding should be taken as an attempt to clarify his position.

Notes

1. I am not claiming that there is a necessary connection between (a) and (b). It may very well be possible for (a) to be true but not (b), or for (b) to be true but not (a). This would allow us to multiply the kinds of weak relativism or weak universalism. However, since those who are inclined to hold one of (a) or (b) usually hold the other, I have grouped them together. The reason the two usually go together is that the kind of weakness in a set of universal standards that leads to one of these claims usually leads to the other. It is a tricky matter to set up a defensible set of standards that will lead to one of the claims in question but not the other. 

2. I admit that this latter option is a strained reading of (a) and (b), but I suspect that it, or something like it, is behind the tendency to conflate strong and weak forms of relativism. 

3. Not everyone would concede that the evidence and traditional epistemic virtues continue to underdetermine choice between these existing research programs, but we can, for the sake of argument, imagine that we had to evaluate the different research programs early in their development, when the choice between them could more plausibly be said to have been underdetermined. 

4. For a discussion of different kinds of relativisms and the extent to which they may or may not be a problem, see Stich, 1990. 

Bibliography

Longino, Helen. *Science as Social Knowledge*. Princeton: Princeton University Press, 1990.

_____. "Can There Be a Feminist Science?" *Hypatia*, 2, Fall 1987, 47-48.

Longino, Helen, and Ruth Doell. "Body, Bias, and Behavior: A Comparative Analysis of Reasoning in Two Areas of Biological Science." *Signs*, 9, Winter 1983.

Okruhlik, Kathleen. "Gender and the Biological Sciences." *Canadian Journal of Philosophy*, supplementary vol. 20.

Rehg, William. "Argumentation Theory and the Philosophy of Science since Kuhn: The Rationality of Theoretical Advance." These Proceedings.

Stich, Stephen. *The Fragmentation of Reason*. Cambridge MA and London England: MIT Press. A Bradford Book, 1990.

[View Paper by W. Regh](#)

[View Index of Papers and Commentaries](#)

[Return to Main Menu](#)