

REPLY

Dali, seafaring, and the unity of knowledge: Replies to Brandon and Robinson

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In “The Unity of Knowledge” (Evers & Walker, 1982) -- UK -- we attempted two main tasks. We argued against Hirst’s forms of knowledge thesis in favour of the Quinean view of knowledge as a seamless web (see also Evers & Walker, 1983). We also outlined the basis for a holist epistemology whose materialism, we claimed, can explain the fruitlessness of Hirst’s search for ways to partition the domain of knowledge into forms, as well as the historical genesis and some of the consequences of the forms thesis for the epistemic enterprise. Ed Brandon has criticised our conduct of the first of these tasks, and Ralph Robinson has raised some problems for the second. We would like to offer the following replies.

1. To Brandon: Shades of Dali?

Brandon (1984) raises objections to our worries over the following inference expounded in UK.

1. Math fact that (3 is greater than 2)
2. $2 =$ the number of coins in my pocket at time t so,
3. Math fact that (3 is greater than the number of coins in my pocket at time t).

Our main concern was expressed thus: “since [on the objectual view of quantification] how objects are referred to is strictly irrelevant, quantification into opaque contexts where truth depends on the mode of reference, is unintelligible” (UK, p.38). Brandon seems to regard as an “utterly implausible accusation” the claim that “a familiar way of talking, albeit described arcanelly as ‘quantification into opaque contexts’ is ‘unintelligible’” (Brandon, 1984, p.19). That Brandon appears to side with the patently obvious against the “Dali-esque” is, however, an illusion engendered by a confusion between familiarity and clarity. Some hint that the two come apart can be gleaned by noting the corresponding arcaneness of the Smullyan strategy Brandon employs in defence of the utterly familiar.

Why the Smullyan strategy? Well, because we “fail to mention” it and because it is an “explanation of these failures of inference that has been current for many years ... and which will certainly explain at least their [Evers’s and Walker’s] examples” (Brandon, 1984, p.20). Actually, we failed to mention it because Quine’s objections to it seemed equally well known and also decisive (see, for example, Quine’s remarks in 1961, pp. 154-159, and 1968, p.338). Still, it may be useful to set out some further remarks on the Smullyan strategy since Brandon seems to find our case against Hirst the weaker for our distinguishing so sharply between objectual and substitutional quantification.

Let us return then to the argument (1) to (3). We know that something is amiss since “3 is greater than the number of coins in my pocket at time t ” looks more like an empirical claim than a Hirstian

mathematical fact. Our suggestion amounted to querying an interpretation of the sentential operator 'Math fact that'. Brandon's suggestion, following Smullyan (1948, p. 31) is that (3) admits of two readings:

4. $(3x)$ ($x =$ no. of coins in my pocket at time t and math fact that (3 is greater than x)) and,
5. Math fact that $((3x)$ ($x =$ no. of coins in my pocket at time t , and 3 is greater than x)).

According to Brandon, our interpretation is (5) which fortunately fails to follow from (1) and (2). On the other hand, (4) which does follow, has benign consequences. So why is (4) supposed to be benign? Well, because on the Smullyan analysis the only values of x that we need to admit to make (4) come out true are just those that can be described by such appropriate singular terms as '2' or '1'. We can safely neglect terms like 'number of natural satellites of Mars' even though

number of natural satellites of Mars = number of coins in my pocket at time t

Note, however, that this means that certain expressions or substitution instances of x will be favoured in generating true instances of (4). As Plantinga puts it, the Smullyan approach "must distinguish proper from improper singular terms" (Plantinga, 1974, p.235). Ironically, this is precisely the condition that would have to be met by a substitutional rendering of argument (1) to (3).

Evidently Brandon is not troubled by the need to provide some basis for distinguishing these proper from improper singular terms. As he says of his proposal,

What this amounts to is that if it were a mathematical fact that the number of coins in my pocket at time $t = 2$, or a historical fact that I live in Jamaica, then the original conclusions would have gone through. This seems as it should be. (Brandon, 1984, p. 21)

All this does indeed seem as it should be, but only on a prior understanding of how the required proper singular terms may be partitioned into their relevant Hirstian form-specific contexts. Since our original demand of Hirst's position was that it provide some ground for partitioning knowledge, it is somewhat surprising to see Brandon basing his reply on the presumption that some such partition exists. This is, perhaps, a case of being misled by commonsense, by the utterly familiar.

