Four Points in Response to Seungbae Park

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I thank Seungbae for his spirited and enjoyable reply (2019a) to my comments (2019) on his article (2019). Here, I make four brief points in response.

Point 1: On Disbelieving

I begin with a comment on disbelieving. Disbelief in a proposition *P* is neither simple absence of belief in *P* nor belief in not-*P*. For a person *A* to disbelieve *P*, *A* must hold *P* unworthy of belief (at least according to Webster's dictionary). So, for any *P*, it would be irrational of *A* to believe and disbelieve *P*, and hence neither van Fraassen (nor anyone else) could rationally believe and disbelieve a scientific or philosophical theory.

Point 2: On Theories and Models

Here is a second comment, on theories and models. Although van Fraassen *associates* a theory with a collection of mathematical models he does not *identify* the two. Each model in the collection represents a possible world allowed by the theory. To believe the theory is to believe that one of these models correctly represents the actual world in its unobservable as well as observable aspects (van Fraassen 1980, 47). It makes no sense to speak of believing a set of mathematical models. A scientific realist or constructive empiricist may or may not believe that some mathematical object that figures in such a model exists, but she cannot believe the set of models associated with a theory.

Point 3: On "The Empiricist Position"

Seungbae (2019) introduced what he called "the empiricist position" that a theory T that would best explain some available data is merely empirically adequate. I argued that this is not van Fraassen's position, and Seungbae (2019a) now acknowledges that van Fraassen is not committed to this position. But Seungbae now argues that this means that Fraassen is led into a quagmire because through this failure of commitment, as a constructive empiricist he cannot accept *T*. But an epistemically voluntarist constructive empiricist *may* consistently choose to accept *T*, (thereby believing *T* is empirically adequate) and also use *T* to explain events in terms of *T* (accepting van Fraassen's contextual theory of explanation (CT) but without commitment to belief in the *truth* either of *T* or of (CT)).

Alternatively, a constructive empiricist may agree that of all theories presently under consideration *T* would best explain some available data, and so rely on *T* for *certain* predictive and explanatory purposes, while remaining unwilling to believe that *T* is even empirically adequate. Analogously, van Fraassen may consistently regard (CT) as the best available theory of scientific explanation and so use it to explain asymmetries and rejections while still withholding belief even in (CT)'s empirical adequacy. (Though both choices here assume some specification of the empirical phenomena that a theory of scientific explanation must save.)

Point 4: On Destructive Empiricism

Seungbae (2019a) considers my (2019) formulation of destructive empiricism my most valuable contribution to the present debate over van Fraassen's position. But we disagree on whether destructive empiricism can explain scientific practice: he thinks it does explain that practice while I claimed that a practice best explained by destructive empiricism would not be recognizable as science. In an attempt to resolve this disagreement I will focus on what a destructive empiricist takes to be the aim of science—to give us theories some of whose observational consequence are true. I took it that to achieve this aim in a particular domain all a scientist would have to do at any time would be to come up with a theory that accommodates all known relevant phenomena—to have a model that correctly represents every singular fact that is known at that time about observables in its domain.

A theory may successfully achieve this aim even though it *incorrectly* represents every currently unknown singular fact about observables in its domain that is subsequently determined to be true, and so completely fails to be empirically adequate. While a host of manifestly *ad hoc* theories may achieve this aim at a particular time their doing so provides no reason to expect any of their predictions of subsequent observations to be true. But it is an important element of scientific practice to seek predictively successful theories—an element that a destructive empiricist cannot account for.

Destructive empiricism is the view that science aims to give us theories some of whose observational consequences are true: and acceptance of a theory involves as belief only that some of its observational consequences are true. For a constructive empiricist like van Fraassen, acceptance of a theory involves more than belief that it is empirically adequate, though not in the way of further belief. A destructive empiricist may follow his lead by taking acceptance of a theory with some (already verified) observational consequences to involve using that theory for predictive (not to mention explanatory) purposes. Wouldn't this refute my claim that any activity explained by destructive empiricism is not recognizable as science because it fails the most basic condition that scientific activity involve ampliative inference?

It would not. A makes an ampliative inference from P to Q only if three conditions are satisfied. The first is that Q is not a logical consequence of P and the second is that A believes P. But there is an important additional condition: that A come to believe Q because A takes the belief in P to be a reason to believe Q. Now suppose that A has a theory T that achieves the aim of having some true observational consequences $\{O_i\}$ since those consequences are already known to be true. Then A believes that those consequences are true.

Consider some future observational consequence O of T not in $\{O_i\}$. A may *assert* O, but according to destructive empiricism, accepting T gives A no reason to believe that O is true since A's aims have already been achieved by believing $\{O_i\}$. Even if A *does* come to believe O this cannot be because A takes the belief in $\{O_i\}$ to be a reason to believe O. If it were, one who accepted T should come to believe O as well as $\{O_i\}$, and so come to believe *more*

than what the destructive empiricist takes to be involved in acceptance of T. Since A will not take the belief in $\{O_i\}$ to be a reason to believe O, even if A does come to believe O this is not through an ampliative inference from $\{O_i\}$. It follows that A's assertion of O cannot be a prediction based on T: a destructive empiricist cannot use a theory for predictive purposes.

References

Healey, Richard A. 2019. "The Aims of Reliable Knowledge: Reply to Seungbae Park." *Social Epistemology Review and Reply Collective* 8 (9): 25-30.

Park, Seungbae. 2019. "The Disastrous Implications of the 'English' View of Rationality in a Social World." *Social Epistemology* 33 (1): 88-99.

Park, Seungbae. 2019a. "Constructive Empiricism in a Social World: Reply to Richard Healey." *Social Epistemology Review and Reply Collective* 8 (10): 146-154.

van Fraassen, Bas C. 1980. *The Scientific Image*. Oxford: Clarendon Press.