2. To Robinson: Sailing on the deep blue sea

Unintimidated by the utterly familiar, Robinson is prepared to live without commonsense's foundational representation of how things should be in epistemology, and is stoic in facing up to the consequences of seeing through the misleading assurances of foundationalism, especially Hirst's multi-foundational forms thesis:

One loses nothing but illusions, or perhaps hopes, when one surrenders unattainable, or utopian goals. (Robinson, 1982, p.48)

Gratifyingly, Robinson is in agreement with our critique of Hirst and with the epistemological sketch we briefly set out in the later sections of UK. His concern is to draw attention to certain problems our epistemology has to address, and in particular to express the worry that the notion of touchstone - the source of criteria for rational theory-choice - needs further development if we are to escape the dilemma posed for Hirst:

Hirst is caught between the devil of essentialism and the deep blue sea of a vicious relativism and Walker and Evers, good materialists, have banished the devil: can they escape the sea? (Robinson, 1982, p.52)

Our claim, of course, following Quine, is that we can escape the sea, or at least escape drowning in it, by rational navigation aboard Neurath's boat - our theory of the world, or OTOTW. We are like sailors who must reconstruct our boat plank by plank on the open sea, without ever being able to dismantle it in a dock. Unlike Feyerabend (to whom Robinson alludes), however, Quine maintains that there are better and worse ways of doing the rebuilding and the navigating, not to mention

whether we ought to change boats. Like Lakatos (whose account of theory-competition or boat racing Robinson expounds), or more precisely like one strand in Lakatos, we suggest that the tools for reconstruction and navigation come from touchstone theory: without touchstone the sea of relativism is vicious. Unlike the foundationalist under the illusion that OTOTW stands on the terra firma of secure epistemic foundations (an illusion reinforced by the essentialist devil disguised as commonsense), we acknowledge the theory-relativity of our tools. Without touchstone we are in rather than on deep water and go down with our ship. Unlike Feyerabend and other incommensurabilists and radical relativists who insist that there are many completely distinct and dissimilar and equally navigable (in principle) boats, because there are no rational grounds for choosing between OTOTWs (unless perhaps you are drowning), we maintain that there are fundamental similarities between vessels in respect both of their structures and of their components. There are inter-theoretic (not foundational extra-theoretic) criteria for choice of boats, for reconstruction, and for navigation. Denial of extra-theoreticity and assertion of inter-theoreticity of these criteria implies surrendering the unattainable utopian goal of reaching epistemic dry land; denial of incommensurability and assertion of inter-theoreticity of touchstone saves us from boarding an epistemological anarchist's ship of fools.

As Robinson points out, this leaves us (and him) along with Quine, Lakatos, and numerous others, facing Feyerabend's challenge: how do we identify and justify the inter-theoretic criteria? If we cannot meet that challenge, do we fall victim to Feyerabend's triumphalist proclamation, originally directed at Lakatos, that we are fellow-anarchists?

We agree with Robinson that if we rely on Lakatos's account of theory-competition and touchstone we are committed to the view-that rational theory assessment is possible, if ever, only with hindsight, with the grim implication:

Moreover, that would seem to leave the last word with Feyerabend. Perhaps that is the current state of the art? (Robinson, 1982, p.53)

We are unconvinced, however, that the contest between Feyerabend and Lakatos is the relevant one. To see why one might want to take a more complex view of the matter, it is useful to differentiate Lakatos's position from Quine's, and to note some respects in which a Quinean epistemology is not vulnerable to certain of the Feyerabendian barbs which pierce the Lakatosian fabric.

In UK we claimed that although Lakatos advances a view of touchstone and the kind of role it plays, he lacks the materialism and pragmatism required for an adequate account of touchstone and the way it works. Thus the first move in our strategy against the likes of Feyerabend is to try to develop a theory of touchstone which amounts to a physicalist, pragmatist, and holist version of scientific realism for short: Materialist Pragmatism, or MP. This is differentiated clearly from Lakatos's idealist, essentialist, and partitionist ("hard core"/"protective belt") version. This move, if successful, should provide an account of theory building safe from the critical thrust of incommensurabilism. Some small steps have been taken towards the provision of such an account (Walker & Evers, 1982; Evers, 1984a, esp. pp. 18ff.; Walker, 1984, 1985a, 1985b), though incommensurabilists would no doubt demand more. While we agree that much more remains to be said about touchstone criteria for theorising (and we think that the broad Quinean tradition and other recent physicalist writing provides a rich source of material), a second move in MP strategy, based on Quine's thesis of the indeterminacy of radical translation, is to attack incommensurabilism headon, arguing that it cannot be coherently applied (Walker, 1985a). In line with this second move, we could also point out that there are other forceful anti-incommensurabilist arguments (e.g. Devitt, 1979, noted in UK, p.47).

There is neither space nor need to repeat these previous discussions here, but, since (with the exception of Devitt's) they antedate Robinson's comments on UK, we might briefly relate some of their major claims to certain of his observations on the first move, the elaboration and defence of touchstone, and in this context to pit Quine against Lakatos.

First, Robinson correctly notes that since for us “the basic units of knowledge are theories, not forms”, it is open to us to read “theory” widely enough to allow “the elements of k” (i.e. each and any epistemic item) to be called theories also.

Next, Robinson construes the epistemological theory of UK as a Lakatosian research-programme (and by implication all theories or theory-series as Lakatosian programmes) identifying problems around which to facilitate the growth of knowledge, and to be appraised as leading to progressive or degenerating problemshifts by reference to methodological rules located in a hard core (or positive heuristic) and protective belt (or negative heuristic). He then suggests that the negative heuristic directs research away from competing theories inconsistent with the hard core, decreeing that the core is to be defended against threatened falsification “much in the fashion indicated by Duhem and Quine” by redirecting threatened disconfirmations at the protective belt of auxiliary hypotheses.

Now here it should be noted that the Lakatosian core/belt apparatus plays no part in the argument of UK; but more important is the reason why. For Robinson overlooks Lakatos’s rejection of Quine’s strong version of the Duhem-Quine thesis that we can hold true any hypothesis in the face of any experience. Lakatos argues that this thesis rules out any rational procedure for choosing among rival hypotheses, that it fails to yield a rational criterion telling us which hypothesis to hold and which to abandon. Hence Lakatos’s resort to the core/belt distinction which gives us some such criteria in the form of methodological rules.

Rejecting the Duhem-Quine thesis, Lakatos assumes (as does Robinson following him?) that a holist epistemology with its coherence theory of evidence (Evers, 1984a) - though not of truth - is insufficient to save us from the deep blue sea. But, if Lakatos is correct - and of course we think he is not - then Lakatos is himself in no position to prevent us from floundering since, as Robinson recognises (along with Feyerabend and ourselves), Lakatos’s alternative is in bad shape: his rules are applicable only with hindsight, if at all. It is little solace to discover, having passed from a watery grave to an epistemic after-life, which ship fared best in the storm once your own had sunk.

We suggest not only that Lakatos’s case against Quine fails and that Quinean holism can provide rational theory-choice criteria, but also that if a core/belt distinction is to be drawn at all (and we doubt the viability and utility of such a move) then this can be done only given the framework of a holist epistemology. A key difference between Lakatos and Quine here lies in Quine’s (1960) expansion of the notion of evidence beyond just observational evidence (in contrast to Lakatos’s lingering positivistic empiricism) so that systematic simplicity of theory is as admissible as evidence, for the existence of an object, as is observation. The Duhem-Quine thesis, by itself, as Lakatos correctly notes, provides no positive clue as to how hypotheses should be chosen, or a theory developed, but it does not, as Lakatos incorrectly claims, rule out any rational criterion for theory-choice or theory-building. Quine’s positive epistemological alternative is his proposal to promote, as part of a coherence theory of evidence, simplicity, while at the same time maintaining an overall logically consistent theoretical framework where logical consistency is the baseline for, but does not exhaust, the coherence theory of evidence or justification. Consistency conservatively reins in the options; simplicity points to one option or another and forces our theory into considering fresh options, perhaps proposed by a competitor. What makes them options is that the competitors are addressing the same problem(s); what limits their acceptability is logical consistency; and what, pragmatically, finally influences our decision is relative degree of algorithmic or problem-solving power. Reverting to the nautical metaphor, the structural similarities between our various boats are dictated by our sailing on the same material sea (or problems) and their similarity in constituents is a function of the availability of elements from which we may construct them (of solutions) and indeed of our own similar constitutions as human beings. Epistemology, as Quine puts it, is naturalised. {Quine, 1969}.

While “touchstone” is Lakatos’s term, for MP the touchstone theory thesis is an attempt to identify these common elements and to indicate their use in enhancing and evaluating the

algorithmic power of the competing theories. Our suggestion is that Lakatos has chosen to develop the core/belt side of his falsificationism largely independently of the touchstone notion (which, as Robinson observes, is hardly developed at all) because of his idealist desire to formulate general methodological rules in a non-naturalistic fashion, ironically (given his use of examples from the history of science) in abstraction from material and historical circumstances - a desire consonant with his strenuous denial of the sufficiency of pragmatic criteria.

Thus, setting aside Lakatos's core/belt strategy in favour of a coherence theory of evidence, we are left with Robinson's main worry; can a satisfactory account of touchstone be devised? Well, as already stated, we have floated some suggestions elsewhere. Finally, then, let us note two respects in which we would dissent from Robinson's Lakatosian sketch of touchstone.

First, touchstone, though inter-theoretic is not the "hard core of one's beliefs not specific to the particular theory in question" (Robinson, 1982, p. 50). It is "merely that shifting and historically explicable amount of theory" (UK, p. 42) .derived from shared theoretical (including semantic, ontic and methodological) commitments of competing theories where the sharing is a function of their addressing common problems in the context of material, social, problem-solving practice and of the material similarities of the problem-solving entities (including neurological and cultural elements - Evers, 1984b, Walker, 1985b).

Second, therefore, to represent MP "in Lakatosian fashion", identifying a hard core (fallibilism, knowledge as a seamless web, theory-competition, touchstone) is to compromise it if and insofar as this presumes the core/ belt distinction can be drawn essentially and abstractly within one theory without reference to our whole body of theory, or set of theories - OTOTW - which is the seamless web. It is touchstone, a source of criteria for coherence production (evident in such systematic virtues as consistency and simplicity) that enables us to weave the web most powerfully, acknowledging its fallibility and its points of agreement and disagreement with other webs. MP's physicalism suggests that our respective webs may be much more tightly interwoven, and that epistemic progress involves their becoming more so, whether or not, to mix the metaphors, we all end up in the same boat. For the present we suspect that Robinson's glances at the Lakatosian hulk will not reveal anything to tempt him away from sailing with us on the craft of coherence.

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